

2023

**Matilde
Custódio Raposo**

**Design Thinking and Co-creation for the
development of a new plant-based product**

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Dissertação apresentada ao IADE - Faculdade de Design, Tecnologia e Comunicação da Universidade Europeia, para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Design Management realizada sob a orientação científica da Doutora Sara Patrícia Martins Gancho, Professora Auxiliar da Universidade Europeia, IADE.

This work is dedicated to my grandmother and to my beloved dog and best friend, Skippy, both that have passed during the time of this research.

Thank you for reminding me, every day, that kindness, love, and creativity can be our greatest weapons.

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palavras-chave

design thinking; co-creation; food design; plant-based; design management.

resumo

No século XXI, mais do que nunca, é necessária uma perspetiva sustentável sobre os nossos hábitos quotidianos, pois temos cada vez mais dados que tornam inquestionáveis as alterações climáticas, mostram o esgotamento dos recursos naturais disponíveis no nosso planeta e provam a relação entre um número crescente de doenças e a alimentação.

Para que os Objetivos de Desenvolvimento Sustentável sejam alcançados, os hábitos de consumo alimentar e os sistemas alimentares, como os conhecemos, devem mudar e a solução passa pelo consumo de mais produtos de origem vegetal.

Nos últimos anos, tem havido uma procura crescente das alternativas à base de plantas. Neste sentido, é essencial repensar a forma como definimos os novos produtos alimentares hoje. É necessário criar produtos que correspondam aos desejos crescentes dos consumidores e das empresas interessadas em “escutar” o seu público-alvo – isso pode ser alcançado alterando os processos de design de alimentos usando métodos criativos e de design. Esta investigação pretende, através de um estudo de caso, demonstrar os benefícios da utilização do processo de Design Thinking e também da utilização de técnicas de cocriação para o desenvolvimento de um novo produto alimentar de origem vegetal, que se revelou mais saudável e inovador. É nosso objetivo de longo prazo mostrar às

empresas deste setor que é preciso haver uma mudança drástica nos seus atuais processos de desenvolvimento internos, focados no produto, passando a basear as decisões e atividades de produção nos insights do consumidor.

keywords

design thinking; co-creation; food design; plant-based; design management.

abstract

In the 21st century, more than ever, a sustainable perspective on our daily habits is needed, as there is more emerging data which make climate change undeniable, shows the drainage of the natural resources available on our planet and as food related illnesses arise around the world. For Sustainable Development Goals to be achieved, the food consumption habits and food systems as we know them, must change and the solution passes through the consumption of more plant-based products.

In recent years, there has been a growing demand for plant-based alternatives. In this sense, it is essential to rethink the way we define new food products today. It is necessary to create new products which listen to the growing wishes of the consumers and businesses who are interested in co-creating with their target audience— this can be achieved by changing the food design processes using creative and design methodologies. This investigation aims to, through a case study, demonstrate the benefits of using the Design Thinking process while also using co-creation techniques for the development of a new plant-based food product, which turned out to be healthier and innovative. It is our long-term goal to show companies from this sector that there needs to be a drastic shift on their current in-house and product-focused development processes, as they should base decisions and production activities on consumer insights.

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1. Introduction

1.1 Overview

In the last decade, the vegan food market has been “booming”. In Europe, the consumers have increased their consumption of plant-based products by 50%, according to a CORDIS-EU Research Results’ study (n.d.). In the United States, the plant-based market has shown about 7 billion-dollar sales and a 43% growth in two years, having 1.8x more growth in one year when compared to products of animal origin (Good Food Institute & Plant Based Foods Association, 2020). It leaves us wondering why this industry is growing so rapidly with no signs of stopping anytime soon. There are, essentially, three broad reasons which justify a possible change of the consumers to a plant-based diet: 1) The growing concerns about animal rights and well-being as daily, on land and at sea, approximately 3 billion animals are killed for human consumption (Ritchie, 2017); 2) The growth of scientific proof that plant-based diets can improve, decrease or eliminate health conditions – reduce risk of heart diseases and cancer, control high blood pressure, decrease high levels of cholesterol, etc. (Tuso et al., 2013; Gehring et al., 2021) 3) The growing data supports the fact that animal-based products have an immense impact on the environment and on Climate Change - for example, animal agriculture is responsible for producing from 14.5 to 18 percent of total greenhouse gas emissions (GHG), which makes it accountable for more emissions than all transports globally combined. (Sejian et al., 2015)

Designers, design managers, educators, and many others in the design community are driven by the principle that design’s primary purpose is to help make the world a better place (Kusz, 2010). Over the past decades, design as a discipline has matured in an astonishing way — it evolved from what was mainly a styling tool into a tool for social and cultural change. Furthermore, design has evolved within companies from a minor afterthought into a core function (Gardien & Gilsing, 2013). Innovation, a critical aspect in business competition, is far more than rules, principles, and procedures: it is described as a process, most effective when articulated with attitudes and ways of thinking that have grown within the community of those who practice creative invention and synthesis daily. Among these are ways of thinking from the design field, often referred to as "design thinking" (Owen., 2007).

Design Thinking is now referred to as a way of acting too, a methodology. Although there is no definition for Design Thinking, it has been previously described by IDEO as a “process for creative problem solving”. It is described by Tim Brown, Executive Chair of IDEO, as:

“... a human-centered approach to innovation that draws from the designer’s toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success.” (Brown, 2008)

Designers are, therefore, many times called for product solving even in different fields. Richard Buchanan in “Wicked Problems in Design Thinking” describes says that Design Thinking is turning to the modality of impossibility.

Design Thinking is not simply the mental capacity and ability of a designer - it can be developed and trained by anybody who wants to get creative in problem solving, who wants to create new realities and who wants to communicate new ideas. (Tschimmel, 2012)

Empathy is an essential Design Thinking stage, encouraging the involvement of the consumer in the creation processes, impacting the whole outcome of the problem’s solution, since it analyzes the different dimensions of the problem through its victim. Co-creation can be an interesting innovation booster since it continuously allows for consumers to interact and share thoughts throughout the process. Consumer participation becomes, therefore, increasingly important, and it is essential for companies and brands to develop tools so that their consumers can interact and share experiences (Ramaswamy & Gouillart, 2010).

The plant-based food in the Portuguese market is expanding at the same rate as in Europe. However, the current products offered are mainly focused on meat alternatives, not existing a wide variety. At the moment, the industry does not show the ability to innovate and respond to other vegan and vegetarian needs, showing signs of stagnation (Bloomberg, 2021). The consumers are mainly not involved in the development of new alternatives, which can explain the fact that the real needs of the target audience aren’t answered and compromising innovation in this market.

This thesis focuses on finding a solution for a defined development process of plant-based food alternatives, so they can generate new products which answer consumer needs and desires.

Design Thinking and co-creation have shown the ability to boost innovation and generate creative solutions. Although there is already an extensive understanding of design thinking and a good amount of research on collaboration and co-creation, both haven’t been widely used and researched in the food design field, especially with plant-based foods. This thesis proposes a new understanding of the plant-based foods’ design process, through design thinking methodology

along with co-creation activities, demonstrating that when paired together they can boost innovation in the vegan food sector.

1.2 Aims, Questions, Initial Statements and Objectives

This thesis ambitions to understand the impact of using co-creation techniques along in the design thinking process for the development of new plant-based food alternatives. Furthermore, we seek to understand co-creation in innovation and how it can create competitive advantage in the vegan food market as well as its possible risks. This research will also aim to evaluate the importance of consumer integration in the product development and conceptualization processes. To put it differently, this research explores how design thinking and co-creation processes can be implemented in a new food development era, bringing a more sustainable, effective, and innovative approach to the table.

Research questions:

Earlier in this thesis, as seen on Table 1, the first research questions were brought up for later investigation, which shaped the purpose and scope of this research. Firstly, the main research question was formed: “What contribution can co-creation activities and the design thinking methodology bring to the food design process?”, which generated other research guiding questions. They question the role of the designer in shaping the future of food and which value co-creation activities can be inserted to the food development and conceptualization processes. They also question what thinking tools and techniques can the designer bring to the food design field so that more innovative and successful products are created.

Research Questions	
Q1. How can designers shape our future and society?	Q1.1. How can designers shape the future of plant-based food?
Q2. How can co-creation activities impact the product development processes?	Q2.1. How can co-creation activities impact the product development processes in the food industry?

Q3. How can designer's thinking toolkits boost innovation?	Q3.1. How can designer's thinking toolkits boost the development of new plant-based products?
Q4. What is the value of bringing the consumers into product development?	Q4.1. How can co-creation activities with the consumer in the product development process impact its outcome?
Q5. What techniques can designers share to create fast successful products?	Q5.1. What techniques can food experts take from designers to create new fast and successful vegan foods?
What contribution can co-creation activities and the design thinking methodology bring to the food design process?	

Table 1. The Research Questions

Q1: How is the plant-based Portuguese market and what are the gaps?
Q2: What are the main current needs of the planted-based food consumers?
Q3: What are the main factors that influence people to buy plant-based foods?
Q4: How can design thinking be used in the food industry and what benefits does it bring?
Q5: What practical methods can food designers use to achieve innovative plant-based products?
Q6: How can consumers contribute to the development of new and wanted foods?
Q7: Which co-creation activities with the audience impact the development of new foods?

Table 2. Other Research Questions

Instead of hypothesis, to guide the research, three initial assumptions (statements) were originated:

- “Design Thinking and co-creation processes optimize the development of innovative foods in the plant-based market which responds to the true needs and wants of the consumers”.

- “Design Thinking and co-creation processes, when paired together, can boost innovation in growing food markets”.
- “Design Thinking and the co-creation processes, by integrating the target audience throughout all the product development phases, allow for continuous innovation and feedback”.

In the end of this research, the initial statements were analyzed and corroborated.

Objectives:

The main objective of this study is to understand the impact of design thinking and co-creating with consumers in the vegan food market in Portugal. Other objectives are:

- To better understand the relationship between design and innovation.
- To understand how the designer and his thinking can shape the future of plant-based food.
- Understand the current product development process of the vegan food experts and how they can be improved.
- To better understand the relationship of empathy and co-creation with innovation
- Assess if Design Thinking can be used as a foundation for food development.
- Understand co-creation advantages in innovation and how it can create competitive advantage and differentiation from other brands.
- Evaluate the importance of consumer integration in the product development stage.
- Identify methods which can empower and involve the consumer in the product development process, favoring innovation.

In order to reach research objectives, answer research questions and verify the initial statements, this thesis focused its research on a small vegan grocery shop located in Lisbon, Portugal. This business gathered its suppliers and vegan brand entrepreneurs to collaborate alongside with a focus group of target consumers and create a new plant-based product. This group went under different co-creation workshops. As a foundation for these workshops, the five Design Thinking phases were used (Empathy, Problem Definition, Ideation, Prototyping and Testing). When it comes to the methodology used for investigation purposes, primary and secondary research was conducted. Quantitative and qualitative methods were used in different stages of this thesis, contributing to the mixed method approach of this research. This thesis had the ambition to

develop a set of co-creation activities articulated as a model for food developing processes, which can achieve solid products that resonate with the true needs of the vegan consumers and brands. It was our goal that this model could make food product developing processes more effective, replicable, engaging, as well as exciting to follow. Apart from this, we hope that this research makes way for design managers and thinkers to be introduced in the food design field and shape the future of food.

1.3 Thesis Structure and Chapter Summary

Figure 1 illustrates this thesis' structure and displays the different topics addressed in the chapter.

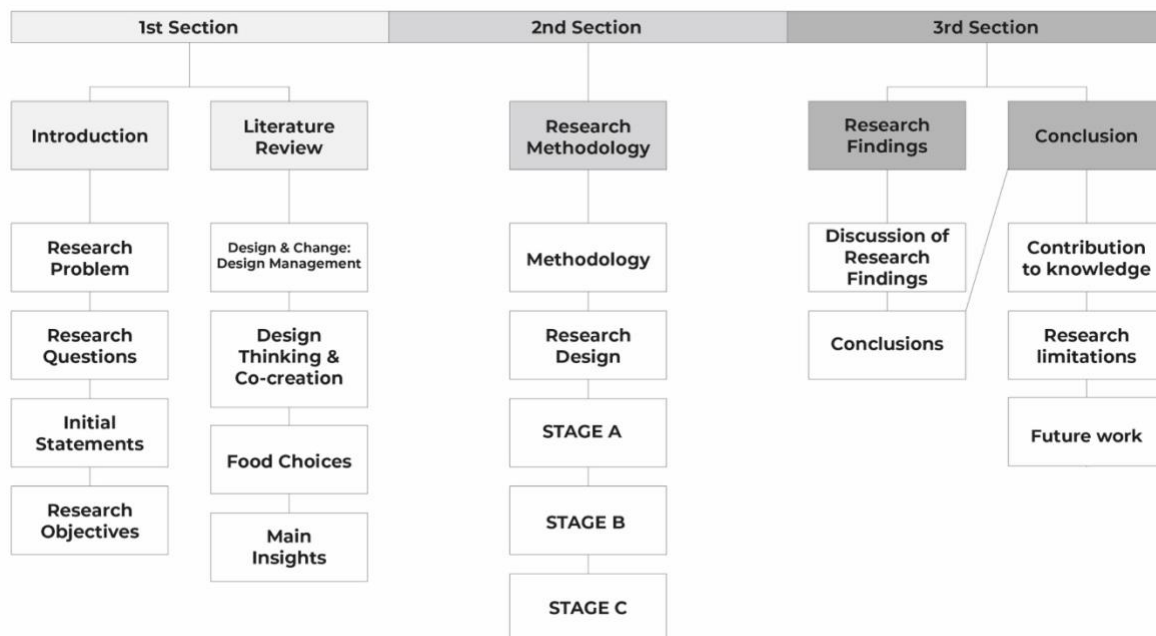


Figure 1. The Thesis Structure

We can break-down this thesis in three main sections. In the first section, we introduce the topic in context, expose the relevance of this research, elaborate the research questions, present the initial statements, and identify research objectives. This section also includes the Literature Review (chapter two), which describes the research in the three main areas which are incorporated in this study. Therefore, this chapter aims to go deeper in theories of Design thinking, Co-creation, and Food Design and where they can meet to boost innovation, exposing the gap in knowledge in the current literature.

The second section of this thesis leans on the Research Methodology, described in chapter three, in which we specify the methodologies used, of qualitative, quantitative, and exploratory nature. The chapter aims to present the research strategy chosen for this project which was considered to better answer the general objectives of the study which were previously mentioned in earlier chapters. It explains the methodological approach and presents in detail all methods used for data collection and analysis which better suited the study's approach. This study used primarily qualitative research methods, but quantitative research was also used through the usage of an online survey. This chapter also connects the different research questions with the more adequate methods to answer them.

The third and last section of this thesis starts by discussing, and analyzing the research findings, as well as presenting its outcome product. Firstly, in chapter four, the results of the quantitative and qualitative methods used are exposed and analyzed. It ends up following the process used in the project, therefore, flows with the design thinking phases and the methods used in each project stage. It analyzes their results and justifies the usage of the succeeding methods.

The chapter five discusses the Final Conclusions of the results found in the previous chapter, exposing the contributions of the research. Limitations which have occurred during this research are also described, as well as possible future investigations on the field.

Chapter six includes the Bibliography of this thesis and all references used. Chapter seven, Appendices, has relevant information such as interviews, online survey guides, and others.

2. Literature Review

In this chapter we made an overview of the current knowledge on the different topics in which this research is included, allowing to identify relevant theories, methods and gaps in the existing

research which contribute to the development of this thesis. The Literature Review is, therefore, considered secondary research since it gathers information from secondary sources. This thesis chooses Grounded Theory as a strategy associated with the qualitative approach, in which the researcher attempts to drive a general and abstract theory of a certain process, action, or interaction based on the views of participants in a study (Creswell, 2003).

Firstly, a perspective upon the Design Management field and the role of the designer throughout the years was delivered. The main characteristics which make the designer a future and society shaper were also described, as well as how they are classified as “problem solvers” with their thinking toolkits. It is important to look upon this thematic since it concretely shows how designers can successfully be creative managers, being capable to achieve new concepts and change realities with their thinking and work methods.

Secondly, an overview on the Food Choices is made: the recent changes on the eating habits, especially on the Portuguese population, as well as a review of the “vegan”, “vegetarian” and “plant-based” concepts is presented. In this subchapter, data on the current industry and the growth of the market is given, as well as the known processes associated with the creation of vegan foods. It is important to have this perspective of the Food Choices and the plant-based Portuguese market since this is the industry sector in which it is desired to work and investigate upon, demonstrating what needs to be changed and what opportunities are currently rising. Design Thinking is the main methodology followed in this research and therefore it is important to look upon each of its phases, its connection with innovation and how it can be used as a process to follow for product development, more specifically in the food industry. A concept review was also made, as well as an explanation of the emerging term “Food Design Thinking”. It also highlights the importance of Empathy as well as the impact of consumer inclusion in product development phases.

It’s important to analyze the Design Thinking methodology’s possible advantages for food design in order to test and corroborate that it eases work processes and feedback reception, contributing for constant innovation in vegan food products.

Lastly, the co-creation and co-design fields were introduced: a concept review of both terms is made as well as their relationship with innovation. Possible applications, activities and workshops are described, as well as the perceived advantages for the on growing market of vegan foods.

As a conclusion of this Literature Review chapter, the main topics were highlighted and an evident lack in knowledge is demonstrated: when it comes to crossing “co-creation” and “design thinking” applied to “vegan foods and brands”, there is no research. For this reason, this thesis aims to fill this gap in the literature and clearly demonstrate the benefits of crossing these scientific fields for the growth and innovation of the Portuguese food industry. Additionally, a table was created relating the previously presented research questions with the main references cited in this chapter.

2.1 Design and the role of the designer

2.1.1 What is design and who are designers?

Every day, we are surrounded by design: in the culture of daily life and in the communities, objects, and spaces we encounter. Design echoes the time we live in and in consequence, what we design and how we design it is in constant change. (Best, 2012)

In the 1950s the CEO of IBM, Thomas Watson, recognized that "good design is good business": this means good design causes social and economic value, and is responsible for transforming our world into a better, more interesting place, improving the quality of society's daily life. “Design”, as a noun, has a form and a function, meaning it is the outcome of the process of designing. On the other hand,” To design”, as a verb, means to plan, to create, or to devise. It is a process, a practice, and a way of thinking. Design's role moved beyond style and aesthetics to the design of the process and of the experience, as a catalyst for innovation, and as a facilitator of cultural change. As a human-centered problem-solving process, design became popular to address challenges in both public and private organizations (Best, 2012).

As a human-centered problem-solving process, design became popular as a way to address challenges in both public and private organizations. Norman Potter (1980) as well as Press and Cooper (2003) have reinforced the idea that design is a “value-driven activity” since when creating change, designers impose new values. For the authors, being a designer is also a “cultural option”, considering designers create culture, experiences, and meanings for society. Other perspectives like Manzini's (2015) suggest that everybody has the ability to design, although not everyone can be a competent designer. This does not mean that professional designers are not required, but instead it echoes the idea that design professionals should focus their efforts in enabling social actors to take part in co-design processes.

Designers, as in design professionals, are a combination of craft maker, cultural intermediary, and opportunistic entrepreneur (Press and Cooper, 2003). Designers have an innate ability of stepping into the shoes of users to research needs. Research and communication have always been at the core of design - part of the new experience of being a designer is that they are now seen as central activities in contrast to previous times where they were seen as tangential to the creative process. Designers must also be active citizens since they are responsible to use design to make a positive impact as a form of social entrepreneurship concerned with the quality and experience of life for all people.

2.1.2 Design and change:

Gjoko Muratovski (2015) claims that no other discipline is better equipped to envision future scenarios and to draw a direction for achieving them like in design. The issues that 21st century's society is facing are far too important to not be tackled. Taking action is important and designers must be audacious, search for answers, and provide solutions for a better future. From a field of making and styling, design has grown into the embodiment of "problem solving" (Best, 2010). However, as the world and businesses change and evolve, the role which design plays in society shifts. Muratovski (2015) states that design's adaptability in continuously evolving environments is what makes its practices relevant in times of change. In return, the continuing relevance of design has helped to redefine the profile and elevate status of designers in society today. Therefore, design can influence behavior, transform problems into opportunities and translate routines and procedures into unique, value-adding creative processes. As such, design is a catalyst for positive change (Best, 2012; Muratovski, 2016). The role of design as a strategic resource is now transcending the corporate world, since contemporary problems demand new solutions and atypical approaches (Muratovski, 2016). Design is getting acknowledged as a serious factor which is contributing to the overall success of social innovation and sustainability projects: leading global organizations and foundations are placing design on their agendas, positioning design in a unique position, never seen in its history (Muratovski, 2015).

2.1.3 Design, businesses and management: Design Management

Designers are increasingly being acknowledged as new strategic leaders in business and policymakers in society - it is now frequent to see designers successfully contributing to a range

of organizations on a strategic level by being involved in decision-making processes and strategic planning. Also, more frequently in the corporate community, designers have been promoted to executive roles. This has to do with their innate ability to align design with business interests, and to communicate - in business terms - how design can add value (Muratovski, 2015).

There is no single agreed definition of the term ‘design management’, as in similarity with no single agreed definition of ‘design’, or of ‘businesses’. A variety of perspectives and lack of consensus on both the scope and substance of the design management discipline has ensured debate about its evolution (Best, 2006). More recently, Design Management has been described as an activity aiming at rethinking design in organizations (Blum, 2017) with the principles, the methods, the attitude, and the philosophy of design. Design Management is progressively integrating words used in management: brand, innovation, strategy, value, change, and moves away from a vision of design management as only managing design projects. (Borja de Mozota & Wolff, 2019)

The design manager has the role of managing design, but his tasks and challenges will vary from organization to organization and from design discipline to discipline. Managing how design connects with business objectives, strategically and operationally, is one of the key roles of the design manager. Best (2006) suggests that managing design is about comprehending the strategic goals of the organization and understanding how design can play an important role on the achievement of these goals. There is also an increased desire to understand the design tools (the methods and ways of thinking that the design process brings), and the implementation and planning of the design. More recently, design is being valued as an enabler of innovation and collaborative (as well as competitive) advantage. (Best, 2006)

To reinforce this concept, Cooper et al.(2009) state that design management is the ongoing management and leadership of design organizations, design processes, and designed outcomes.

2.1.4. Design and Design Management’s relation with Innovation

The relationship between creativity, design and innovation is described by Cox Review as following: “Creativity is the generation of new ideas; Innovation is the exploitation of new ideas;

Design is what links creativity and innovation, as it shapes the ideas, so they become practical and attractive propositions for users and customers” (DTI, 2005).

The connection between design, management and innovation is evolving within rapidly changing contexts. As with most areas of design practice, Design management is experiencing a shift from managing the design of tangible products to managing the design of innovation and services (Cooper et al. 2009). Design-driven innovation involves managing the relationship between design and innovation, where innovation is driven by the needs of users and customers.

Design-driven innovation demands a user-centered approach in order to add value to a customer experience. Involving end-users in the design process is a great way of generating new products and services, making the needs of people become the driver behind the design. The real human needs are clearly different from market needs and can contribute to practical new design ideas - which are frequently more innovative, ethical and sustainable. Focusing on customer-created value, organizations are redesigning systems to co-create value with customers. They are also “connecting strategy to execution, and building organizational capabilities that allow companies to achieve and sustain continuous change and innovation” (Prahalad and Krishnan, 2008). By diving into a global network of resources to co-create unique experiences with customers, one person at a time, the customer becomes key to creating value and future growth. (Best, 2010).

Design is a human-centric discipline that acts as the “mirror of society”, states Muratovski (2022). Design reflects our perception of the world, not of how things are, but rather how we would like them to be. Today, design plays a corrective role in society: designers repeatedly point out mistakes and faults and propose new solutions that aspire to make everyone's life better (Muratovski, 2022). Design, as a catalyst of change, must be socially responsible and must work on the true needs of the society, and not just the market.

Designers and design managers are entitled to tackle 21st century problems, concerning climate crisis, overpopulation, unbalanced food systems, pollution, among others. Contemporary designers and design professionals, for many decades, have been facing difficulties regarding the challenges posed by tackling the core concepts of sustainable development (Fletcher & Giggin, 2001; Fuad-Luke, 2009).

Concluding, the design community is becoming increasingly conscious of how design can address sustainable development agendas. The words ‘design’ and ‘sustainability’ do not have a

fixed meaning and neither does the rising ‘design for a sustainable future’ (Margolin, 1998; Thorpe, 2007). Design can be critical in addressing sustainable development concepts because it can impact (both positive and negative) economics, environment, society and culture.

2.2 Design Thinking

Design Thinking was firstly introduced by Buchanan in 1992 in design studies, and it uses the designer’s methods to match people’s needs with what is technically feasible and commercially viable (Brown, 2008). Design Thinking has also been defined as “a human-centered innovation process that emphasizes observation, collaboration, fast learning, visualization of ideas, rapid prototyping, and concurrent business analysis” (Lockwood 2009). More recently, Design Thinking has grown from thinking of engineers when designing industrial products to becoming a valued innovation technique among scholars who are focused on innovation’s management (Olsen, 2015).

Nowadays, Design Thinking is interpreted as a complex thinking process of creating new realities, expressing the introduction of the design culture and its methods into different areas, as for example, business innovation. It is understood mainly as a new way of thinking, which leads to transformation, evolution, and innovation to new ways of living and managing businesses (Tschimmel, 2012). Brown and Wyatt (2010) suggest that Design Thinking can lead to real-world solutions that are responsible for creating better outcomes for organizations and the people they serve.

Design thinking is not a linear model composed of causal chains but a network model in which various relationships interact with each other under a feedback mechanism (He & Ortiz, 2021).

2.2.1 Design Thinking Phases:

Ambrose & Harris (2011) have explained the design process and have detailed its phases. For the authors, the design process must be divided in 7 phases: define, search, ideate, prototype, select, implement, learn.

The Hasso-Plattner Institute of Design of Stanford University, commonly called “d.school”, (n.d.) suggested 5 phases, which are: 1. Empathize, 2. Define, 3. Ideate, 4. Prototype, 5. Test.

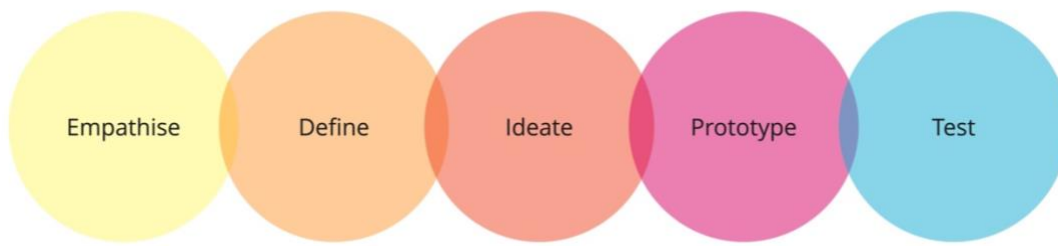


Figure 2. The 5 phases of the nonlinear Design Thinking Process, adapted from d.school.

One of the main pillars of Design Thinking is Empathy. When comparing design thinking to other models of problem solving, we can see this is a key differentiating factor since the objective is not to test a theory or validate a hypothesis, but to translate what is observed into insights in order to create products and services that truly seek to improve people's lives. Empathy is an attempt to see the world through other perspectives and learning through the experiences of others (Brown, 2016).

As seen above, the structure of the design thinking process creates a flow from research to testing. By immersing themselves in the customer experience, designers can produce data, which is transformed into insights, helping teams better evaluate brainstormed solutions. By involving customers and other stakeholders in the problem definition phase and development of new solutions, design thinking can be connected with change. By creating a structure for the innovation process, design thinking helps innovators collaborate and agree on what is essential to come out at every phase (Liedtka, 2018).

2.2.2 Food Design Thinking and Co-creation:

In the last decade, the use of design thinking in the food design field has been growing, being discussed within what now is called “Food Design Thinking”.

One of the biggest references regarding Food Design Thinking in the literature is Wided Batat and her book “Design Thinking for Food Well-Being: The Art of Designing Innovative Food Experiences” (2022). The author suggests that the adoption of design thinking in the food industry is linked to the evolution of innovation. In fact, only food experts were in charge of food innovation in the past, resulting in products which were not truly new and with a high rate of dissatisfaction and failure (Costa & Jongen, 2006). Olsen (2014) also suggests that the food industry was almost exclusively product oriented. Batat (2022) states that more recently, the innovation process in the food industry has started to change, and design thinking is now enlightening a new path to designing creative food for consumer well-being and innovation - this is also seen identified in Batat et al. (2019); Scott and Vallen (2019); Bubnitz et al. (2019), and Block et al. (2011).

We can describe Food Design Thinking as...

“the process by which food designers transform knowledge and ideas derived from food science, food psychology, and food culture into creative solutions” (Zampollo and Peacock 2016, p.204).

In order to create successful and innovative experiences, involving, collaborating, and focusing on the consumer is essential (Batat, 2022).

Saguy (2011) points out that the paradigm shift of “sharing is winning” is needed within the food industry. In order to grow apart from the old system of closed innovation within food companies towards a new system in which openness and participation must be sought, collaboration among stakeholders of every kind must be made easy. By incorporating consumers in the design process, their problems and necessities can be understood, and better consumption experiences can be developed to enhance well-being (Batat, 2019). To conclude, a collaborative approach in value co-creation can provide important insights to understand and tackle a wide range of transformative consumer research issues. By comprehending and tackling such problems, Batat (2022) states that we can create better relationships to food, well-being, and the design of future healthy eating experiences.

2.2.3. Co-creation:

Co-creation leverages research methods and gives researchers the opportunity to extract valuable information and data during these co-creative processes (Piller et al., 2012). Ramaswamy and Ozcan (2018) bring a new approach to co-creation describing it as:

“(...) the representation of interactional creation in interactive systems-environments (provided by interactive platforms), involving agency engagements and structuring organizations.” (Ramaswamy & Ozcan, 2018 p.200)

In their definition of co-creation, Ind et al., (2013b), expose the need for stakeholders to feel part of something and to socialize. Thus, they recognize that co-creating is not yet limited to the customization of products or services as it implies an interaction between stakeholders and the brand, where ideas are discussed, as well as their needs and preferences (Ind et al., 2013a). This becomes crucial to the provided experience (Prahalad & Ramaswamy, 2004a), as the consumer is creating value not only for himself but for other individuals (Ind et al., 2013b). Across business, literature and research co-creation is often practiced through workshops, in which businesses call stakeholders for discussion and other activities, commonly qualitative, and that aim to highlight their points of view, needs and desires. Value co-creation activities represent a crucial strategy for innovation processes and for achieving competitive advantage in the market (Kumar et al., 2010). It allows the creation of value through the ability to involve consumers in the development of new interactions, resulting in experiences and new growth opportunities for the company (Ramaswamy & Gouillart, 2010). Organizations now try to increase the involvement of all stakeholders that are part of their value chain so that they can directly or indirectly influence what consumers perceive (Ramaswamy & Gouillart, 2010), being to the table to develop something that responds to their interests (Ind et al., 2013b). However, co-creativity is only possible if someone believes that we are all creative, which is sometimes difficult (Sanders & Stappers, 2008).

2.3 The Plant-based Portuguese Market:

The total world's population is expected to reach 10 billion by the year 2050, requiring an increase in global food production by 70%, with greenhouse gasses projected to raise by 80% (Dent, 2020; University of British Columbia, 2016). Sustainably feeding the next generation without damaging the planet is one of the greatest challenges of the 21st century. Shifting the diets of high-meat consumers toward plant-based foods can be a way of tackling the problem. Furthermore, the UN sustainable development goals of zero hunger (SDG 2) and sustainable consumption and production (SDG 12), including saving land and reducing greenhouse gas emissions, can only be reached if societies around the world start eating nutritionally balanced diets that are higher in plant-based protein (Kc et al., 2018).

2.3.1. Concept Review: “Veganism”, “Vegetarianism” and “Plant-based”

Veganism and vegetarianism are two concepts which have been more frequently used and discussed across the world, especially among young adults.

Beardsworth and Keil (1991, 1992) have suggested that vegetarianism is better measured as a continuum of categories, calculated by the progressive degree to which animal foods are avoided in the diet: Type I vegetarians are those who consider themselves vegetarian, yet occasionally eat red meat or poultry. Type II vegetarians always avoid consuming meat and poultry. Type III vegetarians also avoid fish. Type IV also excludes eggs. Type V excludes dairy products produced with rennet (enzymes extracted from the stomach of young calves). As the opposite, Type VI vegetarians, or more commonly called “vegans”, who consume only vegetable-derived foods (plant-based foods), avoiding all animal-derived food products.

The “plant-based” terminology is used to describe products “consisting or made completely of plants, or mainly of plants” (Cambridge Dictionary, 2023a).

The Portuguese Vegetarian Association (in portuguese, Associação Vegetariana Portuguesa), also known as AVP, describes vegetarian as:

“It is a plant-based style of eating, which excludes meat and fish and may or may not include animal derivatives (e.g. milk, eggs, etc.) (...) Therefore, a vegetarian is someone who eats cereals, vegetables, legumes, fruits, seeds and nuts, fungi, algae, among others, and may or may not consume derivatives of animal origin, namely dairy products, eggs,

or honey. A vegetarian does not consume any form of meat, which includes chicken, pork, beef, fish, shellfish, insects, among others. (AVP, nd.)¹

However, AVP and other known organizations around the world connected to vegetarianism don't consider semi-vegetarians (types I, II, III) commonly called “flexitarians” a category of vegetarianism. The literature indicates that the term “vegetarian” has become quite vague, varying from those who occasionally eat meat to those who consume no animal products whatsoever (Ruby, M., 2011).

It is also important to note that “veganism” is described by the Cambridge dictionary as:

“The practice of not eating or using any animal products, such as meat, fish, eggs, cheese, or leather;” Strict veganism prohibits the use of all animal products, not just food, and is a lifestyle choice rather than a diet.” (Cambridge Dictionary, 2023b)

Vegetarian diet	
Meat: chicken, pork, beef, fish, shellfish, insects, etc.	No
Animal derivatives: dairy products, eggs, or honey	Yes or No
Cereals, vegetables, legumes, fruits, seeds and nuts, fungi, algae, etc.	Yes

Table 3. Vegetarian diets and consumed products based on AVP's information.

2.3.2 Vegetarians: since when?

Although these terms are echoing more frequently in our society, vegetarianism has been around for a long period of time: spirituality and ethics have influenced abstention from meat since ancient times, dating back to Greek philosophers as Pythagoras, Plato, Plutarch, and Porphyry (Spencer, 1993).

In Portugal the concept has been remarkably discussed in literature since the 20th:

¹ <https://www.avp.org.pt/o-que-e-o-vegetarianismo/>

“The echoes of vegetarian food that spread across borders reached Portugal, with Jaime de Magalhães Lima being an important representative of this movement, who in 1912 published “O Vegetarismo e a Moralidade das Raças”. With references to various personalities who throughout history defended and practiced a life of food abstinence (...) The doctor Amílcar de Sousa was another of the pioneers of vegetarianism in Portugal, directing the monthly magazine “O Vegetariano”, published from 1909, which covered both health issues and those related to social and moral aspects. He was also the first president of the Vegetarian Society of Portugal, founded in Porto, in 1911. In 1916, this edited the first Portuguese vegetarian cookbook, called “Culinária Vegetariana, Vegetalina e Menus Frugívoros”, by Julieta Ribeiro.” (Grenha, 2011, p. 69)²

A pan-European survey, by ProVeg International in partnership with Innova Market Insights, the University of Copenhagen, and Ghent University as part of the Smart Protein Project, indicates that a significant shift towards plant-based eating is taking place across the continent. This report notes that 46% of Europeans have reduced their animal meat intake during 2020 (ProVeg, 2021). In September 2007, the Centro Vegetariano carried out the first study on a representative sample of the Portuguese population to determine the number of vegetarians in Portugal, with AC Nielsen. Ten years later, in September 2017, the study was repeated, and the conclusions showed a growth of 400%. It was revealed that in that year, 1.2% of the Portuguese did not currently consume meat or fish (Centro Vegetariano, 2017)³.

Another important set of studies was conducted by the consultant Lantern, in 2019 and 2021, entitled “The Green Revolution Portugal”. According to the 2021 study of the consultant, more than 1 million people opt for a vegetarian diet or tend to be vegetarian in Portugal: 43,000 vegans, 180,000 vegetarians and 796,000 flexitarians. This is translated into about 1 million and 19 thousand people in adulthood, over 18 years old. (Lantern, 2021)

² “Chegaram a Portugal os ecos da alimentação vegetariana que se difundia além-fronteiras, sendo um importante representante deste movimento Jaime de Magalhães Lima, que em 1912 publicou *O Vegetarismo e a Moralidade das Raças*. Com referências a várias personalidades que ao longo da História defenderam e praticaram uma vida de abstinência alimentar (...) O médico Amílcar de Sousa foi outro dos pioneiros do vegetarianismo em Portugal, dirigindo a revista mensal *O Vegetariano*, publicada a partir de 1909, que abrangia tanto temas de saúde, como relacionados com aspectos sociais e morais. Foi também o primeiro presidente da Sociedade Vegetariana de Portugal, fundada no Porto, em 1911. Esta editou, em 1916, o primeiro livro de receitas vegetarianas português, denominado *Culinária Vegetariana, Vegetalina e Menus Frugívoros*, da autoria de Julieta Ribeiro.” (Grenha, 2011, p. 69)

³ <https://www.centrovegetariano.org/Cat-62-Consumidor-Vegetariano.html>

Flexitarians, namely, people who have been significantly reducing their consumption of meat and fish, and switching from animal protein to vegetable protein, even if not completely, are the ones that have grown the most, representing 9.3% of the total Portuguese population.

2.3.3. The profile of a Portuguese vegetarian

The research carried out by Lantern revealed that plant-based diet followers are represented in all age groups, but it is among the youngest (18-34 years old) that we find a greater number of vegans and vegetarians. Most respondents who say they follow a mainly plant-based diet are between 25 and 34 years old (about 6.3% of respondents), followed by the age group between 18 and 24 years old, the latter with a percentage of 5.7% (Lantern, 2021). As seen, the greatest penetration is in the younger age groups, who continue to lead this change. However, older age groups are gradually joining in. Due to their size, although the opening to the consumption of plant-based products is slower, they represent a relevant potential for future consumption (Lantern, 2021). Also, women are representing 60% of the total Portuguese plant-based population - according to the study, currently 1 in 7 Portuguese women is plant-based. Regarding the area of residence of the participants who follow a plant-based diet live in large cities, but the difference compared to those living in cities with less than 100,000 inhabitants is only 2%. More simply, 51% live in big cities and 49% live in smaller cities. This data may induce us to think that the fact of living in urban or rural areas will not have such a considerable impact on food choices (Lantern, 2021).

This data endorses that the vegetarian population is growing and that it has not been slowed down by the pandemic, maintaining a steady pace of growth when comparing the data between the 2019 and 2021 studies. It is concluded that in the 2 years prior to the last study (2020 and 2021), more than 250,000 new adults joined the plant-based community, significantly changing their habits, +34% when in comparison with 2019 (Lantern, 2021).

2.3.4. Motives:

People define vegetarianism in vastly different ways, and their motivations for pursuing this diet are also diverse (Ruby, M., 2011). Throughout multiple studies, the most common motivation given by vegetarians to pursue this diet is the concern about the raising and slaughtering of animals and its related ethics (e.g. Beardsworth & Keil, 1991; Fox & Ward, 2008; Hussar &

Harris, 2009; Jabs et al., 1998; Neale et al., 1993; Santos & Booth, 1996). Concern for health appears as the second most common motivation for pursuing a vegetarian diet. The impact of meat consumption on the environment, spirituality and purity, and aversion to the sensory properties of meat as other common motivations (Ruby, M., 2011).

It is important to acknowledge that motivations for being vegetarian are not static, and can be added, discarded, or modified in the course of time (Beardsworth and Keil, 1992).

One of the main reasons why people are changing to plant-based diets is the growing worry on environmental issues and climate change. Recent studies show relevant data which support evidence of the environmental impact of meat production:

- The animal industry is responsible for 57% of food greenhouse gas emissions (Xu et al., 2021). In Europe, food is responsible for 30% of total greenhouse gas emissions, with meat production taking up most part of that percentage (Petrovic, 2015).
- In general, plant-based diets are more sustainable than those based on animal foods, as they require less natural resources for production of food and tend to have a lower impact on the environment. An omnivorous diet is predicted to require 2.9 times more water, 2.5 times more energy, 13 times more fertilizers, and 1.4 times more pesticides than a vegetarian diet, for example (Marlow et al., 2009).
- The animal industry occupies 83% of the agricultural land, but it only provides 18% of the calories the world population consumes and 37% of the protein it ingests. In the hypothetical scenario in which the entire global population adopted a strict vegetarian diet (vegan), researchers have concluded that our total agricultural land use would shrink from 4.1 billion hectares to 1 billion hectares, which is translated in a reduction of 75% - this is equal to an area the size of North America and Brazil combined. (Poore & Nemeck, 2018).
- 15 meat and dairy companies produce almost as much methane as the entire European Union. (The Institute for Agriculture and Trade Policy [IATP] & Changing Markets Foundation, 2022)
- Inefficiency of meat production: 25 kg of feed are needed to get 1 kg of beef. (Alexander et al., 2016, Ritchie, 2017). Plant based food, such as fruits and vegetables, whole grains, beans, peas, nuts, and lentils – generally use less energy,

land, and water, and have lower greenhouse gas intensities than animal-based foods (United Nations, n.d.).

When it comes to health motivations, plant-based diet followers may tend to lay their decision on, for example, the following factors:

- A high consumption of red meat has been related with increased risk of cardiovascular and cancer mortality (Pan et al., 2012). It has also been linked to certain types of cancers, including colorectal (Larsson & Wolk, 2006; Smolińska & Paluszkiewicz, 2010) pancreatic (Larsson & Wolk, 2012), oesophageal, and stomach cancer (Larsson et al., 2006). In addition, results of studies indicated that processed meat consumption correlates to a higher incidence of coronary heart disease (Micha et al., 2010) and type 2 diabetes. (Larsson & Wolk, 2006; Micha et al., 2010; Pan et al., 2011).

According to the Academy of Nutrition and Dietetics, a well-planned plant-based diet is “healthy and appropriate for all stages of life”:

“It is the position of the Academy of Nutrition and Dietetics that appropriately planned vegetarian, including vegan, diets are healthful, nutritionally adequate, and may provide health benefits for the prevention and treatment of certain diseases. These diets are appropriate for all stages of the life cycle, including pregnancy, lactation, infancy, childhood, adolescence, older adulthood, and for athletes.” (Melano et al., 2016)

For the Academy, vegetarian diets, including strict vegetarianism (veganism), are considered healthy and nutritionally adequate, being able to supply nutritional needs at all life stages, if such diets are well planned (Melano et al., 2016). In spite of the potential health benefits from adopting a vegetarian diet, attention should be given to the adequacy of iron, zinc, vitamins B12 and D, calcium, iodine, omega-3, and protein in adults (Marsh et al., 2012) and in infants (Lemale et al., 2019).

Other global health related concerns have arisen, such as:

- Around 668 million people in the world are undernourished (Roser, 2019) while at the same time, 67% of cereals grown in the EU are fed to animals (Ritchie, 2021), showing an unbalanced food system which is affecting access to health around the globe.

- Factory Farming may be breeding the next pandemic: 75% of all emerging infectious diseases in humans come from animals and factory farming plays the role of an epidemiological bridge: a farm crowded with animals creates the perfect conditions for pathogens to evolve and emerge, that's why the UN lists the "growing demand for animal protein as one of the main risk factors for the emergence of infectious diseases (United Nations (UN), 2020).
- The overuse of antibiotics in animal farming is making pathogens adapt to medicines, creating new viruses that are resistant to antibiotics. WHO states that this is “this is one of the biggest threats to global health” (WHO: World Health Organization, 2020)

As stated before, one of the most reported motivations given by vegetarians is concern about the ethics of raising and slaughtering of animals:

- The animal industry uses 80 billion land animals a year for feeding, which is 10 times bigger than the number of human beings on the planet. (Poore & Nemeck, 2018). A rising concern on the degrading conditions in which animals are kept also plays an important role, as well as the live transportation of animals for food.

In Portugal, flexitarians tend to turn to a plant-based diet for health reasons (78%) while vegans and vegetarians do it in consideration for sustainability and environmental (73%) and respect for animals and their welfare (69%). (Lantern, 2021)

2.3.5. Not all plant-based products are healthy:

Food processing is, simply put, the alteration of foods from the state in which they are harvested or grown to better preserve them and feed them to consumers (Weaver et al., 2014).

The term ‘ultra-processed foods’ is derived from the NOVA food classification system introduced in 2009 (Monteiro, 2009), which defined it as “formulations of ingredients, mostly of exclusive industrial use, that result from a series of industrial processes (hence ‘ultra-processed’)” (Monteiro et al., 2019). They normally contain small percentages of whole foods, and are manufactured with cosmetic additives like flavorings, colorings, and thickeners to enhance the product’s sensory properties (Monteiro et al., 2019).

The rise of ultra-processed foods in human diets bring up serious concerns for global health, since they are commonly associated with poor diet quality and multiple adverse health outcomes,

including type-2 diabetes, cardiovascular diseases, obesity, depression, all-cause mortality and some forms of cancer (Askari et al., 2020; Chen et al., 2020; Elizabeth et al., 2020; Lane et al., 2021; Meneguelli et al., 2020).

Multiple studies have made a clear relation between the plant-based diet and the growing consumption of ultra-processed foods. Gehring et al. (2021) acknowledges and demonstrates that vegetarians consume more ultra-processed foods than omnivores, especially through the consumption of industrial plant-based meat and dairy substitutes. Vegetarians vary in the presence of ultra-processed foods in their diets, so not all vegetarian diets are healthy. The consumption of ultra-processed foods could decrease both nutritional quality and healthiness of the diet, mostly because it is related to a lower presence of whole plant-based foods (Gehring et al., 2021).

2.3.6. The current plant-based market:

According to a recent report from Bloomberg Intelligence (2021), plant-based foods are assured for explosive growth: if meat and dairy alternatives' product sales and penetration continue to grow at the same rate, the global plant-based alternatives market could grow from \$29,4 billion in 2020 to \$162 billion on the next decade (2030), based on the analysis of the current scenario.

“Demographic and industry catalysts should help accelerate growth of plant-based alternatives and help differentiate it as a long-term trend vs. a fad. This includes expansion of retail distribution points, growing consumer interest in healthier lifestyles, more consistent supply as companies improve forecasting and manufacturing capabilities, greater raw material availability, achieving price parity with conventional products and ongoing trials at restaurants.” (Bloomberg Intelligence, 2021, p. 6)

According to Fardet and Boirie (2014), the health benefits of plant-based diets are correlated with the fact that they generally require the least amount of processing. A study performed by Gallagher, Hanley & Lane (2021) on vegan volunteers from the United Kingdom indicates the vegan food industry is impacting vegan dietary choices. It shows that, in contrast from what is expected, the main vegan dietary pattern was a convenience, ultra-processed diet which is particularly concerning as they raise questions on the quality of some vegan diets.

However, as reported by Lantern (2021), when it comes to choosing new products, vegetarians in Portugal tend to give special attention to health benefits, ingredient familiarity and organoleptic properties when choosing plant-based foods. It's also noted that there is a perception of lack of

more natural products and that there is a significant predominance of the “artificial” on the market. This might have to do with the over-saturation of the Portuguese plant-based market with meat and dairy alternatives which are mainly ultra-processed in order to achieve closer organoleptic properties to animal-based products, as seen in the United Kingdom.

One of the categories with less satisfaction rates in Portugal is the ready-made vegetable meals (“refeições vegetais prontas”), with a dissatisfaction rate of 23%, although there is a rising openness to trying products in this category (33-34% among omnivores). Also, it is known, as stated before, that the Portuguese consumer pays special attention to how healthy is a meal and its integrated ingredients (Lantern, 2021). This data shows a clear opportunity for investment since there are not enough minimally processed healthy ready-made vegetable meals on the market.

2.4 Conclusion:

Although many in literature refer to plant based as a trend, we are able to discord since all the data stated above clearly shows it goes beyond that. David LaCasa, a researcher at Lantern, tells AVP that “more than a trend, this is already a consolidated social reality, especially among younger people, who are aware of environmental and health problems”. (Associação Vegetariana Portuguesa [AVP] & Abreu, 2022)

Being vegetarian is more than just eating vegetables and the vegetarian motives discussed in this chapter originate from the need to understand why dietary and food choices are being made. It impacts society in its whole, as well as the emerging plant-based food industry.

New food choices and dietary changes are necessary in order to tackle environmental goals and improve global health, as well as to end non-human beings’ suffering. With the booming of the plant-based food industry, it is important to take into attention the needs and desires of the current plant-based consumer as well as other potential consumers. Current data from the Portuguese market has shown a clear growth of the Portuguese plant-based community, mainly composed of vegans, vegetarians, and flexitarians. However, omnivores show openness to the subject and are interested in trying some of the new emerging products, such as ready-made vegetable meals. Although it’s clear which food categories show more interest from consumers, the question of what new specific products consumers want to be produced still remains unanswered. Brands need to pay special attention to the healthiness of the products, the familiarity of ingredients as well as the organoleptic properties of the foods they produce, since

these are the main three characteristics Portuguese are paying special attention to. The question on how we create new products that are healthy and appealing to the consumers arises as well as how we facilitate and promote healthy minimally processed plant-based foods.

As designers and active change catalyzers in society's consumption, it is important to look at the plant-based food industry as an opportunity to make a positive change in the right direction when it comes to solving this wicked problem. Therefore, designers and their thinking and tools might be able to pave a new way of new products for the industry, improving offers and creating new products that respond to the true needs of consumers.

3. Methodologies:

The following chapter aims to present the research strategy chosen for this project which better answers the general objectives of the study which were previously mentioned in earlier chapters. It also explains the methodological approach and presents all methods used for data collection and analysis. This thesis studies the plant-based Portuguese consumers in the year of 2022 and beginning of 2023.

3.1 Research Strategy and Diagram:

As for the research strategy, as we can observe in Figure 1, the project has four main scientific areas identified: “Design Thinking”, “Design Management”, “Co-Creation” and “Food Design”. We can also observe that the project follows the Design Thinking process, with methods that better suit each phase of the methodology: Empathize, Define, Ideate, Prototype and Test. Initially, exploratory research was carried out in order to understand if the problematic that was originally identified by the researcher is still a gap in knowledge and a real concern in the plant-based Portuguese community. This needs to be verified with the rest of the target population. Subsequently, the main research question was formulated: “What contribution can the pairing of design thinking bring to the food design process?”. This research question originated from other interrogations which allowed for initial statements and research objectives to be defined and carried out. In order to corroborate my understanding of the main Initial Statement:

“Design Thinking and co-creation processes contribute to the development of new plant-based products, which responds to the true needs and wishes of consumers.”

... the following research objectives were selected:

- Understand consumer’s motives for choosing vegetarian diets and what are the current needs.
- Evaluate the importance of consumer integration in the product development stage;
- Understand co-creation’s direct benefits for the food industry;
- Understand how can design thinking and co-creation processes be paired in a new food development process for a more sustainable approach;
- Identify the advantages and disadvantages of including the consumer in the product development processes.

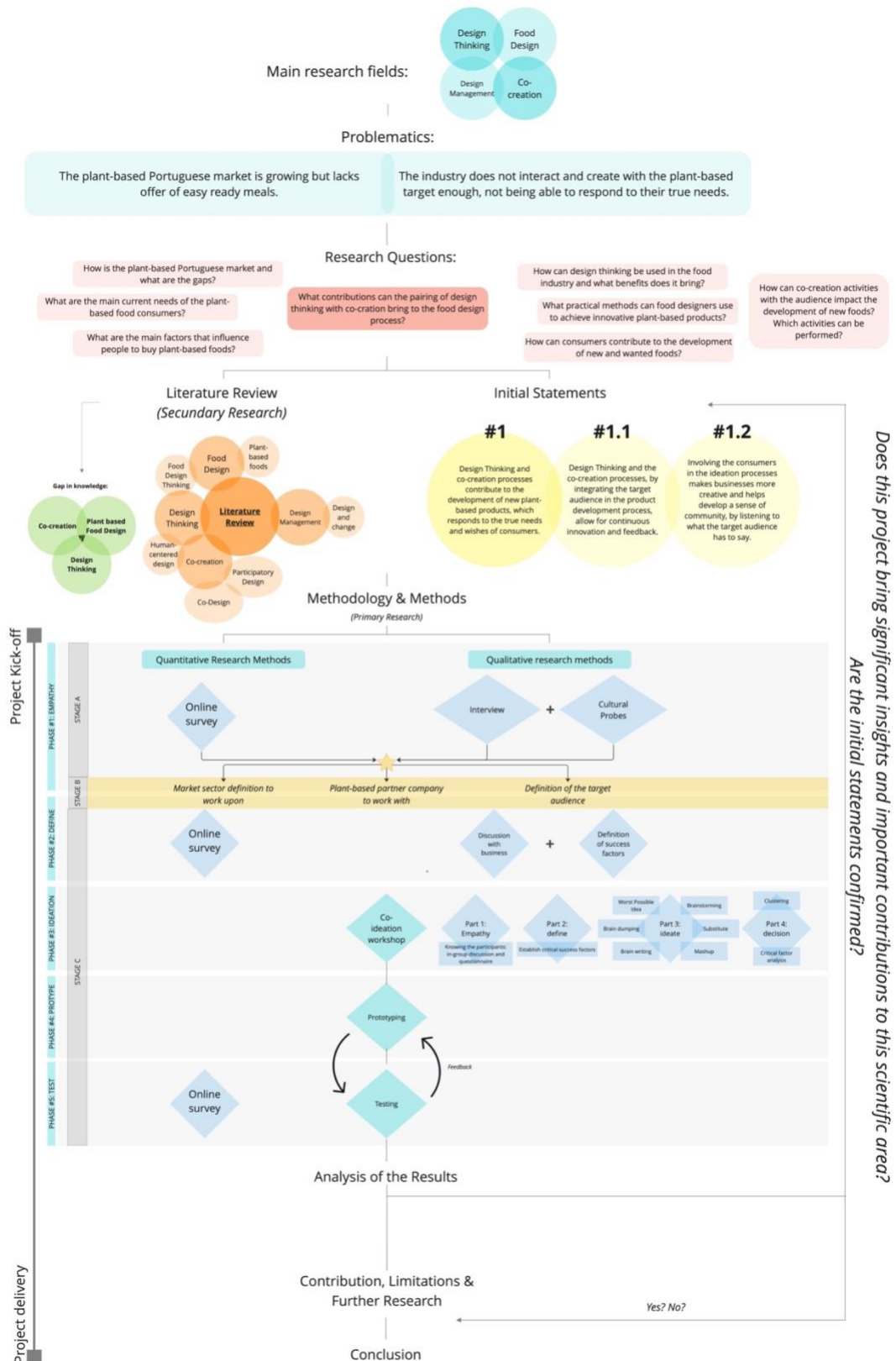


Figure 3: Research Diagram

Mixed Methods Approach:

This research project follows a mixed approach, in other words, quantitative and qualitative methods were used to collect the necessary data, allowing for a combination of numerical measurement (numbers and statistics) and in-depth exploration (qualitative analysis, discourse analysis, comparative analysis, etc.). The mixed methods approach is one in which the researcher tends to base knowledge claims on pragmatic grounds (e.g., consequence-oriented, problem-centered, and pluralistic) (Creswell, 2003). It uses research strategies that involve collecting data either simultaneously or sequentially for a better understanding of the research problems. The data collection also involves gathering both numeric information as well as text information so that the final database represents both quantitative and qualitative information (Creswell, 2003). A quantitative data collection will result in gathering general vegan community statistical information, demographics, preferences, etc., using numerical scales such as Linkert. As for the qualitative data collection, it will result in the gathering of secondary data collected from the literature review and primary data collected from the other methods applied, such as interviews, cultural probes and focus groups' workshops. The analysis of this type of data was executed mainly through transcript analysis using discourse analysis, content analysis and thematic analysis. (Creswell, 2003; Bryman, 2012; Daymon & Holloway, 2010;).

3.2 Secondary Research:

- Case Study:

Crowe et al. (2011) state that a case study is a research approach that is used to originate in-depth, multi-faceted understandings of complex issues in real-life contexts. The case study approach is particularly useful to employ when there is a need to obtain an in-depth appreciation of an issue, event or phenomenon of interest, in its natural real-life context (Crowe et al., 2011). Put simply, case study is defined as “an empirical inquiry that investigates a contemporary phenomenon (the ‘case’) in depth and within its real-world context” (Yin, 2009, p. 16). The author also recommends that researchers should begin with an end in mind and that they should start drafting the outline of the final report before the case study has begun.

This research is an in-depth investigation of the Portuguese plant-based consumers and their current product needs. It aims to show, through a practical application in a real-world context (a

plant-based Portuguese business inserted in the industry) the benefits of the pairing of Design Thinking methodology and co-creation methods in the food design field.

3.2.1 STAGE A: Exploratory Study of the Plant-based Portuguese market

Different quantitative and qualitative methods were used in order to understand the current needs of the plant-based Portuguese consumer. The main goal was to gain an empathic understanding of the target audience, its profile, motives and which “problem” needed to be solved, in other words, which type of food category needs improvement and innovation in the eyes of the consumers. It was essential to collect data that would show the point of view of the vegetarian and vegan population in Portugal, as well as how they felt regarding the current market’s offer of plant-based products.

3.2.1.1 Emergence in the target audience:

- **3.2.1.1.1 Questionnaire: quantitative method**

Firstly, as a quantitative method, an online individual questionnaire was created with the Google Forms tool, which allowed for data to be collected easily from the Portuguese plant-based vegetarian community. The fact that all inquiries respond to the same group of questions, allows the data collection method to be more efficient at a larger scale (Saunders et al., 2009). This questionnaire was developed with the objective of understanding the consumer habits of the population, as well as their opinion on the current offer of the plant-based foods in the Portuguese market and also what they feel that is missing in the supermarket shelves. It is important to note that, although the main objective was to reach vegetarians, vegan and flexitarians, meat-eaters were also able to respond to this questionnaire: the goal was to understand the reasons behind not eating a plant-based diet and how we could possibly access that in a near future.

Before being shared and to allow for the correct functioning of this important data collecting tool, a pre-test was developed with 8 people. With this pre-test, the objective was to identify problems, errors, technical issues, and misunderstandings in the questions. A questionnaire must obey some basic rules - it must have an internal logic in the exact representation of the objectives and in the application, tabulation, and interpretation structure. (Manzato & Santos, n.d.)

Sample of the questionnaire:

In quantitative research, the sample is usually large (Daymon & Holloway, 2010). The sample proposed in this investigation stage was non-probabilistic for convenience, due to the ability to identify potential participants to the study (Daymon & Holloway, 2010). The distribution of the questionnaire assumes individuals between the ages of 13 and 65+ and, due to its online nature, the use of the Internet was assumed as a condition for the target audience. The snowball effect on the part of the respondents, by sharing the questionnaire link among their peers, we were able to collect a final of 137 responses. Non-profit organization AVP and community groups also helped spread the questionnaire with the target audience mainly through social media and word of mouth.

Structure:

At the beginning of the questionnaire a brief description of the thematic and the research that was being developed was presented to the respondents. A guarantee that all responses were anonymous was enhanced, and acknowledgments for the time provided, participation and collaboration were also made.

In the first section of the questionnaire, the participants were requested to share their demographic information and if they followed a plant-based diet - depending on if the participant selected a vegan, vegetarian or flexitarian diet or if he follows an omnivore diet (consumes animal products and derivatives), the participant would be led to different questionnaire sections. The one who follows an omnivore diet, was going to be presented with only two more questions, which would provide the necessary information to interpret their motives and how they could be tackled. In total, 22 questions were asked. Throughout the questionnaire, multiple-choice questions can be found, where the respondent is presented with lists of answers, where all options can be selected (Saunders et al., 2009). The questionnaire presents some classification questions, widely used to measure opinions (Saunders et al., 2009), using Likert scales, for example. The Likert scale is commonly involved in research that employs questionnaires, since it is the most widely used approach to scaling responses in survey research with a reliability scale between 88% and 90% (Louangrath, 2018). Also, closed questions are predominant in the questionnaire which provides a better analysis and comparison of answers and allows for faster and easier answers to be completed by the respondent, despite the possible loss of some spontaneity in the answers (Bryman, 2012). There is only one open question, which asks for the

specification of a product they would like to see on supermarket shelves. The questionnaire also has matrix questions, which allow the collection of multiple answers to one question simultaneously (Saunders et al., 2009). For a detailed overview of the questions and responses, along with initial assumptions, please check the appendixes.

- **3.2.1.1.2 Structured Interview: Qualitative method**

The interview is a method commonly used in the design field to find out about people's ideas, opinions, and attitudes. For research purposes 'interview' can be defined as a form of conversation between a researcher and a participant that is usually guided by a session of formal questions (Muratovski, 2016).

In this primary research, the first method used was a structured interview with the AVP- Associação Vegetariana Portuguesa. The interview with AVP was carried out by email and the answers were given by the one responsible for managing and coordinating the Association's campaigns, Joana Oliveira.

The AVP, as stated previously, is a non-profit organization whose mission is to promote vegetarian eating as a healthy, compassionate and sustainable lifestyle. The main goal of this interview was to understand the current perception of the plant-based Portuguese market and what the organization is perceiving as its future. Due to the incompatibility of schedules and location, the interview was performed online via email. In similarity with the questionnaire, before the interview started, the researcher provided a brief and simple explanation of the research project that is being developed and how this interview was going to be used in the future, as well as an overview of the discussed topics. The questions of this interview were:

Question 1: "What's AVP's main mission?" ("Qual é a principal missão da AVP?")

Question 2: "What do you consider to be, currently, AVP's biggest challenge? Why?" ("Qual considera ser, atualmente, o maior desafio da AVP? Porquê?")

Question 3: "How does AVP use the concepts of 'vegan' and 'vegetarian' in communication with the public? Does it distinguish between them or treat them as equivalent?" ("Como é que a AVP utiliza os conceitos de 'vegan' e 'vegetariano' na comunicação com o público? Distingue-os ou trata-os como equivalentes?")

Question 4: "Being an association of great reference for vegetarianism in Portugal and having a close connection with the Portuguese vegan and vegetarian public, do you have statistical data on

the vegan and vegetarian population in Portugal (percentages, age, motives, etc.)? If so, what does this data tell us about the current Portuguese population with a plant-based diet?” (“Sendo uma associação de grande referência do veganismo em Portugal e tendo uma ligação próxima ao publico vegan e vegetariano português, têm dados estatísticos sobre a população vegan e vegetariana em Portugal (percentagens, idade, motivos, etc.)? Se sim, o que é que esses dados nos revelam sobre a atual população portuguesa com dieta à base de plantas?”)

Question 5: “In several countries, the plant-based food market has been growing exponentially and continues to show no signs of slowing down. Looking at the last few years and your connection to the food market, do you consider that this is also the case in Portugal? What are the major differences and changes that have been felt in the market, in consumers, etc.” (“Em diversos países, o mercado alimentar à base de plantas tem vindo a crescer exponencialmente e continua sem sinais de abrandar. Olhando para os últimos anos e para a vossa ligação ao mercado alimentar, consideram que isto também se verifica em Portugal? Quais as grandes diferenças e mudanças que têm vindo a sentir no mercado, nos consumidores, etc.”)

Question 6: ““The COVID-19 pandemic has changed the consumption habits of many Portuguese consumers. Do you think there has also been a change in your eating habits? That is, do you consider that there has been an increase in demand for plant-based food solutions? If yes, why do you think this happened?” (“A pandemia da COVID-19 mudou os hábitos de consumo de muitos portugueses. Consideram que existiu também uma mudança nos seus hábitos alimentares? Isto é, consideram que houve um aumento na procura de soluções alimentares à base de plantas? Se sim, porque acham que tal aconteceu?”)

Question 7: ““Looking at the current vegan food offer on the Portuguese market and taking into account the constant feedback that AVP receives from consumers, can you identify any group of food products that needs new offers?” (“Olhando para a atual oferta alimentar vegan no mercado português e tendo em conta o constante feedback que a AVP recebe dos consumidores, conseguem identificar algum grupo de produtos alimentares que necessite de novas ofertas?”)

Question 8: “What is the perspective that AVP has on the future of the vegan and vegetarian sector in Portugal? What are the expectations for the next 5 years?” (“Qual a perspetiva que a AVP tem sobre o futuro do setor vegan e vegetariano em Portugal? Quais as expectativas para os próximos 5 anos?”)

3.2.1.2 Problem Definition:

These two methods, questionnaire, and interview were carried out in order to understand if the statements and insights retrieved from secondary research were still valid. Through the crossover of all analyzed data of the literature and these two methods, an identification of the problem was made, defining a problem statement: **“The Portuguese plant-based market does not present a large variety of product types and is oversaturated with unhealthy ultra-processed foods.”**

3.2.1.2.1 Cultural Probes: Qualitative method

To validate and corroborate that these insights were truthful and responded to the reality of the Portuguese market, a group of 4 consumers (one vegan, one vegetarian, one flexitarian and one omnivore) was challenged, while doing their grocery and supermarket shopping, to capture images of the ready-made meals they found. As a bottom comment, the consumers revealed they were surprised with how saturated the Portuguese plant-based market is with ultra-processed foods, especially the few options of ready-meals.



Figure 4. Cultural Probes

3.2.2 STAGE B: Asoka Plant-based Market - Case Study

After analyzing the previous methods, defining a “problem to be solved” and concluding Stage A of the research plan, there was a need to establish how we could help put healthier and innovative foods on the market.

After making a market search for businesses and brands that were more aligned with the consumers’ needs, we came across the Asoka - Plant-based Market.

Asoka is a plant-based market which focuses on artisanal handmade products, without preservatives or additives and which are nutritionally balanced. Their motto is “green made easy”. All their products are frozen, and their portfolio includes burgers, meals, snacks and sweets.

In contrast with what the owners of Asoka predicted, their consumers do not focus mainly on vegans and vegetarians but flexitarians or people who want to diminish their consumption of animal products.

When the consumer buys a product from the store, the product is sold frozen. When arriving home, the client has two options: cook without the need to defrost or refreeze.

Other current goals of Asoka focus on expanding their business to new locations and expanding their portfolio with new products responding to the needs of their current consumers and future ones. Having this into account and by making a connection with the previously identified poor product categories of the Portuguese plant-based market (through literature and questionnaire), one solution for the business is to invest on delivering new ready-meals, since this is a market segment which is poor, has no variety and is often loaded with additives, preservatives, sugars and others, making them highly processed and unhealthy foods. Asoka aims, therefore, to create and make available more meals which are healthy, minimally processed, nutritionally balanced and fast to prepare.

Asoka also wants to differentiate their product offer with the comfort food, in opposition to the typical “fats-food” we often see on the market.

In 1997 and until now, Merriam-Webster Dictionary (2023) classified it as “a food which is prepared in a traditional style usually having a nostalgic or sentimental appeal”. Other authors offered a more general definition of comfort food,

“a specific food consumed under a specific situation to obtain psychological comfort”
(Wansink et al., 2003, p. 66)

Locher (2002, p.442) adds that comfort food is “any food consumed by individuals, often during periods of stress, that evokes positive emotions and is associated with significant social relationships”. Asoka has made it clear that they want to make their meals and products seen by the consumers as “comfort food” but maintain them healthy. Asoka wants to make healthy products without disregarding great taste.

Asoka Plant-based Market differentiates itself from the competition by its offer of comforting foods which pass through deserts, snacks, burgers and meals which are minimally processed and nutritionally balanced.

Although this business already answers the needs of the population by delivering a range of products which are better for health and minorly processed, we decided to choose this business to work with in order to give them strength and impact more people with healthier comfort products, mission and values. After discussing the research conducted with the business and with their interest in collaborating, we then proceeded to identify their current food development process. New foods and dishes that came into the portfolio of Asoka were mainly proposed, idealized, prototyped, tasted, tested and approved exclusively by the chefs and owners. There was minimal interaction with consumers and although efforts were being made to answer the needs of the audience, the consumer was never invited to collaborate and give their point of view in any product. Having this into account, the business was challenged to follow a more structured process based upon Design Thinking and bring consumers to the ideation process through co-creation workshops. Theoretically thinking, the goal, in the end, was for the business to see, learn and experience improvements using this methodology and methods. In practice, the end goal was to bring to life a new meal idealized by the target audience.

3.2.3 STAGE C: Design Thinking methodology and Co-creation methods on the development of a new plant-based product for the Asoka Veggie Market:

As described in the Literature Review, Design Thinking is a methodology used for creative problem solving. It is composed of five main phases: Empathy, Definition, Ideation, Prototyping and Testing. This is not a linear process since you can go back at any point in the process.

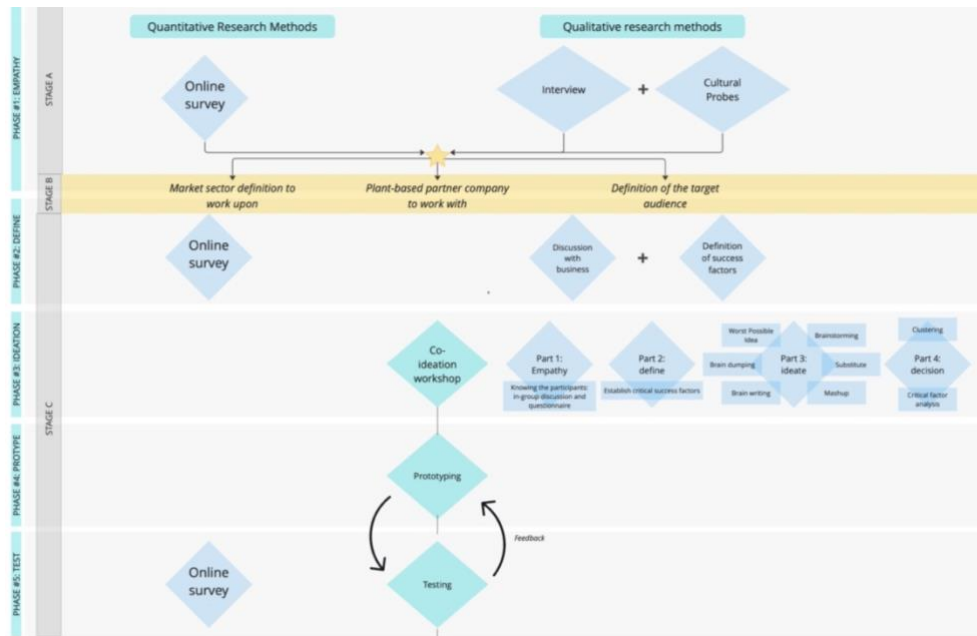


Figure 5: Overview of the structure of the case-study practical research.

After Asoka accepted the collaboration, we proceeded to the definition of the methods used to get the desired outcomes in each of the Design Thinking phases.

3.2.3.1 Prior to co-creation

- **Questionnaire Asoka (Empathy): Qualitative method**

To get a better understanding of the typical consumer of Asoka and what they are expecting from the business, an evaluation of a questionnaire launched by the business at the end of 2022 was made. This questionnaire was shared throughout Asoka's social media pages, newsletter and website. As an encouragement, consumers who responded to the questionnaire were given a discount code for their online store. A total of 131 consumers answered the questionnaire which was composed of 16 questions. The distribution of the questionnaire assumes individuals between the ages of 18 and 65+ and since these are frequently the consumers with purchasing power. The use of the Internet and especially social media was also assumed as a condition for the target audience.

At the beginning of the questionnaire was presented a brief description of its purpose. The questions are mainly focused on multiple choice questions, Linkert scales and short open-ended questions. Throughout the questionnaire, multiple-choice questions can be found, as well as

classification questions, closed questions, open questions. and matrix questions. To see the full questionnaire, its questions and responses, please check the Appendixes.

After the analysis of this questionnaire, and after analyzing the first general questionnaire realized before in this research, a Triangulation of the Data was conducted in order to draw relations between the two samples and understand if they are in agreement.

Critical Success Factors (Definition): Qualitative method

By analyzing the questionnaire performed by Asoka and making a data triangulation of the previous questionnaire made to the plant-based Portuguese consumers in general, we had the reassurance that people are looking for more ready meals, especially nutritionally balanced ones and minimally processed. Therefore, the direction to be followed was to create another healthy meal which required minimal effort from the consumer, as other products of Asoka, that exclusively require it to be cooked, for example, in the oven.

Additionally, the business was asked to define Critical Success Factors (CSF).

York Freund (1988) states in his article "Planners Guide: Critical Success Factors":

“John Rockard, a professor at MIT's Sloan School of Business, has codified critical success factors as, "Those things that must be done if a company is to be successful." More recently, business planners have extended the CSF concept to include external competitive factors as well. CSFs must be:

- Important to achieving overall corporate goals and objectives.
- Measurable and controllable by the organization to which they apply.
- Relatively few in number—not everything can be critical.
- Expressed as things that must be done—not the end point of the process.
- Applicable to all companies in the industry with similar objectives and strategies.
- Hierarchical in nature—some CSFs will pertain to the overall company, while others will be more narrowly focused in one functional area.” (Freund, 1988, p. 20)

Having this into account, Asoka, together with the researchers, decided to define the following 5 success factors:

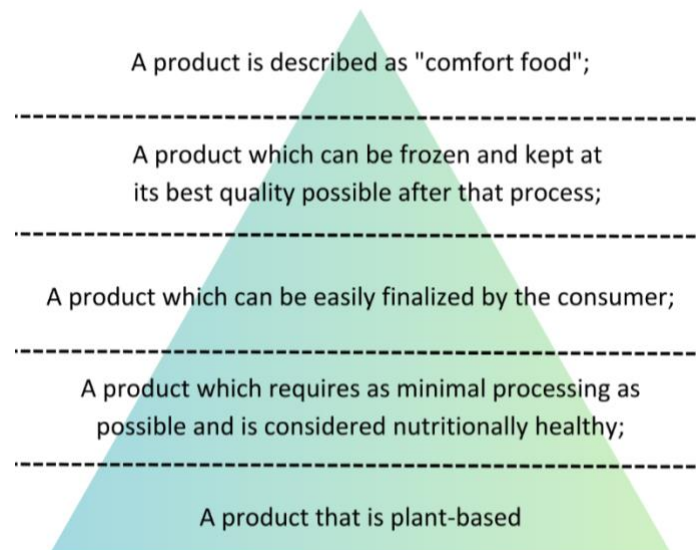


Figure 6. Asoka's 5 Critical Success Factors

3.2.3.3 Co-creation workshop

The co-creation workshop mainly consisted of a set of individual and group activities which were generally based upon dialogue, idea sharing and idea transformation.

The workshop was set physically at the Asoka Plant-based Market store in Cascais. This was the space where participants could make themselves comfortable, sitting in a group and with plenty of space for positioning of interaction canvas. Although this store did not have its own kitchen, it didn't have an impact on the workshop since the activities were mainly based upon imagination and worked on paper. It took place on a Saturday afternoon in February 2023. The workshop had 10 participants: 3 were potential consumers of the business, while 7 were already consumers of Asoka Products. Their ages varied between 21 years old and 65+. A session plan was also created, which incorporated the presentation of the topic, the purpose of the co-creation session and the desired outcomes. All activities were timed, as well photographed and recorded for further analysis, with consent of the participants.

The workshop, in similarity with the Design Thinking process was composed of 3 essential parts: Empathy, Definition and Ideation. An extra part was added, the Decision of the product. The following figure presents the workshop flow, with identification of the 4 different parts and the methods that compose them.

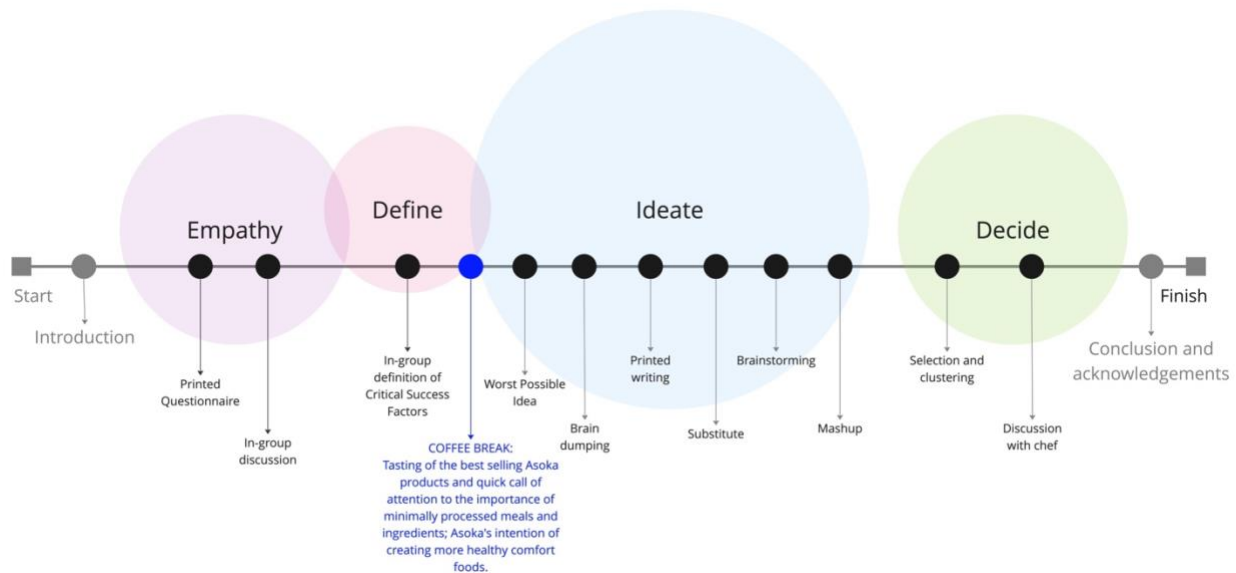


Figure 7. Workshop structure and overview of activities

3.2.3.3. 1 - Part 1: Empathy (Knowing the group) - Mixed Method Approach

Questionnaire: Quantitative method

To understand the demographics of the participants of the workshop, as well as their eating habits, a sheet form was distributed and filled. This form included the following questions:

- “What is your name?” (short text response question)
- “What 's your age?” (short text response question)
- “What’s you diet?” (multiple choice question)
- “What are the main motives for your dietary choices?” (multiple choice question)
- “Did you know Asoka before?” (multiple choice question)
- “Do you currently eat meat or have you ever eaten it?” (multiple choice question)
 - “If yes, what is/was your favorite dish?” (short text response question)
- “For you, what is the most important factor while choosing a new product?”

- “Having into account your frequent shopping from supermarkets and small businesses such as Asoka, what category of products do you identify which lack variety in its offer?” - (multiple choice question)
 - “Can you point out any specific product you would like to be created?” (short text response question)

This questionnaire was meant only for registration purposes so that the participants could later be analyzed.

In-group presentations: Qualitative method

After answering the written questionnaire, the group was asked to, individually, make a small and brief presentation of themselves out loud to everyone, present their current eating habits, and main motives for eating more plant-based products.

Sketching: “Quem arrota, bem almoça” (Portuguese proverb from Trás-os-Montes and Alto Douro) - Qualitative Method

In order to exercise the mind and imagination, create more openness to further questions, and elevate the mood (“breaking the ice”), the participants were challenged to draw, on a sheet of paper which contained a set of cutleries and a plate of what they had eaten at lunch. After drawing, the participants were asked to show it to the group for connections to be made and creative confidence to be built.

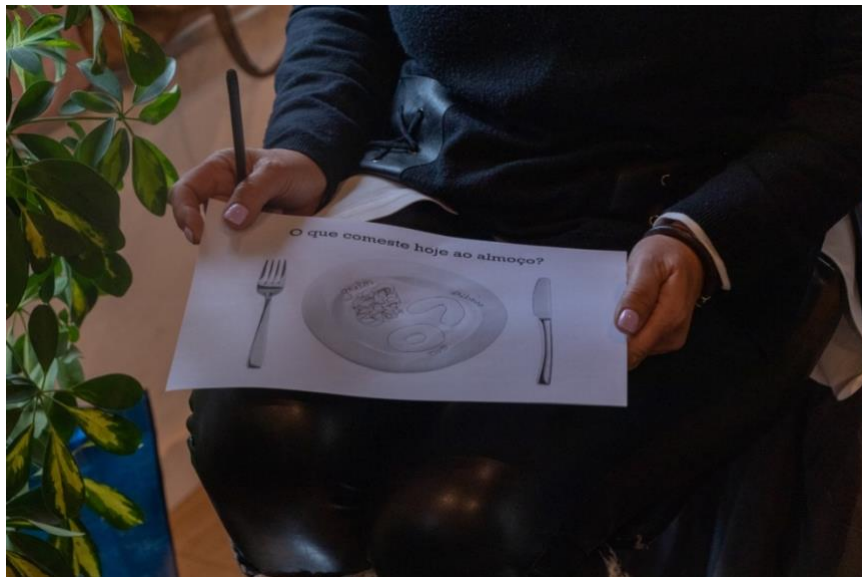


Figure 8: Sketching of participant's lunch.

3.2.3.3. 2 - Part 2: Definition of what a good product is for the participants- “Puxar a brasa à minha sardinha” (Portuguese proverb) - Qualitative approach

In order to comprehend the main needs of the workshop participants, and to understand which product categories they feel Asoka should invest on, the group defined 5 success factors before diving into a concrete solution. They were:

- Product with no wheat (and/or gluten);
- Minimally processed;
- Children friendly;
- Easily finalized;
- Vegan product;

Having this in mind, the session jumped to the co-ideation of new products.



Figure 9: Discussion of the critical success factors of participants

3.2.3.3. 3 - Part 3: Co-ideation - Qualitative Methods

For creativity to flow and to take into consideration the type of plant-based products Asoka market sells, the chef prepared a small coffee break with a tasting of 3 of their best-selling products. He presented each meal and reinforced to the participants the vision of Asoka of creating healthy

comfort foods which don't try to imitate any flavors from animal-based meals, but rather reinvent them with the maximum whole foods and real flavors as possible.

The co-ideation part of this co-creation workshop had as main goal to generate maximum ideas as possible. The participants were asked to work for quantity and not for quality in this part of the workshop. The activities were all named based on Portuguese preverbs on food.

Worst Possible Idea: “Nem que a vaca tussa”

As a first method, the participants of the workshop were asked to write in postits the food ingredients and entire meals they hated the most and which they would despise if Asoka made a plant-based version of it. In this technique, the logic of ideation is flipped upside down: instead of thinking of the best meals Asoka could make, participants are asked to think of the worst product ever. This method is used as an “ice-breaker” exercise that prepares the team to express their craziest ideas freely. The postits were then posted in canvas 2.



Figure 10: Worst Possible ideas of a participant

Brain dumping: “Primeiro estranha-se e depois entranha-se”

Secondly, in the co-creation workshop, the participants were asked to share a surprising experience of a plant-based product or meal which they thought they would dislike, and it turned out to be one

great experience. The goal of this method is to awaken curiosity from other participants and to encourage the experimentation of other foods.

Brainwriting: “Comer e chorar por mais”

Through this method, participants were able to share, through heart-shaped postits their favorite meals and paste them in canvas 2. The main objective was to find which foods were commonly loved and compare them with the products others hated the most (to find richness in difference).



Figure 11 – Most loved and hated foods of the participants.

Substitute - Veganize it: “Trocar alhos por bugalhos”

From the previous exercises, participants were then asked to look at the meals composed by animal products and were challenged to substitute its animal-based ingredients for plant-based ones, for example, “cogumelos à bulhão pato” as an alternative of “amêijoas à bulhão pato”. The results were written in postits and pasted on canvas 2.

Brainstorming: “Grão a grão enche a galinha o vegetariano papo” ”

Having taken into account all the referred meals before and after creativity thinking was exercised, the participants of the workshop were asked to write all possible product ideas they could remember. All ideas were written in post its and posted in canvas 3. Again, in this stage of the workshop, quantity of ideas is preferred above quality. After the task was completed, the group gathered around the canvas and analyzed the collection.

Mashup: “Não é peixe nem é carne”

While reading their ideas, the participants were then asked, if any new idea came to mind after a certain product suggestion, to write it down and post it on the same canvas. For example, if there was an idea of “cogumelos à brás”, the participants had the liberty to write more ideas around this concept: “legumes à brás”, “alho francês à brás”, “cogumelos com natas”, etc. In the end, mainly cooking styles and ingredients could be changed, originating a mashup of ideas again.

3.2.3.3. 4 - Part 4: Decision of product: “Não vai ser pêra doce”

As a first stage of the Decision of which product should be prototyped by Asoka, the participants were requested to grab from the second canvas the three most appealing ideas they could find and paste the papers in canvas number 3.

Clustering, now called: “Um molho de espargos na mão é melhor que dois a voar”

When analyzing the most appealing ideas selected by the group, clusters were formed in order to organize, categorize and prioritize ideas. Through this clustering, the group was able to clearly see in which product categories the ideas fell mostly upon, and which ones were repeated.

When reaching the end of this phase, 24 postits were on the final canvas. Next, the chef was called for a group discussion and the opinions on the 24 ideas were debated. The participants also

discussed with the chef which products they felt would be a success taking into consideration Asoka's mission and current product range.

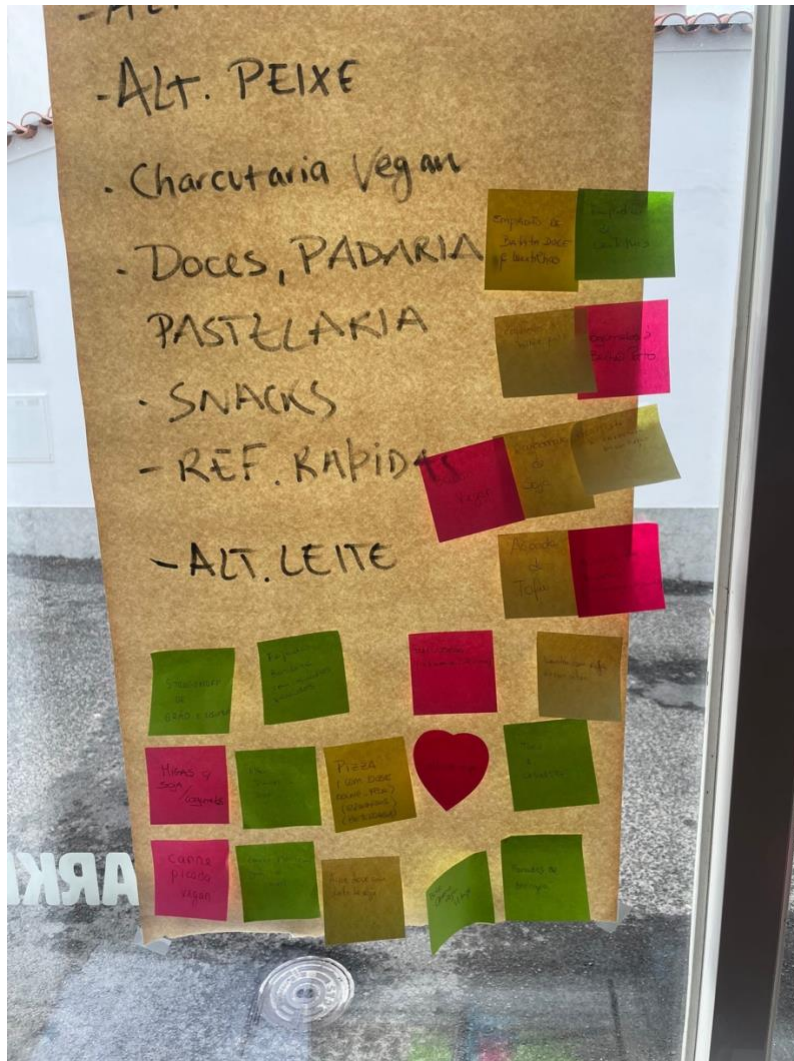


Figure 12: Selected products and clusters.

Final decision:

In order for one product to be created and after hearing the opinions and points of view of the participants of the workshop, the chef and the business owners had to make a decision on which product they should go ahead with. The final choice is made by them since the business values and mission need to be properly reflected in the product portfolio. Also there are multiple constraints when it comes to the freezing of the products: not all products, specially the ones with sauces, can easily be created and frozen and still ensuring it has the highest quality possible when finalized

(cooked) by the consumer. These are issues only experts know and only they can assess if a good prototype can be created.

With this in mind, along with the 5 Critical Success Factors developed by the business previously, the final choice was the mushroom and chickpea stroganoff (“Strogonoff de cogumelos e grão”).



Figure 13: Discussion of the product suggestions.

3.2.2.4 STAGE D – Prototyping and testing:

Regarding phase 4 of the Design Thinking process, Prototyping, the business conducted it alone. Although many could think it would be beneficial to also introduce the consumer in this phase, it was decided to leave it out in order to create high fidelity prototypes with the maximum quality and in the shortest time possible. Prototyping flows hand in hand with Testing, as feedback allows for continuous product improvement. Therefore, the time need for the development for each prototype was short, since experts were the ones performing this stage. Another reason for the chefs to be the only ones to be involved in Prototyping is because food safety needs to be assured, as well as the protection of consumers.

After multiple tests with different quantities and different ingredients, the chef was satisfied with one prototype.

3.2.2.4.1- The Prototype:

The Strogonoff from Asoka is a meal that has as main ingredients Chickpea and Paris Mushrooms which are involved in a complex and intense sauce. It has an orange/redish color and spiced smell. It is a vegan and gluten-free product. The ingredients from this meal and nutritional values, as well as some additional information can be read in the the packaging:



Figure 14: Strogonoff's prototyping and label with ingredient plus additional informations.

3.2.2.4.2 - Testing

In order to conclude the Design Thinking process, the prototypes went through two test phases: firstly, a test performed by the chef and, secondly, a test performed by the consumers.

When it comes to the chefs, they based the tests on verifying if the 5 critical success factors that were established before were respected and achieved. Tests on texture, taste, smell etc. were also performed. With this, we can conclude these tests were mainly practical. Since this is a food product which is composed of a big portion of sauce, the chef had to be certain that, when freezing the product there wasn't a separation of the elements, making it heterogeneous. Also, when defrosting and cooking the meal, the chef had to be certain the product would be in its highest quality possible, as well as how much time it would take to be fully cooked.

When it comes to consumer testing, in order to assess and evaluate the new dish, the participants of the co-creation workshop were called. Following the Asoka customer's journey, and to make

sure the process and experience of buying a Stroganoff meal was the same as already implemented products' (ensuring its success), the participants went to pick up the meal at the store, frozen. When arriving home, they could make the meal right away or freeze it again, as any other Asoka product. In order to assess the performance of the product from the point of view of the participants, a questionnaire was developed with 15 questions. The questionnaire was mainly composed of questions that could be replied through scaling, as well through a short text.

These questions had as their main goal to evaluate the organoleptic properties of the Stroganoff meal, as well as to evaluate its overall quality, how frequently consumers would eat it and how "likable" it is.

Schutz (1965) created a 9 point successive-category food action (FACT) rating scale for measuring food acceptance. Within the rating-scale technique, there are three types of successive-category scales for measurement of food attitudes. These are: "Quality Judgment", "Like-dislike Affect" and "Action". For this research in specific, although Schutz successive-categories were utilized in 3 questions, the rating scales did not possess 9 points, in order to make it simpler and to not saturate the consumer. To see the full questionnaire, its questions and responses, please check the Appendix.

Since Design Thinking is an iterative process and Prototyping and Testing are co-dependent phases, after the first testing was finished and the feedback given to the chefs, the Stroganoff meal suffered some improvements (as the addition of more mushrooms, for example) and another prototype was generated.

4. Research Results:

This chapter, which follows the methodology proposed for the investigation, intends to present and discuss the findings resulting from the data collection methods, namely the use of interviews, questionnaires and other co-creation methods used in the workshops.

4.1 Market research:

5.1.1 Empathy

5.1.1.1 Questionnaire:

The questionnaire which aimed to analyze the Portuguese plant-based market was, as described before, answered by vegans, vegetarians and flexitarians, as well as meat eaters. In total, 137 consumers responded to it.

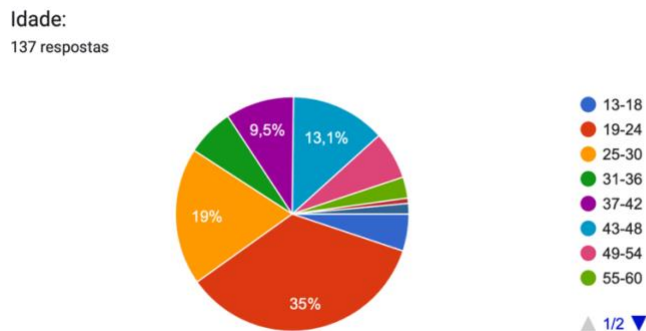


Figure 15. Age of questionnaire's participants

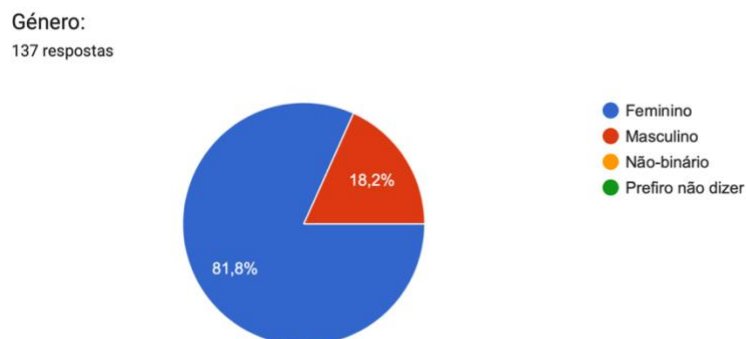


Figure 16. Gender of questionnaire's participants

As We can observe, young adults (19 to 24 years old and 25 to 30 years old) and female consumers contributed to the majority of answers. This is coherent with the statement of Lantern (2021) shown in previously in the Literature chapter, where the research carried out reveals that plant-based diet followers are represented in all age groups, but it is among the youngest (18-34 years old) that we find a greater number of vegans and vegetarians. The report also stated that 60% of all plant-based consumers were female.

Since the questionnaire was disseminated across social media plant-based groups and reposted by plant-based advocating NGO's, the majority of the respondents were vegan, more specifically, 48 consumers.

Tem uma dieta à base de plantas?
137 respostas

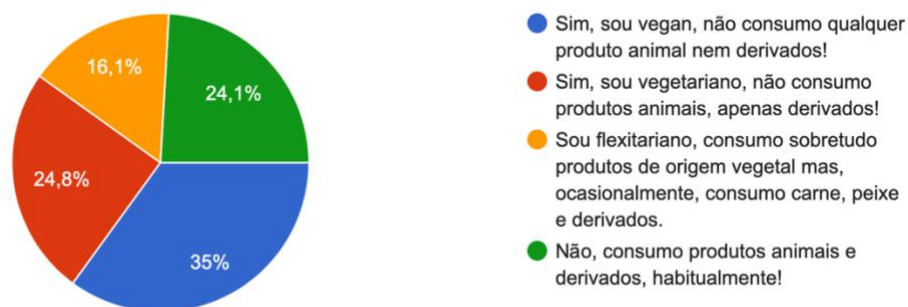


Figure 17. Diets of questionnaire's participants

Depending on their eating habits, consumers would be directed to different sections of the questionnaire. When it comes to meat eaters, the only additional information which was requested was their interest in changing to a plant-based diet and what reasons impacted that, at the moment, they didn't consume a larger number of plant-based products.

Qual o seu interesse em mudar para uma dieta à base de plantas?

33 respostas

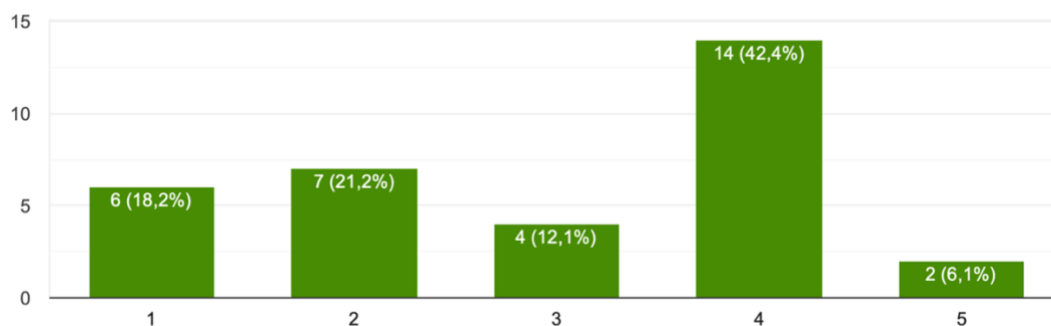


Figure 18. Interest in changing to a plant-based diet

As seen above, 18 out of the 33 consumers who eat meat regularly have a moderate interest in changing to a plant-based diet (3 and 4 in the Likert scale). Only two of them are very interested in changing to a plant-based diet. The remaining 13 do now show interest (1 and 2 in the Likert scale).

O que o faz, de momento, não consumir mais produtos à base de plantas? (selecione todas as que se aplicam)

33 respostas

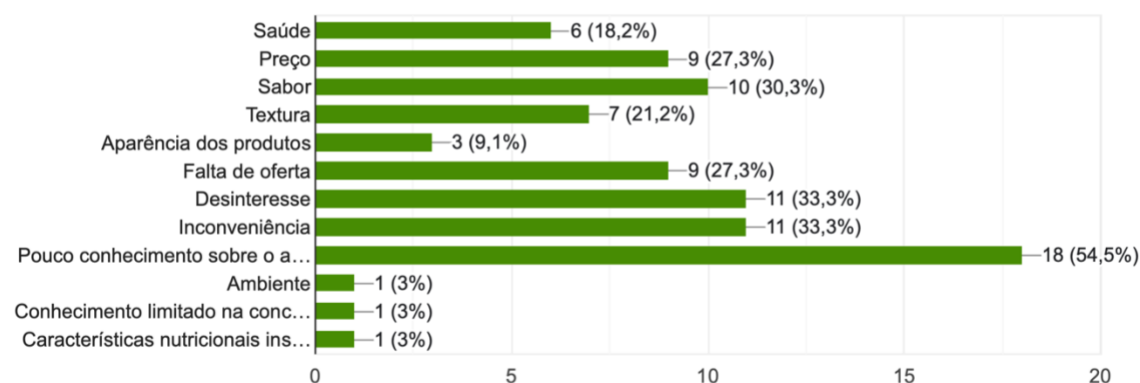


Figure 19: Motives for not following a plant-based diet.

More than half of the meat-eating consumers describe as the main reason to not eat more plant-based foods the “lack of knowledge on the matter”.

The plant-based consumer:

Identifique a principal razão pela qual tem uma dieta à base de plantas:

104 respostas



Figure 20: Motives for following a plant-based diet.

When it comes to the plant-based consumers, the main motive pointed out was “Animals”. Since most of the plant-based consumers who answered the questionnaire were vegan, we can easily understand that this is the reasoning behind such a high number.

When asked about their opinion on the current diversity of offers in the plant based portuguese market, the consumers showed themselves as moderately satisfied.

Qual a sua percepção geral sobre a diversidade da oferta de produtos à base de plantas ("plant-based") em Portugal?

104 respostas

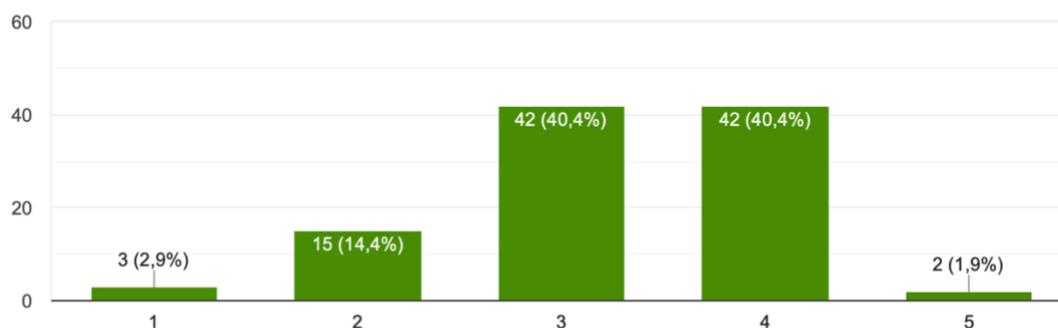


Figure 21. Perception of the plant-based offer

Other questions on the impact of certain factors such as prices, brands, nutritional values and ingredient origins were also analyzed, showing a clear tendency for these factors to be highly impactful on the decision process of buying certain products.

As a final question of this questionnaire, consumers were asked to indicate a product which they would like to see on their supermarket shelves. The answers were varied, however there was a clear tendency to refer to bakery and pastry, fish and seafood alternatives and also ready meals. In order to see the full questionnaire and its results, please check the Appendix.

4.1.1.2 AVP Structured Interview

After analyzing the responses to the interview and in association with previous literature, AVP's mission is to promote vegetarian food through objective information to the public about the negative impact of agriculture and the advantages of plant-based food for human health, animals and the planet. Citing the study “The Green Revolution” by Lantern (2021), AVP states that the growing trend in the number of consumers, both in Portugal and internationally, was intensified even during the COVID-19 pandemic period.

Joana Oliveira, citing the same study, outlines the profile of “veggie” consumers in Portugal: there are more than one million, mainly young women who live in large cities. With regard to motivations for food choice, vegetarians and vegans point to environmental causes (73%) and concern for animals (69%). AVP also highlights a study it carried out with consumers in 2021 on the main lack of vegetarian options in supermarkets: vegan alternatives to cheese are at the top of the list (55.3%), in second place is the desire for a greater supply ready-to-go vegan meals (39.6%) and, in third place, bakery products (34.8%).

(For full interview questions and answers please check the Appendix)

4.1.1.3 Cultural Probes

The cultural probes consisted on the documentation of plant-based products consumed by 3 consumers which commonly go to 2 different supermarkets: Aldi and Continente. The consumers took pictures of the front packaging and the back information of the products, which contained ingredient lists and nutritional values. These products, as shown, correspond mainly to fast-food meat alternatives. Through the analysis of the ingredients list (checked online through the supermarket chain's websites) we can state that these products are rich in flavorings, preservatives, additives, sugars, highly processed ingredients, among others. The cultural probes validate, therefore, the previous perception of the industry identified in the literature: ultra-processed products are oversaturating the Portuguese plant-based market.

4.2 Case Study - Asoka Plant-based Market

4.2.1 Business Definition

In order to better understand the business and validate it as the best choice to collaborate in this research, a SWOT analysis was performed. Through their strengths we can assess that this business is responding correctly to the needs of the consumers. This analysis points out some of the opportunities that are in alignment with the strengths of the business.

Asoka's Strengths:

- Great variety of product categories
- Extensive portfolio
- clear communication of beliefs and mission with the target audience.
- Minimally processed products in opposition to other options on the market.
- Artisanal and Handmade products
- Nutritionally balanced meals
- Natural and high quality ingredients
- Focuses on delivering “comfort foods”
- Physical stores (3) and online store
- strong quality recognition
- etc.

Asoka's Opportunities:

- explore more ready meal options
- create healthy comfort-meals
- be market leaders when it comes to ready-meals
- Improve product development process
- incorporate consumer in ideation
- Taste test with consumers for continuous feedback for innovation
- creation of a strong community through product development
- etc.

Asoka's Weaknesses:

- no consumer involvement in product development processes

- no specific food development process followed
- Limited locations

Asoka's Threats:

- Cost of ingredients may rise
- Competition from similar businesses
- etc.

4.2.2 Empathy - Questionnaire Asoka

Since the Questionnaire performed by Asoka was shared through their social media channels and newsletter, we can conclude that the majority of answers are from Asoka's consumers.

Question 1: "What type of diet do you follow daily?"

Qual o tipo de dieta que adoptas no dia a dia?

127 respostas

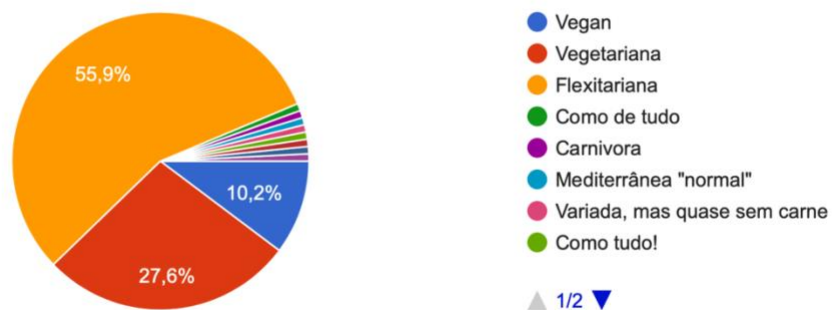


Figure 22. Results of "what type of diet do you follow" question

When it comes to dietary choices, 55,9 % of the respondents consider themselves flexitarian, 27,6% consider themselves vegetarian and only 10,2% consider themselves vegan. This goes in line with the description of the target audience that Asoka gave us previously: in contrast to what they were expecting when launching the business, the majority of their consumers are Flexitarians.

Question 3: "Why do you consider it important to introduce these products (plant-based) in your eating habits?"

Porque achas importante introduzir estes produtos na tua alimentação?

131 respostas

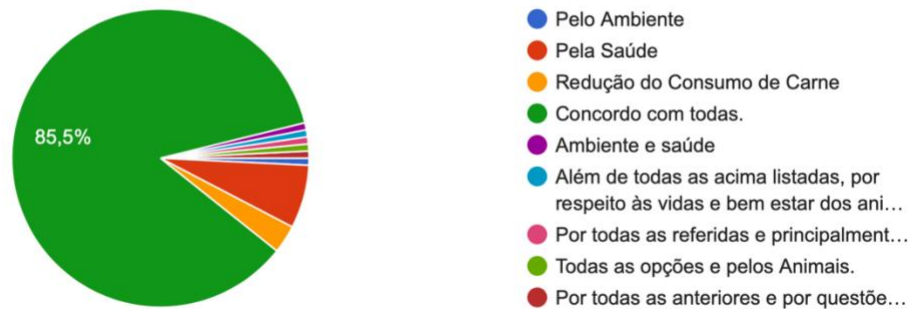


Figure 23. Motives of questionnaire's participants

According to this question, we can conclude that Asoka's consumers have as motives for incorporating more plant-based products in their eating habits: health, environment and the decrease of meat consumption.

When asked What products they would like to see soon in Asoka's menu, the results present a tendency to complete ready-meals, which could be simply baked in the oven. This reassures the consumer's need of having tasty, complete, nutritionally balanced meals, which are easily finalized and fastly eaten. This also indicates a clear opportunity for the business.

In order to see the full questionnaire and its results, please check the Appendix.

4.2.2.1 Data triangulation of the two questionnaires: Market Research and Asoka's

Although the questionnaire developed by Asoka wasn't authored by the researcher, its information was also analyzed, followed by the triangulation of the data collected through the two methods.

Data triangulation is described by Denzin (1970) as the gathering of data from multiple sampling strategies, having slices of data at different times, on different people. The triangulation approach also allows for a confirmation of the results and validation of findings (Leedy & Ormrod, 2005).

Through the analysis of both questionnaires, we are able to correlate the results and state that the identified needs of the Asoka consumers are also the needs of the overall plant-based Portuguese community. Therefore, ready meals and desserts / bakery and pastry, as well as fish and seafood alternatives are the top categories which need to be worked upon in order to meet consumer expectations. Product ingredients and nutritional values also play an important role when buying a product and minimally processed foods are on high demand.

4.2.3 Define - Co-creation workshop results:

Critical success factors results from consumers and business

The definition of the 5 critical factors for a product to be successful in the eyes of the workshop participants enabled a prioritization of product characteristics.

- Product with no wheat (and/or gluten): this factor was firstly mentioned by a nutritionist and agreed by the majority of participants as an essential factor.
- Minimally processed: with no exception, all participants mentioned that the current options available on the market were extremely ultra-processed and that there was a need to create more minimally processed meals as Asoka is creating. Therefore, the new product generated needed to be in harmony with consumer needs and business values.
- Children-friendly: since half of the participants had children at home, one of the requests was that this new product was tasteful and presented ingredients appreciated by most children, as well as being a nutritionally rich meal.
- Easily finalized - in similarity with other products of Asoka, the participants appreciate the ease in buying and preparing the products, since most of them only need to be cooked in the oven or cooked in a pan.
- Vegan product: following the vision of the business and beliefs of participants, the originated product needed to be vegan, with no animal products or derivatives.

Through this, we can also conclude that the participants' increased consumption of plant-based foods is mainly based upon health motives.

4.2.4 Ideation - Co-creation workshop results:

Some of the different activities which presented more relevant and rich data from the co-creation session were also analyzed.

For research purposes, in order to get a clear analysis of the different results obtained through the methods used in the co-creation workshop, the final results were copied and organized in the online collaboration tool, Miro. By transporting the results to the online boards, further in time the Asoka team could also analyze and keep track of all the ideas and suggestions which were raised in the session.

This workshop and the research results generated, not only allowed for Asoka to have more ideas of future dishes but it also validated previous dishes imagined by the team prior to the workshop. This was the case, for example of the “cauliflower curry” and “feijoada à brasileira”.

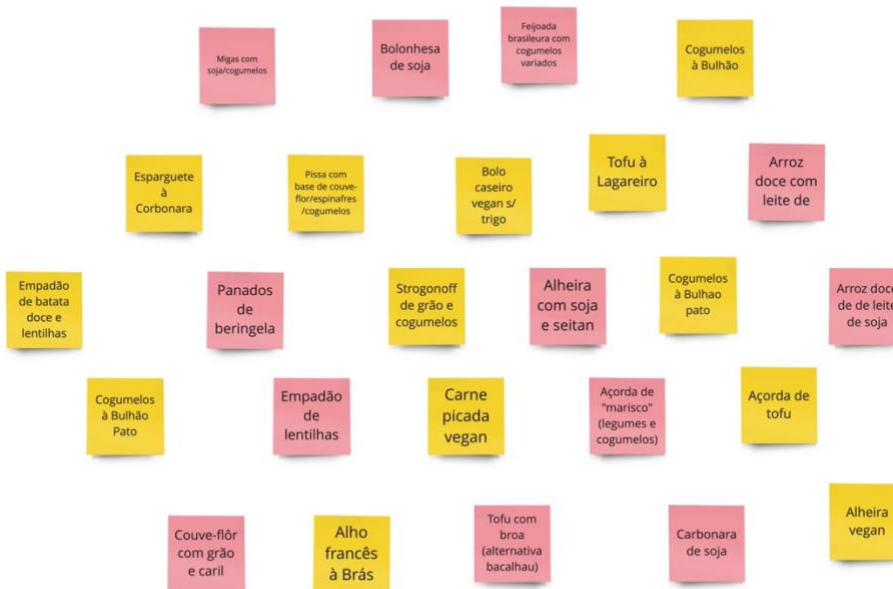


Figure 24. All ideas selected by the participants before clustering.

4.2.5 Prototyping results:

As described before, the Prototyping phase of the Design Thinking process was exclusively developed by the Asoka team. Since the main ingredients were already defined with the audience in the co-creation workshop (chickpeas and mushrooms), the chef had to give special attention to the sauce. Luccas, the executive chef, created, in total, 3 tests until reaching a high fidelity prototype and a high quality strogonoff which would be delivered and sold frozen, in similarity with all other Asoka’s products.

The full ingredient list was on the packaging and it included the following: “Chickpeas, Paris Mushrooms, Onion, Garlic Oil, Tomato Concentrate, Dijon Mustard, Red Wine, Balsamic Vinegar, Soy Cream, Salt, Brown Sugar, Black Pepper, Bay Leaf”.

As we can observe from the label printed on the packaging, the prototype is vegan, gluten-free and contains the minimum highly-processed ingredients possible. When it comes to the nutritional value, per 100 grams, this meal can be considered a high calorie meal (226 calories), it has a

valuable amount of protein (10.3g). This meal could be more lean but is still within the reference parameters of nutritionally balanced foods.

When comparing to the 5 Critical Success Factors previously defined by the business and by the consumers we can verify that this meal is in harmony with what was previously outlined:

The Asoka Strogonof...

- ... can be easily finalized by the consumer;
- ... is comfort food;
- ... can be frozen and kept at its best quality possible after that process;
- ... requires as minimal processing as possible and is considered, nutritionally healthy;
- ... is plant-based
- ... has no wheat (and/or gluten);
- ... is children friendly;

4.2.6 Testing results:

As stated previously, the testing of the new Asoka meal was conducted through a taste-test in which the previous participants of the co-creation workshop were invited to pick up a frozen version of the prototype. Following the experimentation of the food, the participants answered a small questionnaire mainly composed of scales. However, not all the participants answered in time for the conclusion of this report. When it comes to organoleptic properties (aspect, smell, taste and texture) the ratings of the product in each of them were considered very good.

Question 13: In general how much do you appreciate this meal?

Em geral, quanto gostas do prato? (deslizar para o lado para todas as opções)

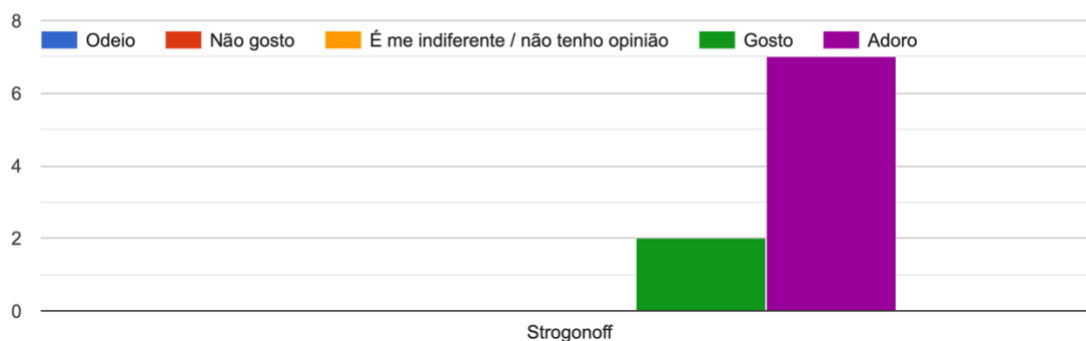


Figure 25. Appreciation of the Strogonoff in general

On a scale from 1 to 5, participants indicated they liked the meal very much or loved it.

Question 14: How many times would you eat this dish?

Com que frequência gostavas de comer este prato?

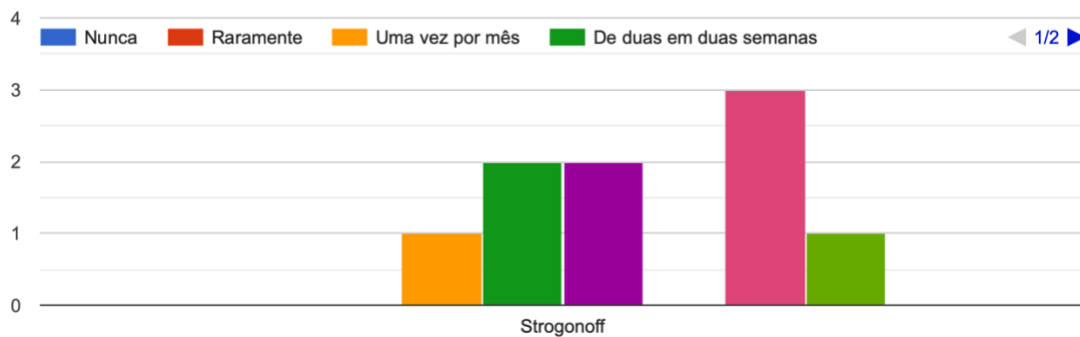


Figure 26. Frequency of consumption of the Strogonoff

On a scale of action of 1 to 9, more participants indicated they would eat it every two weeks.

From the analysis of the testing questionnaire answered by the participants of the workshops, we can conclude that the product had an overall good performance. All participants considered this meal as a “comfort food” and only small modifications were suggested.

To see the full questionnaire and results, please check the Appendix.

5. The Final Product

The final product, after tested and validated was launch by the business as a “Meal of the Month” product. Through this, the business was able to verify with a larger sample of their audience and clients that the product created was good and desired by the plant-based community. The following images were taken by the business as part of their marketing campaign of the product and show the Strogonoff after cooked. The final label of the packaging is also presented.



Figure 27. – The Final Strogonoff Meal

6. Conclusion

6.1 Conclusions

The motives for following a vegetarian diet vary but they are mainly focused on health, animal welfare and environmental concerns. Since the industry is booming, it is important to take into consideration the true needs and desires of the Portuguese plant-based consumers.

As designers and active change catalyzers in society's consumption, it is important to look at the plant-based food industry as an opportunity to make a positive change in the right direction when it comes to solving the wicked problem of sustainability. Therefore, designers and their thinking and methods can pave a new way of new products for the industry, improving offers and creating new products that respond to the true needs of consumers. The main idea retrieved from the project of ideating and creating a new product for Asoka is that the product development stages should not be constrained by isolation situations. Everyone, through creativity and desire, can imagine the reality and change they wish to see upon the world. Imagining a new food, having Since it is possible to invest in high quality material, but the production of content can be also homemade. Emersion in the target audience, listening to their insights and putting them into practice take nothing but courage and will from a business and their impacts are immense.

Through sketching, sharing, defining, and selecting ideas, product development co-creation can be done with low budget, through volunteering of participants and cheap materials as post-its. By inserting consumers in the product development stage through the co-creation workshops, information is directly retained by the business, contributing to a greater knowledge on their target's thoughts and expectations on the brand. Co-creation can impact the food industry by changing its focus from product-based approach to consumer-based.

Through this research we were able to verify that Design Thinking processes in fact contribute to the development of new plant-based products, which truly respond to the current needs and desires of the target audience. By following a Design Thinking process, the business understood that the benefits of empathizing with consumers impact their performance and sales, directly.

We can, therefore conclude, that food businesses like Asoka can beneficiate from the usage of Design Thinking process since it is able to systematize their product development, incorporate consumers' points of view throughout the whole process, as well as making the whole process more interactive, fun, and insightful.

When it comes to the projection of this project, it can be redone for Asoka or adapted for other businesses of the food industry. The main goal of this type of project was to create a strong and systematized process and methods which could easily be replicated. In addition, the business has now loyal source of consumers who, at any time can, from now forward, contribute to the constant evolution of the meal, impacting brand and business, through to their feedback.

This is a rich food experience, which was able to involve designers, researchers, chefs, business owners, and consumers into a fest of color, taste, texture and smell. When comparing to the former development process of the business and having into account that most competitors have a product-based approach, Asoka, by following this process and methods has now an important differentiating factor, a consumer-based process.

6.2 Limitations:

Throughout the investigation, some limitations were considered that hindered the development of the case study, leading to small reformulations. One of the first limitations was based on the openness to collaboration from some businesses. The lack of response after several attempts to contact 3 Portuguese vegan companies made it impossible to make an early draft of the research, as well as its objectives. This also led to a reevaluation of possible businesses which could collaborate. Thankfully, Asoka accepted the challenge to collaborate, and their goals fit perfectly in the research objectives. There were also some limitations regarding the compatibility of schedules with the Asoka team, which delayed the workshops, meetings, and interviews. The late response to the testing questionnaire by some elements of the focus group also made it difficult to analyze the results and approve the developed dish.

6.3 Further Research:

The present study was based on the design thinking process and the articulation of co-creative processes in the creation of a new product for a plant-based business, inserted in the Portuguese plant-based market. It sought to demonstrate how businesses and their product development processes should include the consumer in the ideation and testing of the product. Through this research, the use of design thinking was encouraged as the basis of the Asoka plant-based new product development process, incorporating the consumer into activities, becoming an active part

in the development of products or services. The biggest bet, verified by the investigation, in co-creation as a process or methodology is evident at the internal level of the organization, with its internal consumers. In this context, it would be interesting to analyze the influence of co-creative processes with company employees, since, in a national context, it has been a strong bet on the part of companies that seek to make their organizations more collaborative. In terms of brands, it would be interesting to apply the study to a specific sector or try to understand which sector is more conducive to developing co-creative processes with its external consumer, bringing it to the development of products or services. As future research, it is thought to apply the activities and processes defined and tested with Asoka, to multinational companies such as supermarkets and catering supply chains. Furthermore, the research and development of a structure and components of a co-prototyping workshop is proposed, in which the consumer can create the physical product together with the chef.

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8. Appendices:

- Interview to AVP:

1. Qual é a principal missão da AVP? A Associação Vegetariana Portuguesa (AVP) é uma organização sem fins lucrativos, cujo missão é promover a alimentação vegetariana como um estilo de vida saudável, compassivo e ecologicamente responsável, que visa não só o próprio bem-estar da pessoa, como o bem-estar dos animais e a sustentabilidade do planeta, constituindo assim, uma solução transversal para várias problemáticas e desafios que enfrentamos hoje como sociedade.

2. Qual considera ser, atualmente, o maior desafio da AVP? Porquê? Um dos nossos desafios e compromissos é o de informar a opinião pública sobre a indústria agropecuária e o seu impacto nos animais, no ambiente e na saúde, através de campanhas de educação e sensibilização. Queremos facilitar a transição para uma alimentação de base vegetal através do desenvolvimento de iniciativas e da criação de guias e ferramentas.

3. Como é que a AVP utiliza os conceitos de “vegan” e “vegetariano” na comunicação com o público? Distingue-os ou trata-os como equivalentes? Em relação à distinção entre os termos, o vegetarianismo é um regime de alimentação de base vegetal que exclui produtos de origem animal. Tal como a Associação Vegetariana (AVP), também a Sociedade Vegetariana Brasileira (SVB) reconhece as sub-vertentes do vegetarianismo: a) ovolactovegetarianismo (consome ovos, leite e laticínios), b) lactovegetarianismo (consome leite e laticínios), c) ovovegetarianismo (consome ovos), d) vegetarianismo estrito (não consome nenhum produto de origem animal).

O veganismo vai mais além do que o regime alimentar, promovendo um estilo de vida. De acordo com a Vegan Society, “é uma filosofia e um modo de vida que visa excluir – na medida do possível e praticável – todas as formas de exploração e crueldade contra os animais para alimentação, vestuário ou qualquer outro propósito; e, por extensão, promove o desenvolvimento e uso de alternativas sem animais para o benefício dos animais, humanos e do meio ambiente. Em termos dietéticos, denota a prática de dispensar todos os produtos derivados total ou parcialmente de animais.”

4. Sendo uma associação de grande referência do veganismo em Portugal e tendo uma ligação próxima ao público vegan e vegetariano português, têm dados estatísticos sobre a população vegan e vegetariana em Portugal (percentagens, idade, motivos, etc.)? Se sim, o que é que esses dados nos revelam sobre a atual população portuguesa com dieta à base de plantas? Existe um estudo recente sobre este assunto, publicado em novembro de 2021 pela consultora Lantern. Recomendamos a consulta do artigo que publicámos acerca do mesmo: [Mais de 1 Milhão de Portugueses Está a Deixar de Comer Carne | AVP - Associação Vegetariana Portuguesa](#). De acordo com o estudo “The Green Revolution 2021”, da Lantern, a população portuguesa que está a deixar de comer carne e que escolhe não consumir quaisquer produtos de origem animal tem estado a aumentar em Portugal. Já são cerca de 1 milhão e 19 mil pessoas, sendo este o número de portugueses que segue uma alimentação veggie, ou seja, que abrange vegetarianos, veganos e flexitarianos. São essencialmente mulheres, de faixas etárias jovens, entre os 18 e os 34, e vivem predominantemente nas maiores cidades do país. Em particular para os vegetarianos e veganos, a maioria (73%) aponta a preocupação ambiental como a principal força de motivação, seguida de perto da preocupação com o bem-estar e direitos dos animais (69%).

5. Em diversos países, o mercado alimentar à base de plantas tem vindo a crescer exponencialmente e continua sem sinais de abrandar. Olhando para os últimos anos e para a vossa ligação ao mercado alimentar, consideram que isto também se verifica em Portugal? Quais as grandes diferenças e mudanças que têm vindo a sentir no mercado, nos consumidores, etc. Conforme pode ser lido em detalhe no artigo [Mais de 1 Milhão de Portugueses Está a Deixar de Comer Carne | AVP - Associação Vegetariana Portuguesa](#), do Blog AVP, o mercado alimentar de base vegetal tem aumentado também em Portugal.

6. A pandemia da COVID-19 mudou os hábitos de consumo de muitos portugueses. Consideram que existiu também uma mudança nos seus hábitos alimentares? Isto é, consideram que houve um aumento na procura de soluções alimentares à base de plantas? Se sim, porque acham que tal aconteceu? Novamente de acordo com o estudo “The Green Revolution 2021” da Lantern ([Mais de 1 Milhão de Portugueses Está a Deixar de Comer Carne | AVP - Associação Vegetariana Portuguesa](#)), a pandemia provocada pela covid-19 não parece ter

tido um impacto negativo na evolução do número de veggies (flexitarianos, vegetarianos e veganos), verificando-se precisamente um aumento neste número (+34% em comparação com 2019).

7. Olhando para a atual oferta alimentar vegan no mercado português e tendo em conta o constante feedback que a AVP recebe dos consumidores, conseguem identificar algum grupo de produtos alimentares que necessite de novas ofertas? A AVP realizou em 2021 um estudo com o objetivo de apurar as percepções dos consumidores portugueses sobre a presente oferta de produtos vegan nos principais supermercados em Portugal. Pode ser lido em detalhe aqui: [Opções Vegan nos Supermercados em Portugal: o que pensam os consumidores? | AVP - Associação Vegetariana Portuguesa](#). Entre outras necessidades do mercado, destacamos que quando questionados sobre o tipo de produtos onde percepcionam a necessidade de uma maior oferta, as alternativas veganas ao queijo surgem no topo desta lista (55,3%), e a par destas, os consumidores parecem também revelar o desejo de uma maior oferta de refeições veganas prontas a levar (39,6%) e produtos de padaria (34,8%).

8. Qual a perspetiva que a AVP tem sobre o futuro do setor vegan e vegetariano em Portugal? Quais as expectativas para os próximos 5 anos? Considerando a tendência de crescimento do vegetarianismo dos últimos anos, prevemos que as preocupações com o bem-estar animal e com o ambiente se expandam a mais pessoas, aumentando o número de cidadãos sensíveis às temáticas. De igual modo, o desenvolvimento da oferta plant-based por parte do tecido empresarial facilita e motiva o consumo de alternativas vegetais em lugar de alimentos com ingredientes de origem animal. Da nossa parte, continuaremos a informar com rigor sobre os factos.

Mercado plant-based em Portugal

Olá! O meu nome é Matilde Custódio Raposo e sou estudante do IADE – Faculdade de Design, Tecnologia e Comunicação, no mestrado de Design Management.

Estou, de momento, a realizar a minha tese-projeto que se foca na utilização de técnicas de cocriação e processos de Design Thinking para o desenvolvimento de novos produtos alimentares vegan, com o objetivo de diversificar o portfólio de produtos disponíveis no mercado português.

Com este questionário e com a ajuda da AVP - Associação Vegetariana Portuguesa, procuro chegar à população vegan e vegetariana de Portugal e potenciais consumidores de produtos vegetais, procurando entender um pouco dos seus hábitos de consumo, o que pensam sobre a oferta atual no mercado e, por último, de que tipo produtos sentem falta de oferta.

Todas as respostas são extremamente úteis. Muito obrigada pela sua participação!

Nota: todas as informações e dados recolhidos neste questionário são anónimos, sendo meramente utilizados como objeto de estudo.

*Obrigatório

1. Idade: *

Marcar apenas uma oval.

- ☐ 13-18
- ☐ 19-24
- ☐ 25-30
- ☐ 31-36
- ☐ 37-42
- ☐ 43-48
- ☐ 49-54
- ☐ 55-60
- ☐ 61-65
- ☐ 65+

2. Género: *

Marcar apenas uma oval.

- ☐ Feminino
- ☐ Masculino
- ☐ Não-binário
- ☐ Prefiro não dizer
- ☐ Outra: _____

3. Residência: *

Marcar apenas uma oval.

- ☐ Resido no estrangeiro
- ☐ Região Autónoma dos Açores
- ☐ Região Autónoma da Madeira
- ☐ Aveiro
- ☐ Beja
- ☐ Braga
- ☐ Bragança
- ☐ Castelo Branco
- ☐ Coimbra
- ☐ Évora
- ☐ Faro
- ☐ Guarda
- ☐ Leiria
- ☐ Lisboa
- ☐ Portalegre
- ☐ Porto
- ☐ Santarém
- ☐ Setúbal
- ☐ Viana do Castelo
- ☐ Vila Real
- ☐ Viseu

4. Tem uma dieta à base de plantas? *

Marcar apenas uma oval.

- ☐ Sim, sou vegan, não consumo qualquer produto animal nem derivados!
Avançar para a pergunta 7
- ☐ Sim, sou vegetariano, não consumo produtos animais, apenas derivados!
Avançar para a pergunta 7
- ☐ Sou flexitariano, consumo sobretudo produtos de origem vegetal mas, ocasionalmente, consumo carne, peixe e derivados. *Avançar para a pergunta 7*
- ☐ Não, consumo produtos animais e derivados, habitualmente!
Avançar para a pergunta 5

Hábitos alimentares

5. Qual o seu interesse em mudar para uma dieta à base de plantas? *

Marcar apenas uma oval.

Não tenho interesse

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Tenho muito interesse

6. O que o faz, de momento, não consumir mais produtos à base de plantas? *
(selecione todas as que se aplicam)

Marcar tudo o que for aplicável.

- ☐ Saúde
- ☐ Preço
- ☐ Sabor
- ☐ Textura
- ☐ Aparência dos produtos
- ☐ Falta de oferta
- ☐ Desinteresse
- ☐ Inconveniência
- ☐ Pouco conhecimento sobre o assunto
- ☐ Outra: _____

Hábitos Alimentares 🥬

7. Identifique a principal razão pela qual tem uma dieta à base de plantas: *

Marcar apenas uma oval.

- ☐ Animais
- ☐ Ambiente
- ☐ Saúde
- ☐ Outra: _____

8. Qual a sua percepção geral sobre a diversidade da oferta de produtos à base de plantas ("plant-based") em Portugal? *

Marcar apenas uma oval.

Pouco diversificada

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito diversificada

9. Pensando nas suas compras habituais, que tipos de produtos consome em maior quantidade?

*

Marcar tudo o que for aplicável.

- ☐ Alternativas à carne
- ☐ Alternativas ao peixe e marisco
- ☐ "Charcutaria" vegan
- ☐ "Queijos" vegan
- ☐ Alternativas ao leite, iogurtes, gelados, manteiga, etc.
- ☐ Alternativas aos ovos
- ☐ Doços, padaria e pastelaria
- ☐ Snacks
- ☐ Refeições rápidas
- ☐ Cereais e derivados, tubérculos (massa, arroz, pão, batata, etc.)
- ☐ Fruta (maçã, banana, morango, etc.)
- ☐ Legumes e hortícolas (alface, cogumelos, abóbora, cebola, etc.)
- ☐ Leguminosas (feijão, grão-de-bico, lentilhas, ervilhas, etc.)
- ☐ Frutos Oleaginosos e sementes (amêndoa, sementes de girassol, etc.)
- ☐ Outra: _____

10. Quando compra um novo produto, quão importante é para a sua decisão de compra os INGREDIENTES que o compõem? *

Marcar apenas uma oval.

Pouco importante

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito importante

11. Numa alimentação à base de produtos vegetais, valoriza a origem biológica dos ingredientes? *

Marcar apenas uma oval.

Não Valorizo

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Valorizo Muito

12. Quando compra um novo produto, quão importante é para a sua decisão de compra a TABELA NUTRICIONAL e os seus níveis energéticos? *

Marcar apenas uma oval.

Pouco importante

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito importante

13. Quando compra um novo produto, quão importante é para a sua decisão de compra o PREÇO?

*

Marcar apenas uma oval.

Pouco importante

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito importante

14. Quando compra um novo produto, quão importante é para a sua decisão de compra a MARCA do produto em questão? *

Marcar apenas uma oval.

Pouco importante

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito importante

15. Identifique as marcas alimentares que mais consome (até 3): *

16. Refletindo sobre os seus hábitos alimentares atuais, considera que consome mais produtos na sua forma mais natural (in natura) ou produtos que passaram por grandes transformações, ou seja, ultra-processados, como nuggets, hamburgers, etc. *

Marcar apenas uma oval.

- ☐ Alimentos in natura
- ☐ Alimentos ultra-processados
- ☐ Tenho um consumo equilibrado

17. Considera importante que os produtos que consome se assemelhem, em sabor, textura e/ou aparência, aos de origem animal? *

Marcar apenas uma oval.

Pouco importante

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito importante

18. Habitualmente, como tem conhecimento sobre novos produtos à base de plantas? *

Marcar tudo o que for aplicável.

- ☐ Familiares e amigos
- ☐ Folhetos e Newsletters
- ☐ Redes Sociais
- ☐ Publicidade televisiva, outdoors, etc.
- ☐ Pesquisa nas lojas e supermercados
- ☐ Outra: _____

19. Se em algum período da sua vida consumiu produtos de origem animal, qual era o seu prato ou alimento favorito?

20. Olhando para a atual oferta de produtos à base de plantas em Portugal e comparando com os produtos de origem animal existentes, o que acha que faz falta no mercado vegan português? *

Marcar tudo o que for aplicável.

- ☐ Alternativas à carne
- ☐ Alternativas ao peixe e marisco
- ☐ "Charcutaria" vegan
- ☐ "Queijos" vegan
- ☐ Alternativas ao leite, iogurtes, gelados, manteiga, etc.
- ☐ Alternativas aos ovos
- ☐ Doços, padaria e pastelaria
- ☐ Snacks
- ☐ Refeições rápidas
- ☐ Bebidas
- ☐ Outra: _____

21. Tendo em conta a sua resposta anterior, consegue identificar algum produto em específico que gostaria de ver na prateleira do seu supermercado? Se sim, qual?

Este conteúdo não foi criado nem aprovado pela Google.

Google Formulários

Mercado plant-based em Portugal

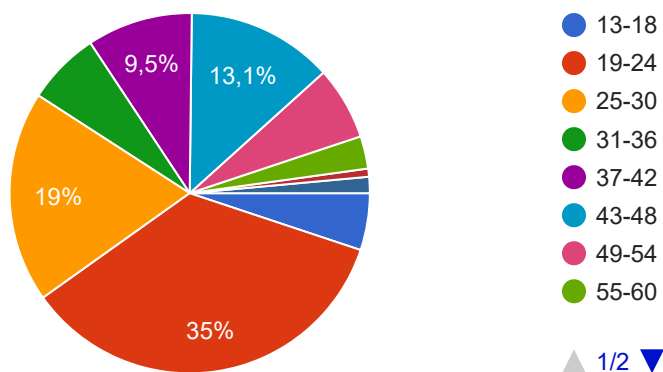
137 respostas

[Publicar estatísticas](#)

Idade:

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137 respostas

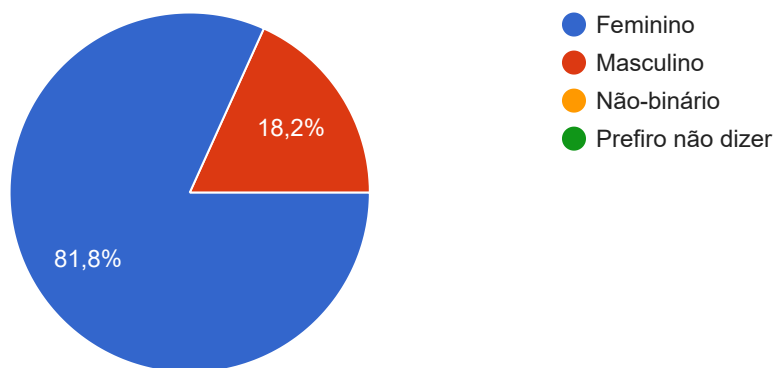


1/2 ▼

Género:

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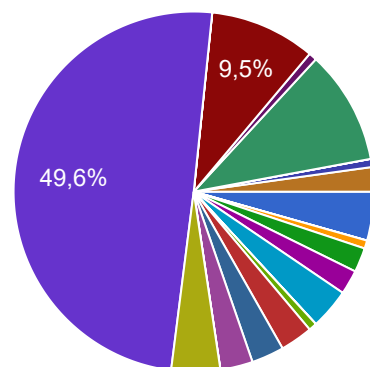
137 respostas



Residência:

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137 respostas



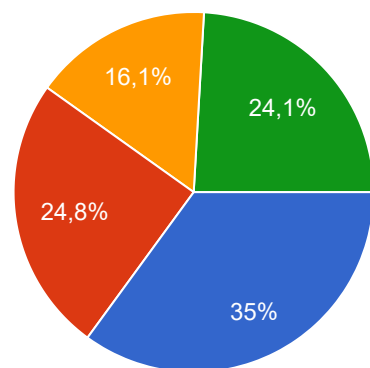
- Resido no estrangeiro
- Região Autónoma dos Açores
- Região Autónoma da Madeira
- Aveiro
- Beja
- Braga
- Bragança
- Castelo Branco

1/3 ▼

Tem uma dieta à base de plantas?

 Copiar

137 respostas



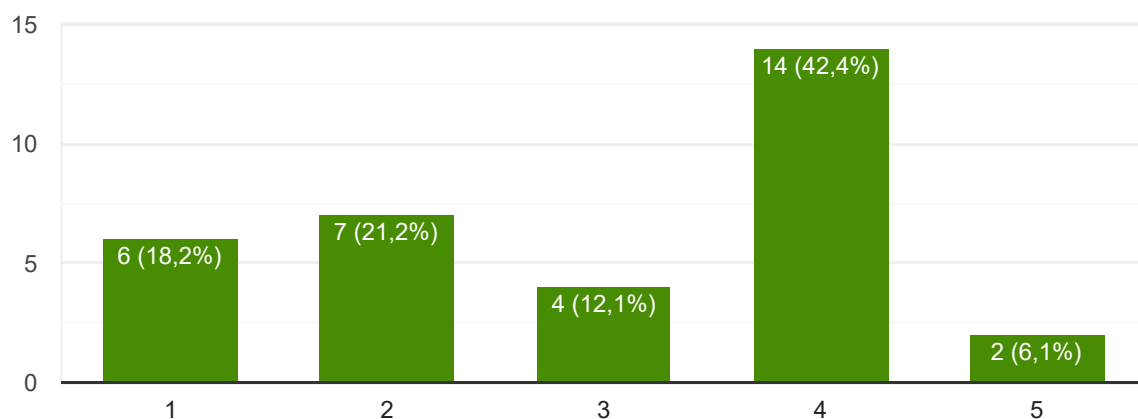
- Sim, sou vegan, não consumo qualquer produto animal nem derivados!
- Sim, sou vegetariano, não consumo produtos animais, apenas derivados!
- Sou flexitariano, consumo sobretudo produtos de origem animal
- Não, consumo produtos animais e derivados, habitualmente

Hábitos alimentares

Qual o seu interesse em mudar para uma dieta à base de plantas?

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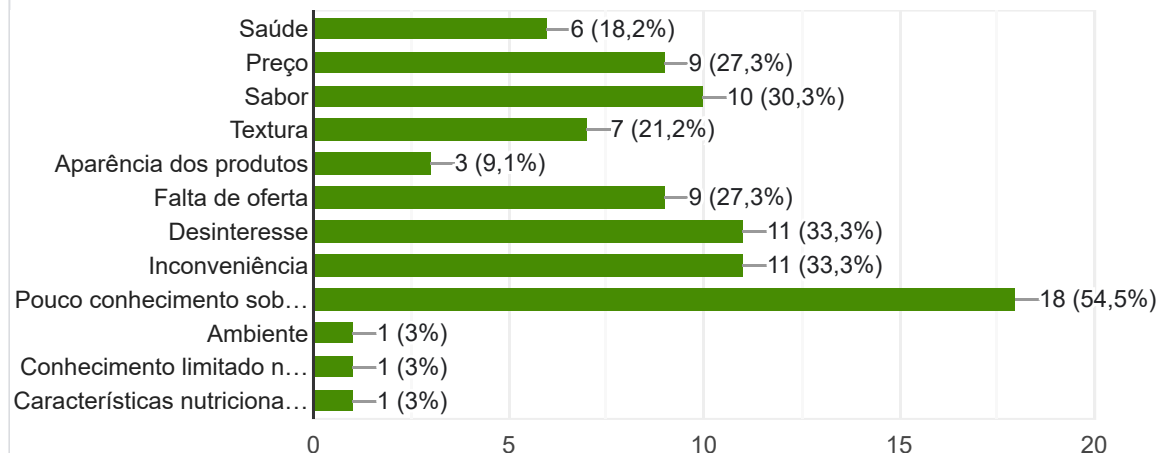
33 respostas



O que o faz, de momento, não consumir mais produtos à base de plantas? (selecione todas as que se aplicam)

 Copiar

33 respostas

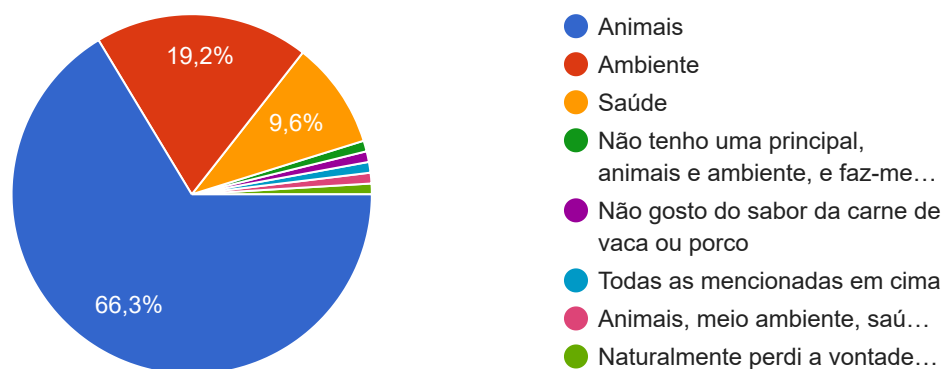


Hábitos Alimentares

Identifique a principal razão pela qual tem uma dieta à base de plantas:

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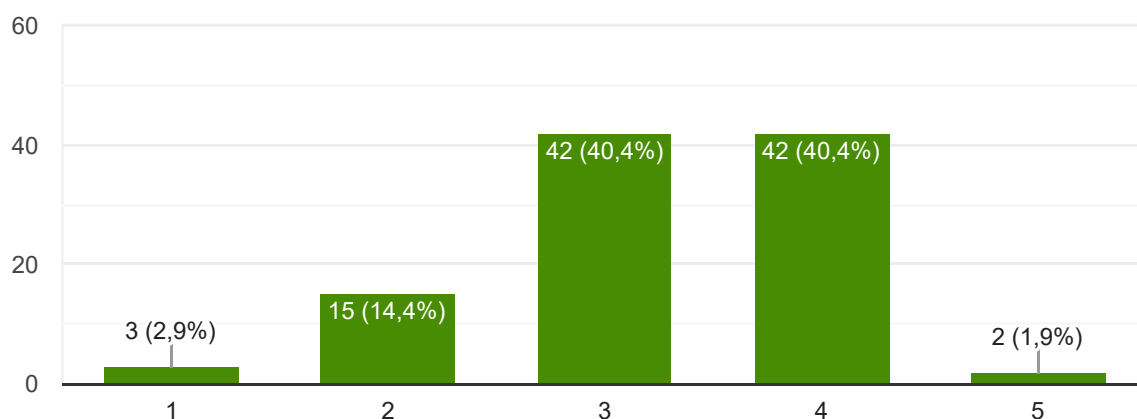
104 respostas



Qual a sua percepção geral sobre a diversidade da oferta de produtos à base de plantas ("plant-based") em Portugal?

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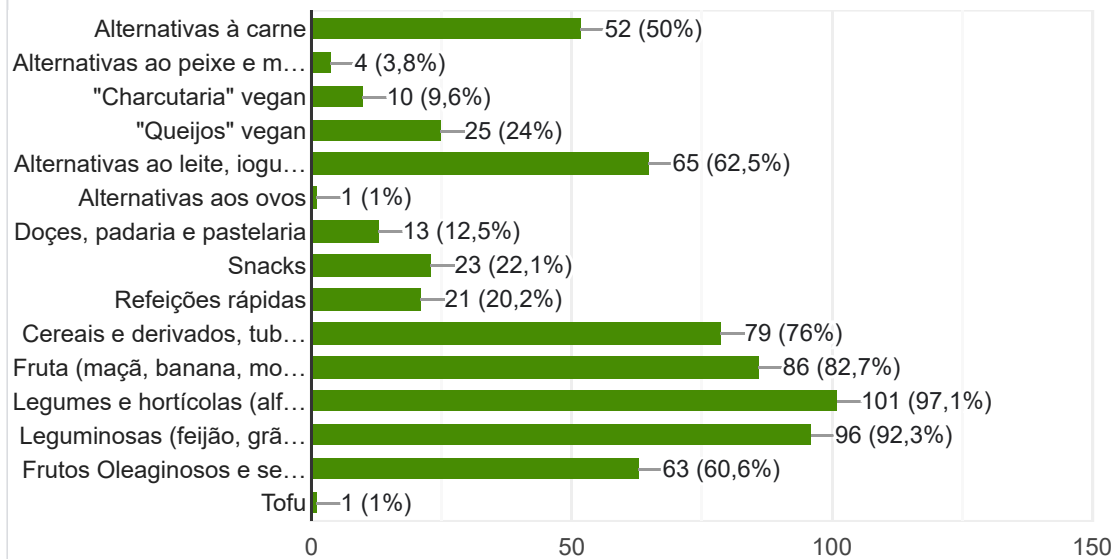
104 respostas



Pensando nas suas compras habituais, que tipos de produtos consome em maior quantidade?

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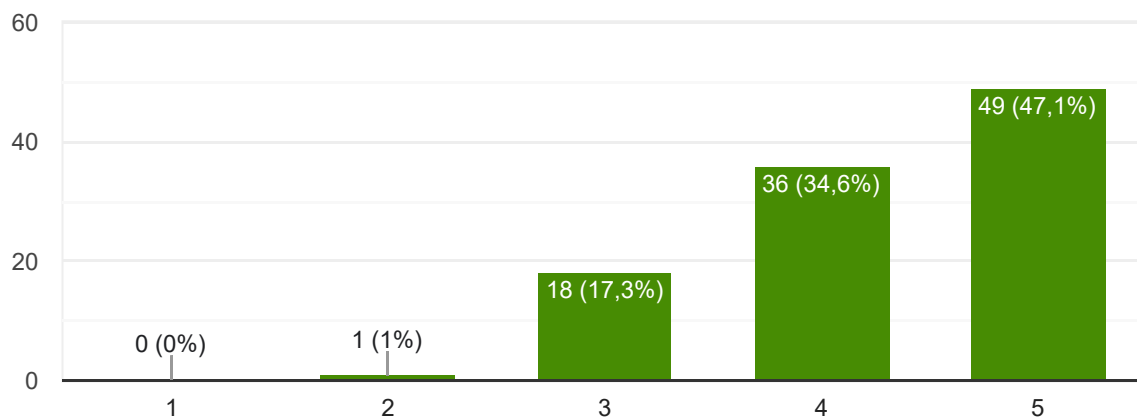
104 respostas



Quando compra um novo produto, quão importante é para a sua decisão de compra os INGREDIENTES que o compõem?

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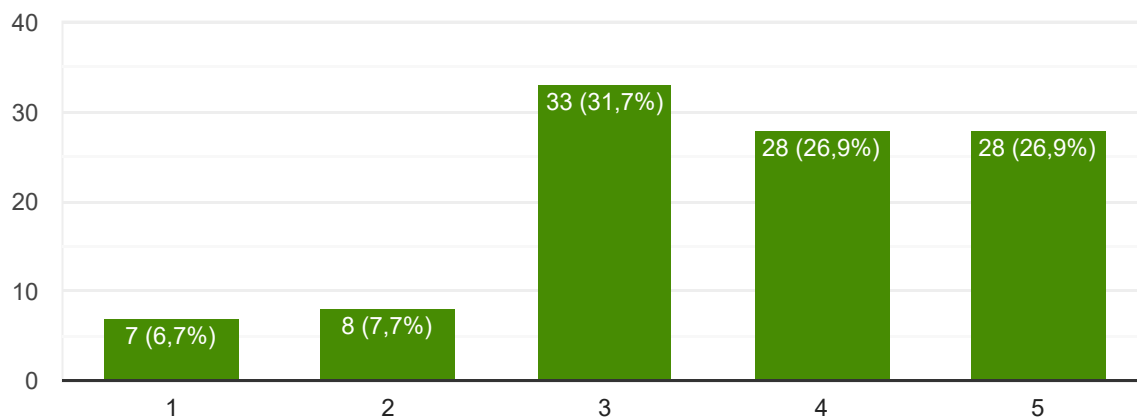
104 respostas



Numa alimentação à base de produtos vegetais, valoriza a origem biológica dos ingredientes?

 Copiar

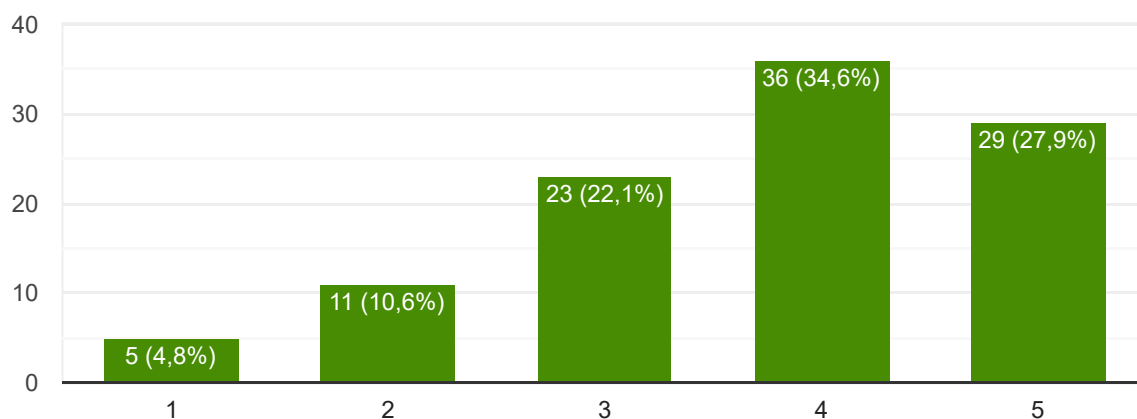
104 respostas



Quando compra um novo produto, quão importante é para a sua decisão de compra a TABELA NUTRICIONAL e os seus níveis energéticos?

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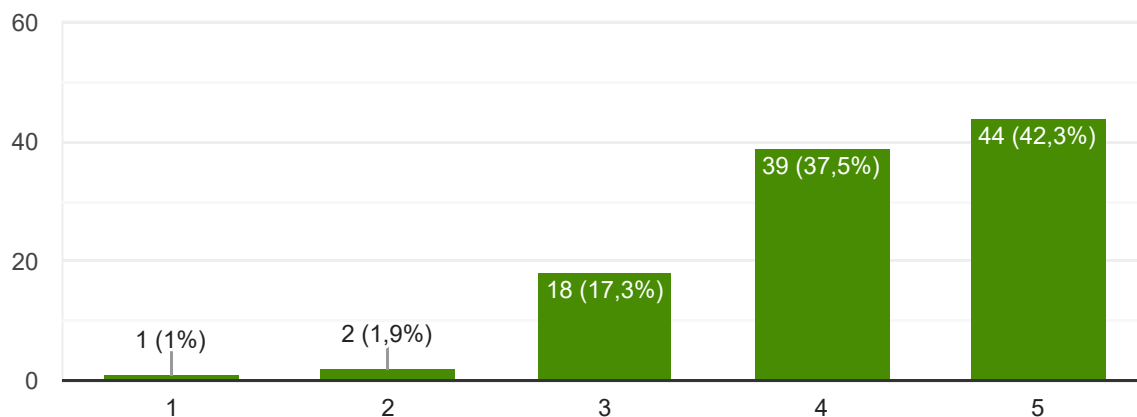
104 respostas



Quando compra um novo produto, quão importante é para a sua decisão de compra o PREÇO?

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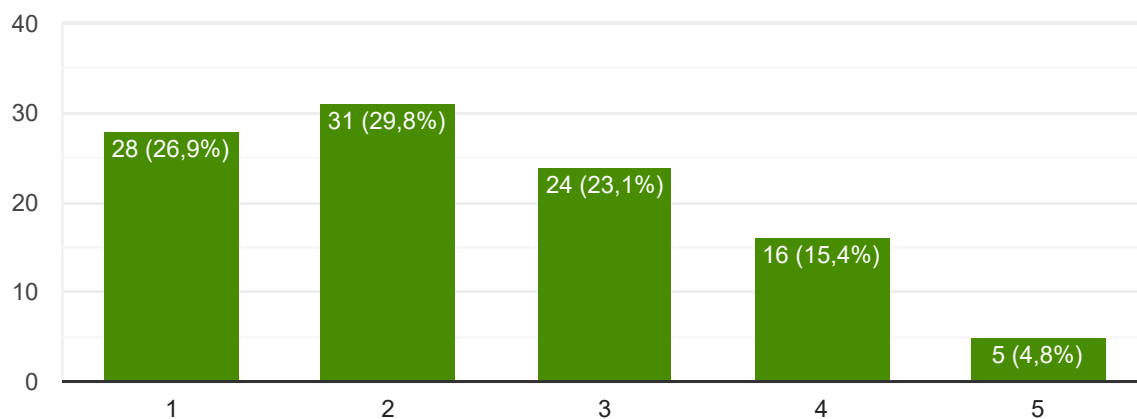
104 respostas



Quando compra um novo produto, quão importante é para a sua decisão de compra a MARCA do produto em questão?

 Copiar

104 respostas



Identifique as marcas alimentares que mais consome (até 3):

104 respostas

Continente

Vemondo

Violife, milaneza, Hellmans

Nature food, Cem por Cento, Beyond Burger, Nature Soy

Green Cuisine, Alpro, Shoyce

Veg in

Shambhala, próvida, origens

Cem por cento, Saludem e Celeiro

Iglo, matinal

Beyond Meat, Garden Gourmet, Continente

Vemondo, continente

Alpro; Continente

continente, vemondo, alpro

Alpro, gutbio, continente

Green cuisine | vemondo

Flora, continente e lidl

(Queijo) Violife, (Tofu) Shambhala e (Leite Vegan) Dream

Garden gourmet, quorn, continente

Pingo Doce? VegIn

Cem Por Cento, Saludem, Vegin

.



Vemondo (lidl), marca continente, violife

milbona, vemondo, my best veggie (as que estão presentes no lidl)

Marcas brancas honestamente

Shamballa / Clearspring / Vida Celeiro

Marcas brancas lidl, alpro, barilla

Alpro, green cuisine, vermondo

Vegin, Heura, Garden Gourmet

Alpro, Veggie, Marcas brancas

Milanesa, Bom Sucesso, Guloso

Auchan, continente, alpro

marca vegan do lidl, seara

Aldi

.

Alpro, Shambala, lidl

Alpro , violife ,

Vegalis

Lidl, pingo doce, continente

Celeiro, Compal, continente

Continente (os produtos da marca mesmo), shoyce e Nobre (salsichas vegetarianas)

Compal, milaneza

100% lidl salutens

Marcas brancas

Isola Bio e marcas brancas (continente e auchan)



Continente lidl

Soya, alpro, marca branca

Iswari, pingo doce, myprotein

Vemondo continente Nobre vegalia

Pingo doce, gut bio,

Produtos do lidl

Marcas próprias

Celeiro, Greensense

Nao Sao marcas portuguesas

Continente Equilíbrio, Alpro

Marca continente, alpro

Alpro

Alpro, continente bio

Vegin, Garden Groumet, Leite aveia Lidl.

vegalia

VEMONDO;

Violife, vemondo

Violife, joya

Seitan e outros que me esqueci do nome

Diversas

Marca branca (continente), leite de aveia, soja, iogurtes, seitan, tofu, leguminosas. Queijo vegan mas não me recordo do nome da marca.

Alpro, violife, biodharma

Aldi, Lidl



Vemondo, Cem Porcento e Iglo.

Vemondo, iglo green cuisine, pingo doce

Viemondo, Provida, Pachamama

Seara naturefoods celeiro(?)

Gut bio, origensbio

By plants, vemondo

Provida; Violife

Não me lembro

Veggie, shamalaya

Marca branca continente, Lidl, Aldi

BioGut, Vemondo

Biodharma, shambala, provida

Alpro, violife e vemondo

Alpro, provida, cem porcento

Biodarma, 100%, celeiro

Gutbio

Shoyce, Cem por cento, Iglo

Vemondo, Auchan, Beyond Meat

Alpro soya, veganz

vemondo, carrefour, leclerc

Garden Gourmet, Oatly,

Violife, Next level

Iglo green cuisine, vegalia (nobre) e celeiro



Marca Pingo doce, garden gourmet

Lidl

Violife, iglo, bebida vegetal Pingo Doce e Continente

Violife, Milbona

Lidl - produtos vegan da marca (next level, vemondo...) Auchan - produtos vegan da marca; shambala

Alpro, Continente

Continente, Lidl, Nestlé

monoprix, lindt, rude health

Gutbio, Vegmondo

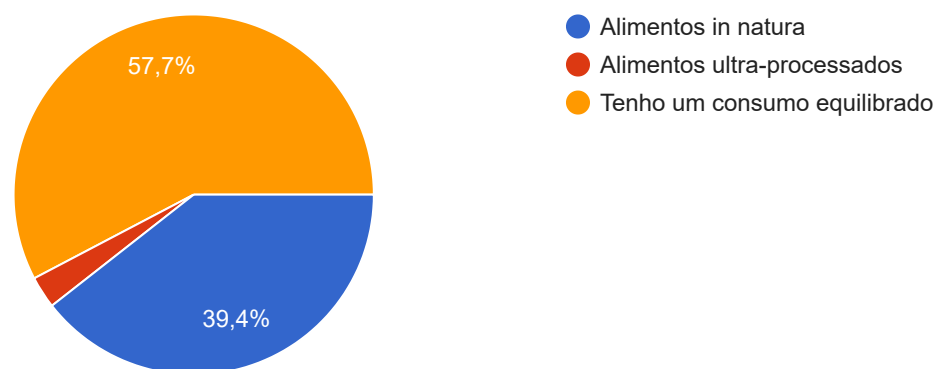
Igloo Green Cuisine, Prozis, Marcas Vegan do Aldi e Lidl

Mais 1 resposta oculta

Refletindo sobre os seus hábitos alimentares atuais, considera que consome mais produtos na sua forma mais natural (in natura) ou produtos que passaram por grandes transformações, ou seja, ultra-processados, como nuggets, hamburgers, etc.

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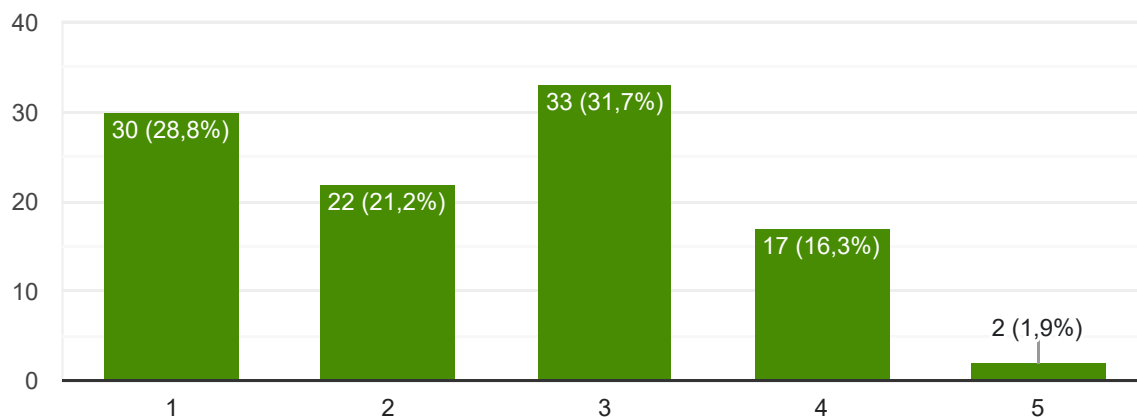
104 respostas



Considera importante que os produtos que consome se assemelhem, em sabor, textura e/ou aparência, aos de origem animal?

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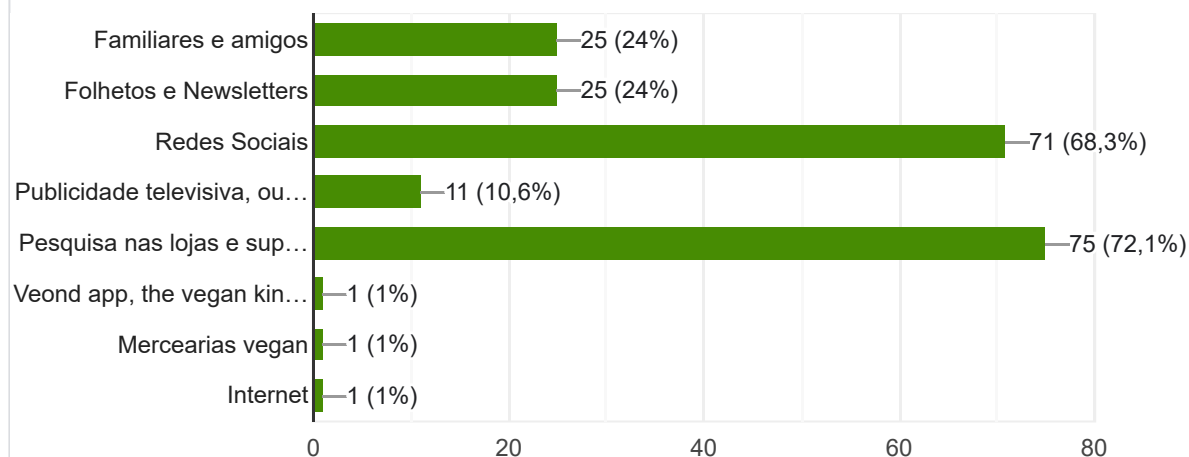
104 respostas



Habitualmente, como tem conhecimento sobre novos produtos à base de plantas?

 Copiar

104 respostas



Se em algum período da sua vida consumiu produtos de origem animal, qual era o seu prato ou alimento favorito?

92 respostas

Queijo

Bacalhau com natas

Lasanha

Lasanha

Picanha

Ovo

Peixe

Bacalhau com natas

Cozido à portuguesa

Bacalhau à Brás

Frango assado

queijo

Bacalhau assado na grelha

Carne guizada

Entrecosto grelhado

Frango e atum

Arroz de pato

Esparguete à bolonhesa

Salmão fumado

Lasanha; empadão; peixe grelhado

Sopa de tomate alentejana



Açorda de marisco

Chinese Sweet and Sour Pork

Carne picada- lasanha

Atum

lasanha e cheesecake

Pizza

Carbonara

arroz de pato

francesinha

Arroz polvo

carne e queijo

Almôndegas

Frango!

Francesinha

Ovos mexidos

Bacalhau

Papas de Sarrabulho, alheiras, sardinhas e iscas

Panados

Choco

Vitela estufada com puré

Bacalhau à Bras

Frango, picanha e hamb de vaca

Bacalhau



Rolo de carne, picanha, pizza de pepperoni

Pizza

Bacalhau na brasa

Peixe cozido.

frango assado

Massas

Arroz de atum

Arroz de cabidela era um dos preferidos quando era criança.

Polvo Bacalhau

Queijo, manteiga

Esparguete à bolonhesa.

Massa com molho tomate e carne picada; salmão

Polvo á Lagareiro

Bife do lombo

Camarão

Arroz de Tamboril.

Bifes de peru com cogumelos e natas

Frango assado com batata

Cozido a portuguesa

Queijo

Hamburger de vaca

Carne

Rancho, marisco, carne grelhada



Bitoque e arroz de marisco

Grelhados

Sushi

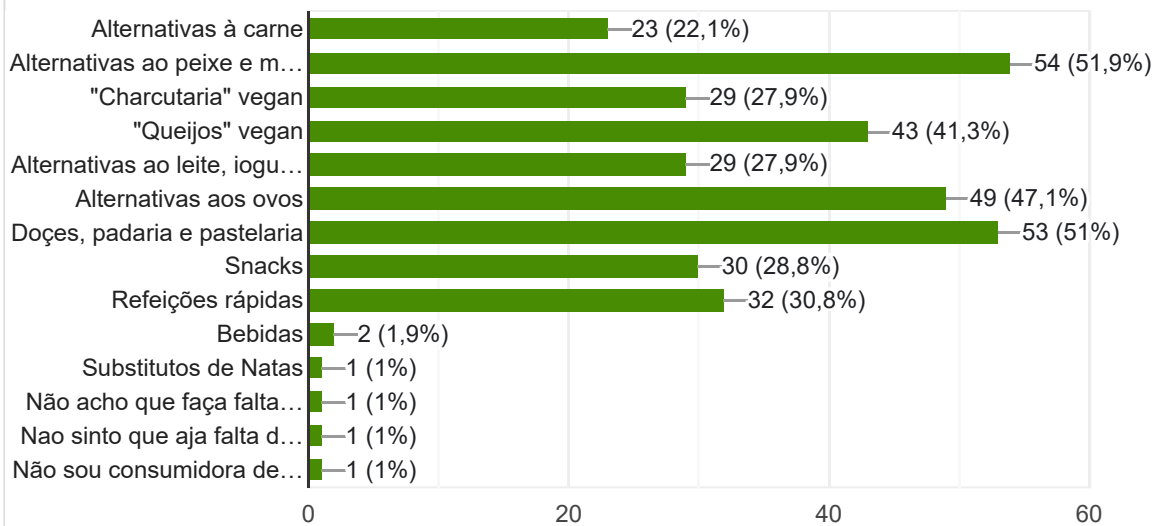
Peixe assado

Marisco, lulas e chocos

Olhando para a atual oferta de produtos à base de plantas em Portugal e comparando com os produtos de origem animal existentes, o que acha que faz falta no mercado vegan português?

 Copiar

104 respostas



Tendo em conta a sua resposta anterior, consegue identificar algum produto em específico que gostaria de ver na prateleira do seu supermercado? Se sim, qual?

69 respostas

Bolos vegan

Filetes tipo pesca (congelados), alternativa ao fiambre, omelete

Mais produtos nacionais

Bebidas vegan baratas

Alternativas vegetais ao peixe

Melhores alternativas aos ovos para fazer sobremesas.

Mais congelados rápidos!

Just Egg - ovos vegetais

Alternativas ao peixe

Pastelaria vegan por exemplo folhado de maçã 😊

Mais variedade de Gelados vegan e Glúten free

Queijos vegan mais saborosos

Maior variedade de "queijos" e "charcutaria" vegan

Pastelaria vegan

Doces vegan ou pelo menos isentos de leite, são difíceis de encontrar fora de casas/restaurantes especializados

jaca fresca

Camarões vegetais, tofu com alga a imitar bacalhau e refeições prontas a consumir

Alternativas ao peixe e marisco.

Não

Todos referidos acima



Take away

Queijo à base de frutos oleaginosos

Gostaria de melhoramentos na parte da pastelaria.

Just egg

Queijo

Qualquer doce (croissant, bolachas, etc) versão vegetariana.

Mais alternativa de carne e peixe

Fiambre vegan, bacon vegan, etc... no UK tem em qualquer supermercado

"Peixes, marisco" vegan

Alternativa ao atum

Bolos vegan

"Peixe" vegan

Mais queijo vegan e refeições rápidas vegetarianas

Iogurtes de soja sem açúcar e a preços acessíveis

Mais oferta de Pizzas vegan

Apenas iogurtes líquidos sem açúcar

Muitos doces vegan para comer à vontade, sem culpa

Opções de manteigas vegan em bloco e mais "queijos"

Salgadinhos

Queijos veganos e similares. Maior oferta e menor preço.

Produtos de pastelaria, tipo brioques e outros e salgados

Rissois, mais molhos do tipo maionese e variações, refeições rápidas como massa de cogumelos, folhados com recheios vegan e outros produtos de pastelaria, mais diversidade de bolachas sem serem "saudáveis", mas principalmente os produtos serem economicamente mais acessíveis



Tipo outro tipo de comidas sem ser só hambúrgueres, e cenas dessa natureza

Mais oferta de manteigas, queijos e refeições rápidas

Padaria e pastelaria seria importante, tal como alternativas aos ovos. São as únicas razões da minha alimentação ainda não ser 100% vegan

Alternativa ao queijo e manteiga

Bacalhau Vegan, Ovos vegan, Bolos Vegan, Comida Takeaway vegan

logurte de soja mais barato, charcutaria vegan mais barata, queijo vegan para pizza que não é pegajoso.

Alimentos veganos a simular o sabor e consistência do Polvo.

Bolos vegan, bolachas e snacks

Alternativa aos ovos

Bolos de pastelaria, as merendas

Enchidos vegan. A maioria é apenas vegetarianana.

Pastelaria (donuts, ferradura chocolate, folhado de maçã, bolas de berlim, croissants, etc etc)
Bolachas (o Lild tem atualmente boas opções, mas ainda são sazonais, só aparecem de longe a muito longe)

Vegetais à Brás ou pataniscas de legumes.

Mais refeições rápidas e práticas, gelados, bolachas e afins que não sejam muito caro

Donuts

Pastelaria

croissants, pain au chocolat, pao de "leite", queijo

Refeições rápidas sem serem ultraprocessadas.

Alternativas à carne

Adorava ver alternativas á carne ou alternativas ao peixe

Queijo vegan a preço acessível. Bolachas pouco calóricas saborosas e a preço acessível

Alternativas ao peixe e marisco



Impossible Burger, Kimchi, Queijo Vegan decente.

"Presunto/Fiambre" Vegan (Squeaky Bean), "Salsichas Frescas" Vegan (Naked Glory)

Não sei, não estou preocupada com alternativas. Apenas deixei de comer carne e peixe, e reduzi ao mínimo (1 vez por semana) o consumo de ovos e queijo. Uso apenas alternativas aos laticínios. Não aprecio substitutos.

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A tua opinião é muito importante para nós. Ajuda-nos a melhorar!

Queremos sempre melhorar os nossos produtos e a qualidade dos nossos serviços, Ajuda-nos a melhorar, respondendo a este rápido questionário. Obrigado pelo teu feedback!



1. Qual o tipo de dieta que adoptas no dia a dia?

Marcar apenas uma oval.

☐ Vegan

☐ Vegetariana

☐ Flexitariana

☐ Outra: _____

2. Quantas vezes por semana escolhes uma refeição vegan/vegetariana?

Marcar apenas uma oval.

☐ 1 a 2

☐ 3 a 4

☐ 5 a 6

☐ Todos os dias!

3. Porque achas importante introduzir estes produtos na tua alimentação?

Marcar apenas uma oval.

☐ Pelo Ambiente

☐ Pela Saúde

☐ Redução do Consumo de Carne

☐ Concordo com todas.

☐ Outra: _____

4. Onde costumás fazer as tuas compras Asoka?

Marcar apenas uma oval.

- ☐ Loja Parede
- ☐ Loja Cascais
- ☐ Loja Campo de Ourique
- ☐ Loja Online

5. Como avalias o nosso atendimento nas Lojas?

Marcar apenas uma oval.

Muito Fraco

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

6 ☐

7 ☐

8 ☐

9 ☐

10 ☐

Excelente

6. Com que frequência compras produtos Asoka?

Marcar apenas uma oval.

☐ 1 vez por semana

☐ 2 vezes por mês

☐ 1 vez por mês

☐ Outra: _____

7. Terias interesse num programa de subscrição mensal de produtos Asoka?

Marcar apenas uma oval.

☐ Sim

☐ Não

8. Qual a tua opinião em relação à qualidade dos produtos Asoka?

Marcar apenas uma oval.

Muito Fracos

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

6 ☐

7 ☐

8 ☐

9 ☐

10 ☐

Excelentes

9. Quais são os teus Asoka Burgers preferidos?

Marcar tudo o que for aplicável.

- ☐ Dharma Burguer
- ☐ Tuga Burguer
- ☐ Zuca Burguer
- ☐ Green Burguer
- ☐ Asoka Burguer
- ☐ Chili Burguer

10. Quais são as Asoka meals que mais gostas?

Marcar tudo o que for aplicável.

- ☐ Dharma Picada
- ☐ Empadão Asoka
- ☐ Beet Wellington
- ☐ Lasanha
- ☐ Broa do Frade

11. E em relação aos nossos Salgados?

Marcar tudo o que for aplicável.

- ☐ Croquete de Cogumelos
- ☐ Croquete de Tremoços
- ☐ Falafel
- ☐ Dharma Ball
- ☐ Chamuça Asoka

12. Se já experimentaste os nossos novos Molhos, quais foram os teus preferidos?

Marcar tudo o que for aplicável.

- ☐ Green Mayo
- ☐ Pestuga
- ☐ Ajvar

13. Que mais produtos gostarias de ver no menu Asoka?

14. Que doces vegan gostarias de ver no menu Asoka?

15. Dentro do âmbito da alimentação vegan ou vegetariana que marcas consomes além do Asoka?

16. Na tua opinião, o que deveria ser melhorado no Asoka em Geral?

17. Muito obrigado pela tua ajuda! Gostaríamos de te oferecer 10% de desconto tua próxima encomenda no nosso site. Basta utilizares o código "**OBRIGADO10**". Até já!

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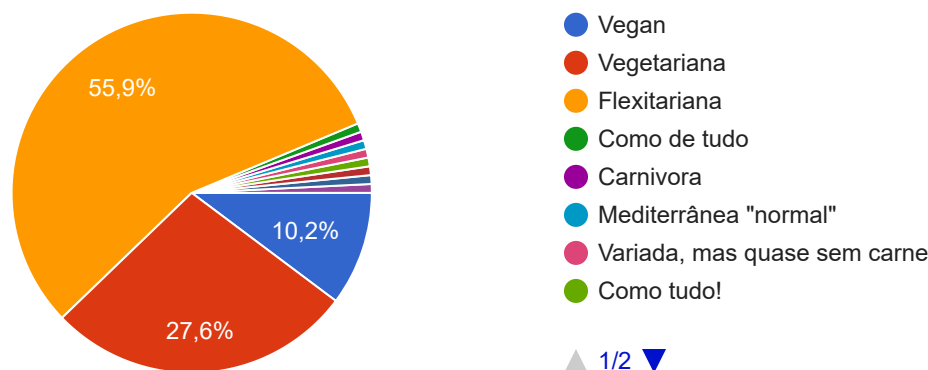
A tua opinião é muito importante para nós. Ajuda-nos a melhorar!

131 respostas

Qual o tipo de dieta que adoptas no dia a dia?

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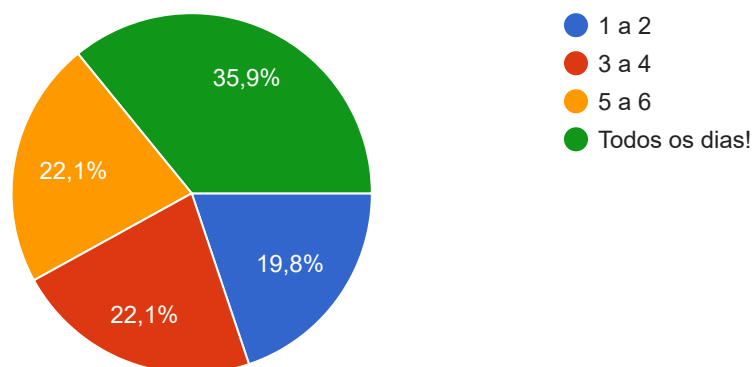
127 respostas



Quantas vezes por semana escolhes uma refeição vegan/vegetariana?

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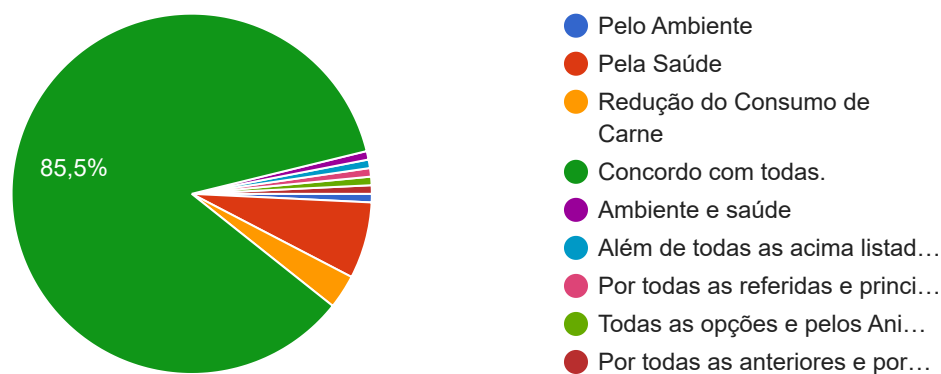
131 respostas



Porque achas importante introduzir estes produtos na tua alimentação?

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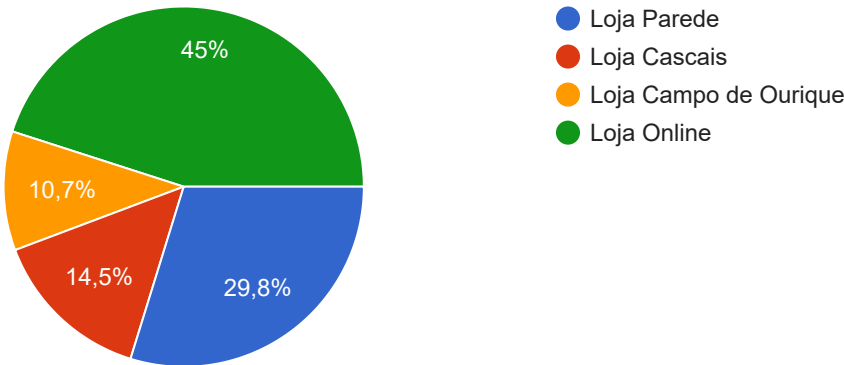
131 respostas



Onde costumás fazer as tuas compras Asoka?

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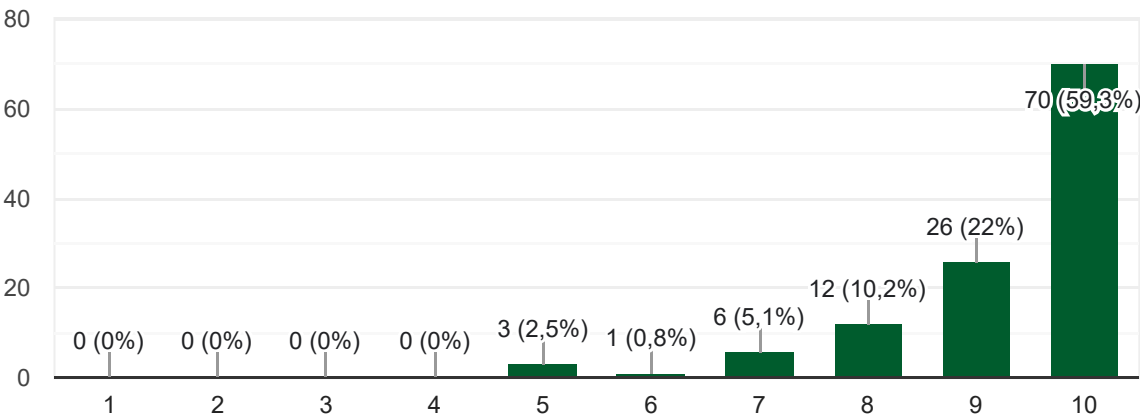
131 respostas



Como avalias o nosso atendimento nas Lojas?

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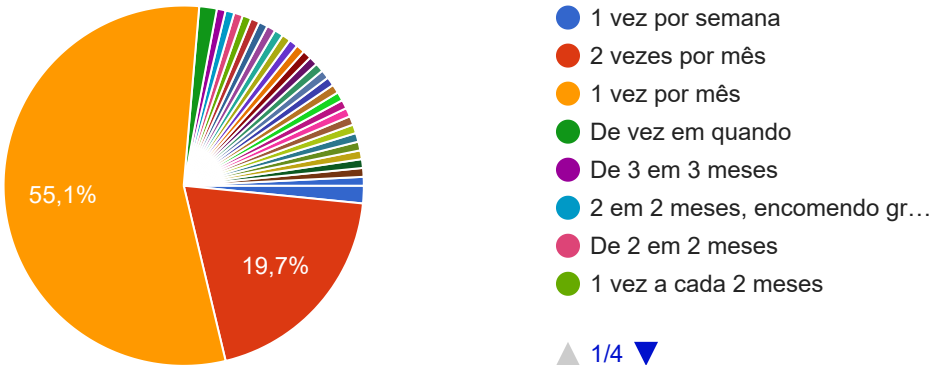
118 respostas



Com que frequência compras produtos Asoka?

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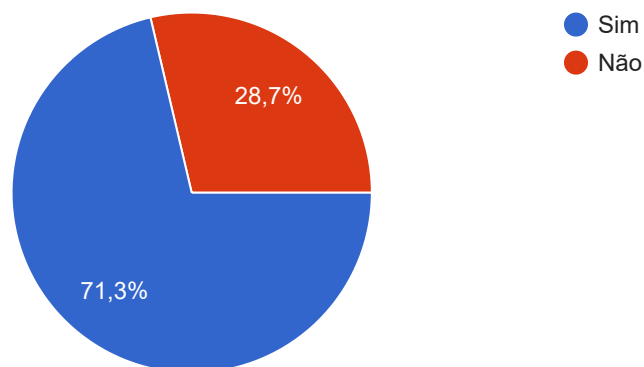
127 respostas



Terias interesse num programa de subscrição mensal de produtos Asoka?

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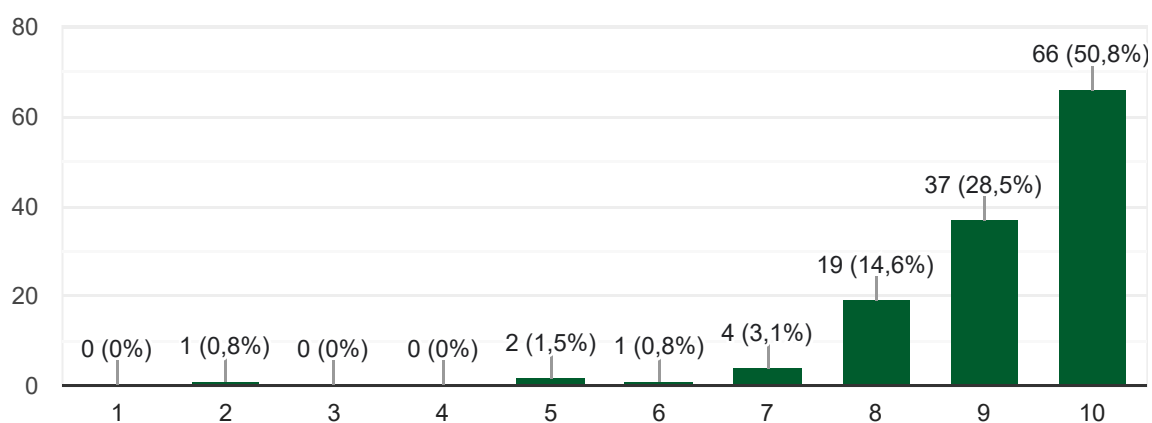
129 respostas



Qual a tua opinião em relação à qualidade dos produtos Asoka?

 Copiar

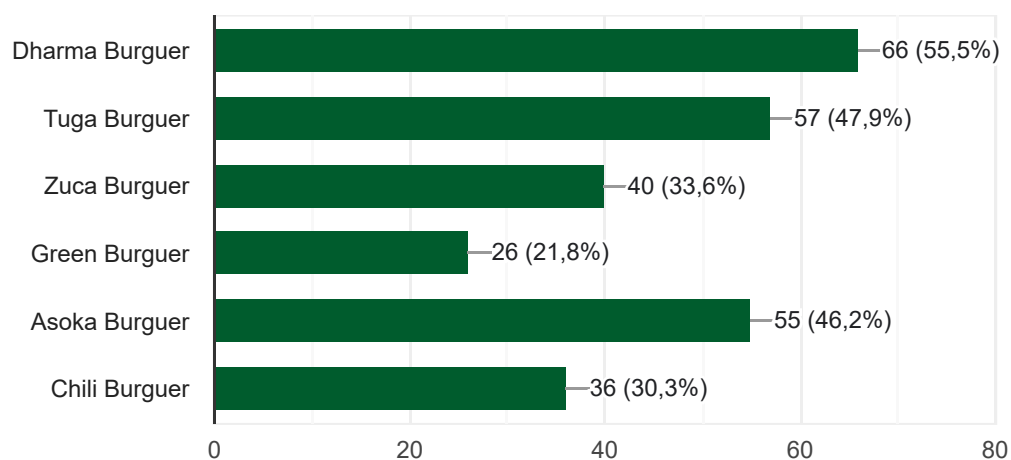
130 respostas



Quais são os teus Asoka Burgers preferidos?

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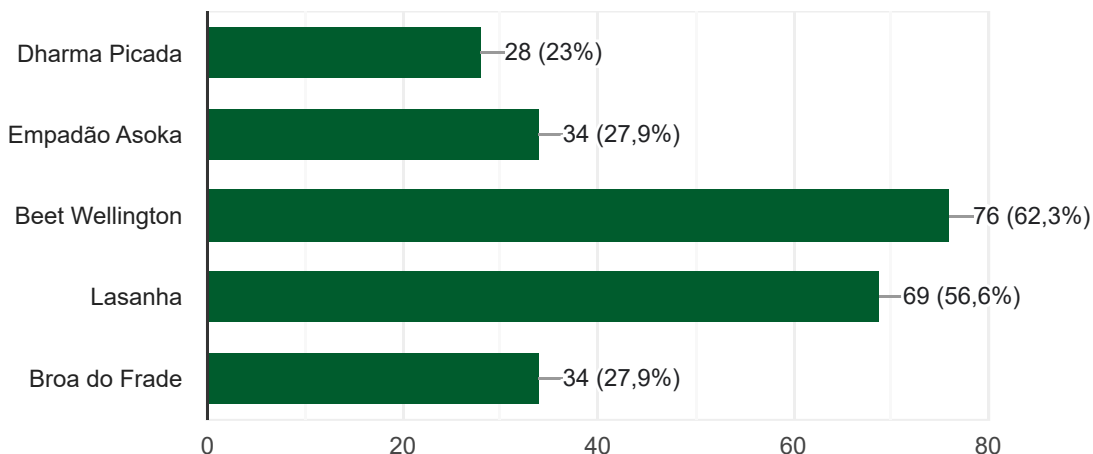
119 respostas



Quais são as Asoka meals que mais gostas?

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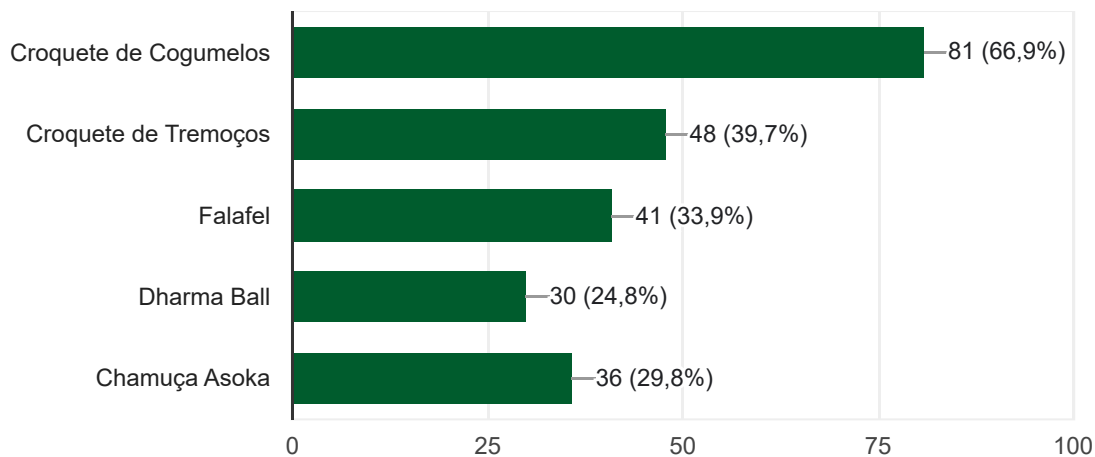
122 respostas



E em relação aos nossos Salgados?

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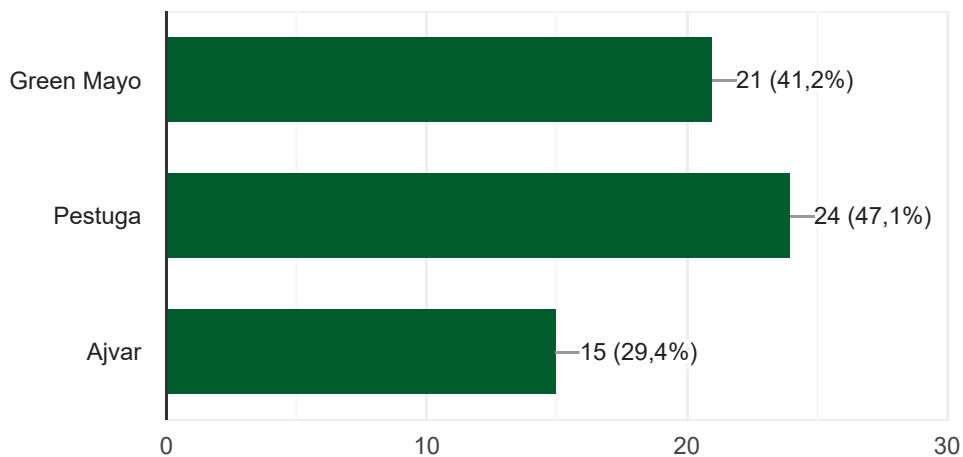
121 respostas



Se já experimentaste os nossos novos Molhos, quais foram os teus preferidos?

 Copiar

51 respostas



Que mais produtos gostarias de ver no menu Asoka?

59 respostas

Mais doces

Mais doces!

Mais refeições de colocar no forno, pre feitas

Beet wellington, croquete cogumelos e chamuça, lasanha

Algo estilo Bacalhau com Natas

Mais refeições “prontas” e mais salgados

Panados de seitan.

Novos sabores de hambúrgueres

Alho francês a bras, bifes seitan com molho de cogumos, tofu espiritual, caril de grão...

Beet Weelington, Dharma Picada, Croquetes Cogumelos, Empadão, Dharma Burguer

Mais pratos que podem simplesmente ir ao forno

Refeições principais tipo rolo mediterrâneo (não estava nas opções mas é a minha metal preferidas)

Novas variedades de hamburguers

Salsichas

O hummus de tremçoço de volta

Mix legumes e cereais para saltear

pratos de forno

Acompanhamentos para os hambúrgueres

Opções de sobremesas

Massa 🍝

Mais variedade de opções de refeições quase prontas, algumas saladas diferentes

Saladas

More desserts

Mais meals para aumentar as opções disponíveis. Exemplo chili vegan

Caril de Grão/vegetais, Sopas, Estufados de cogumelos

Rolo de “carne”, rissóis

Não sei

Molho de caju, molho cremosos para tipo mac n cheese

Outros burgers.

alternativas à carne (tipo carne assada/ stroganoff

Batata doce

Mais Asoka meals. São muito práticas pq não necessita da confeção adicional.

Mais variedade nas Asoka meals e substitutos para fiambre, presunto seria ótimo

Algo que pudesse ter um sabor parecido a peixe.

Mais refeições de forno

Estufados!

Moussaka (nas refeições), crackers (nos snacks)...

Feijoada, tacos ou burritos

chili, lasanha wraps

mais almondegas. talvez uma parceria com paes de fermentação lenta (2em 1).

A lasanha vegan em vez de vegetariana!

Difícil escolher. Até agora gosto de todos. A Lasanha sem duvida alguma. Os burgers tb, os croquetes de cogumelos...

Produtos com diferentes tamanhos, pois por vezes sentimos que o tamanho standard não chega para 2 adultos.

À base de lentilhas e grão, tipo almôndegas , quiches, muffins, empadas

mais variedade de salgados/snacks

Panquecas, muesli, granola

Mais variedade de hambúrgueres

Mais diversidade de asoka meals

Mais variedade de produtos

Queijo vegetal

Batata-Doce Recheada com Soja e Legumes, caril de grão e tofu com arroz basmati, pizza veg, caril de couve flor com batata doce, etc

salsichas veg

Mais refeições pré-preparadas

caril de grão ou legumes, queijos :)

Mais alternativas de asoka meals, por exemplo, tofu/seitan à lagareiro

Pratos com camarão vegan

Mais refeições

não me lembro de nenhum

Que doces vegan gostarias de ver no menu Asoka?

53 respostas

Bolo rainha, bolo bolacha, pastel de nata vegan

Tarte de manteiga amendoim vegan; panacota vegan

Bolo de bolacha

arroz doce

Bolos caseiros/tartes

Adorava poder comprar um bom tiramisu vegan!

Tradicionais

Mousse chocolate saudável

Arroz doce

I am not vegan

Arroz doce.

Bolachas Vegan, Brownies

Pasteis de nata

Mousse de chocolate

Com chocolate mas sem manteiga de amendoim

Não sei

bolo de bolacha, brownies, pasteis de nata

Mousse manga

Tartes, tipo cheesecake

cookies

Tarte merengada de limão, bolo de chocolate com recheio...

cheesecake de framboesa, pastel de nata, baba de camelo

Pudins de chia em frasco, mousses

Crumble de maçã (amo!) e brownie de beterraba :-)

Cheesecake, tarte merengada

cheesecake

Bolos de fatia

raw cakes e energy bites

Cheesecake, serradura

Só experimentei o salame que é divinal

Crumble de maçã sem glúten , mousse vegan

doces de colher

Leite creme; arroz doce.

Mousse de chocolate, cheese cake

Brownies, muffins

Doces pouco doces :)

Não conheço

Tarte tâmaras

Brownie

Pastéis de bata; Red velvet

Gelados

Todos

"Cheese"cake

Sem açúcar e a base de frutas

Algo com Tâmaras e Pistachios e algo como brigadeiros

panquecas, crumble, arroz doce, brownie, bolo laranja

Gosto muito do vosso salame e o difícil é resistir, gosto evitar doces

mousse de frutos (manga, framboesa, mirtilo...) e uma espécie de natas do céu. Era boa ideia.

Não aprecio doces

gelados

Tiramisu

bolos

bolos ou bolachas

Dentro do âmbito da alimentação vegan ou vegetariana que marcas consomes além do Asoka?

73 respostas

Nenhuma

Beatroot eat wisely

Capim

Alpro, Heura, Wunda, Violife, Iglo

Só consumo asoka ♥

Nenhuma

Mums cooking

Celeiro

Biodharma e celeiro viva. Do vosso género nenhuma outra

Garden Gourmet, Quorn, Linda Mckartney, Next Level (Lidl), Wonderburger (Aldi), Beyond Meat

Continente, Green Cuisine, Auchan, Vemondo, Garden Gourmet, Vegalia, Cemporcento

Nenhum

Nenhuma. Compro ingredientes e faço eu

Beyond Meat

Mais nenhum

Fumeiro vegano, heura, violife, linda mkarney, alpro, etc

Nenhuma...

todas as outras. :)

Vegalia, iglo, continente...

Marcas vendidas no Lidl, Campim Talho Vegan, marcas vendidas nas lojas Celeiro

Continente, Violife, Yogan,Nurishh,, Vegalia, Green Vie,Taifun, Lidl,Aldi

Origem

Talho capim, Veggiemondo

Mum's Cooking; Nikifit para marmitas

Nenhuma específica

Varied

Veggie Lovers

Algumas comprada nas várias cadeias de supermercados

Beatroot

Cozinho em casa

Mais nenhuma

nenhuma

GoBio e outras

Vegali

Iglo

Alguns produtos Aldi

Violife, Vemondo, Good&Green, Linda McCartney, beyond meat

Vitaminas (adoro as almôndegas de soja!), Linda McCartney e GreenCuisine

Iglo Green Cuisine, Vemondo LIDL

Refeições do revolution food

Vida Celeiro, 100 por cento, GoBio...

origin

Marca branca, iglo

green meals à venda nas grandes superfícies

em termos de "talho": às vezes CAPIM (mas os vossos são mais saborosos) ou veggie.fam para ajudar a iniciativa; veg planet; beatroot; beyond meat...

Taifun, capimtalho vegan, marcas próprias dos supermercados

Consumo outras marcas. Mas confesso que desde que me recomendaram a Asoka tem sido a minha escolha preferencial

Alpro e outros

Várias marcas do Celeiro, produtos vegetarianos do Continente e do Lidl.

de supermercados

Eurofumeiro (alheira vegetariana), vários produtos Auchan; Violife; ...

Garden gourmet, the food vegan club

Nenhuma.

Vou experimentado várias coisas mas, infelizmente, com recurso a marcas que não são especialistas, por conveniência.

Hamburgeres vegetarianos ;vários produtos supermercado

Não consumo

Celeiro, lidl e nestle

Não lembro

Tofu, Tempeh, Seitan

Biofrade, Celeiro, Miosótis

Faço em casa

Não costumo comprar comida já feita, gosto de ter soluções congeladas para sos. Já experimentei algumas, e os vossos foi os que preferi e que repito.

Várias, nacionais e estrangeiras. Compro em loja ou online, mas faço em casa também. Sou vegetariana, mas praticamente vegana (como queijo de cabra e mel, produção de amigos).

Garden gourmet, Vivera, Quorn, Linda McCartney's, Behond the meet, Green cuisine, Talho vegetariano, Veganchee, etc.

Celeiro (várias marcas), Vemondo (Lidl)

Alpro

veggiennessie

Liv Good, Celeiro, Miosótis

Green cuisine

Varias

Marcas do Aldi

muitas... Shambala, beyond burger, veggie nessie, talho vegetariano

Na tua opinião, o que deveria ser melhorado no Asoka em Geral?

68 respostas

Mais hotmeals!

Ainda mais variedade

Melhorar relação quantidade/preço

Portes de envio grátis para encomendas de valor acima de 50€

Talvez uma aposta em especiarias menos orientais e mais mediterrânea (salsa, manjerição, coentros e afins)

Menos azeitonas

Valor entregas online

O atendimento em loja

Possibilidade de entregas de comida cozinhada via Uber Eats/outro. Parcerias com restaurantes para disponibilização de refeições caseiras vegetarianas no menu

Acho que não deveriam ter mudado a receita do empadão, a versão anterior a esta era exponencialmente melhor. E com muita pena nossa já não compramos este prato.

Nada a apontar

Nada a apontar

Ir introduzindo produtos novos e sabores novos; exemplo, almôndegas vegan

Portes grátis a partir de valor X

eu adorei a ideia e experimentei os hamburgueres. Não tenho forno para outros pratos deliciosos. no entanto a descrição dos ingredientes não incluiu seitan e prefiro gluten free e a adição do sabor fumado achei muito forte e dispensável os aromas.

De momento não me ocorre nada...

o valor. :)

Talvez as Asoka meals possam ser vendidas em quantidades maiores, do tipo familiar?

Para mim

Para mim está perfeito

A consistência. É tudo muito bom mas há dias em que é excelente e dias em que é bom e com sabores bastante diferentes, nunca sabes.

Novas opções

Em geral podem tentar trazer mais novidades - usem os clientes habituais para testar. Apesar de achar que os produtos são relativamente saudáveis, acabam por ser também bastante calóricos (alguns deles). Na minha opinião uso o Asoka para "safar" quando não me quero preocupar tanto se é saudável ou não. Uma linha de produtos em que garantam essa preocupação podia fazer-me consumir mais.

Continuem assim

When you sell magic boxes let people know what's in them so that they can order what they like

Mais variada de opções de escolha nas recriações já feitas.

Está no bom caminho.

Estão num excelente caminho...parabéns!

A quantidade das refeições é pequena (e eu meço 1,5m)

Tudo excelente

Usar mais leguminosas tradicionais e menos soja

Os hamburgers tem vindo a ficar mais secos.

preço

Hamburgers

Variedade Meals. Redução dos custos de entrega ou mesmo entrega grátis para valores acima de X€.

Seria interessante, ter refeições prontas a comer

Podiam ter produtos mais variados, com sabores diferentes, mais irreverentes

Apenas o preço deveria ser bastante mais baixo. A qualidade e o atendimento estão absolutamente no ponto certo.

Mantenham o nível de sal baixo sff, carreguem nas outras especiarias e continuem o excelente trabalho!

De uma forma geral, não tenho nada a apontar :-)

Preço dos portes de envio

abrir em Oeiras; as embalagens dos croquetes deviam vir com mais unidades

Umidade

talvez mais promos em % e em termos de oferta de quantidade p.e.

Para já está bem encaminhado

Para já estou mto satisfeita!!!

Nada a acrescentar!

Mais variedade de produtos

de momento nada, apresenta uma boa gama de produtos e de boa qualidade

A quantidade das doses actuais e/ou haver 2 tamanhos em que o tamanho grande compense no preço por quilo. Desta forma conseguiríamos comprar mais vezes.

Ao fim de algum tempo os sabores dos produtos parecem todos iguais

Preço/quantidade

Nada que me ocorra agora.

A quantidade

Relação preço/qualidade

Mais variedade

Poderiam abrir uma loja na zona de Linda-a-velha / Carnaxide

Estou completamente satisfeita com tudo

Maior variedade nos doces

Ser mais diversificado

Para mim está tudo ótimo . A minha sugestão vai para os frascos de molhos , a validade é curta e os frascos são grandes , acabo por estragar metade

Gosto bastante dos produtos.

Menos hamburguers, mais de outro tipo de refeições e produtos para preparar refeições

Entrega na zona de Torres Vedras :)

Mais oferta

tentar usar menos plástico

Os custos. Embora estejam ao nível da qualidade dos vossos produtos, a verdade é que não são para todas as carteiras... Supostamente ser vegetariano "já não é só para ricos", ou pelo menos, não deveria ser

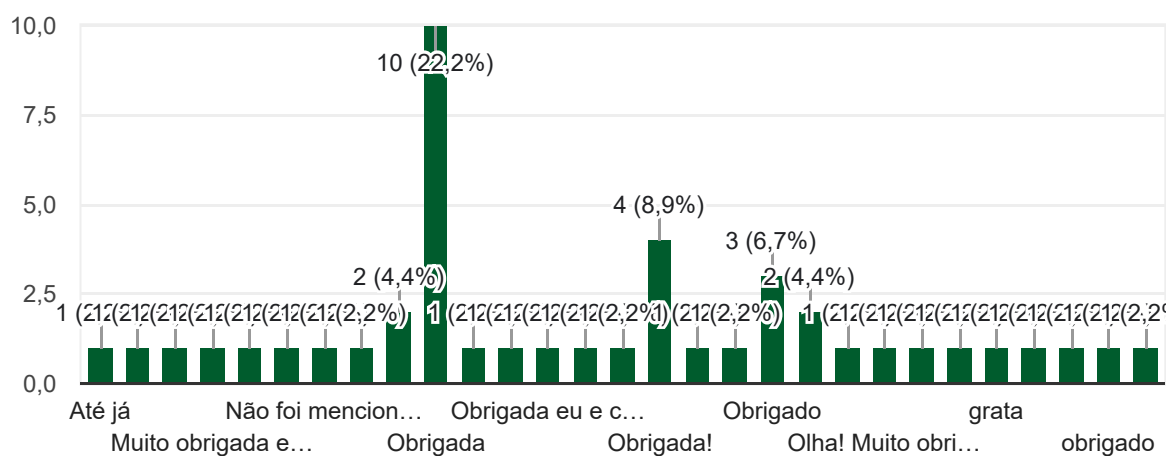
O preço, sao realmente produtos bons mas nao acaassiveis a todos

Até agora tudo ok

Muito obrigado pela tua ajuda! Gostaríamos de te oferecer 10% de desconto tua próxima encomenda no nosso site. Basta utilizares o código "**OBRIGADO10**". Até já!

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45 respostas



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Asoka – Strogonoff

Boa tarde! Agradecemos a tua participação na ideação do novo prato Asoka.
Após recolheres e provares o teu Strogonoff pedimos-te que respondas a estas perguntas rápidas.

Mais uma vez obrigado, e até breve!

Alguma questão estaremos ao dispor.

***Obrigatório**

1. Considerando a lista de ingredientes e valores nutricionais do prato, consideras ***** que este é um produto atrativo?

Marcar apenas uma oval.

Pouco Atrativo

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito Atrativo

2. Avaliando o ASPETO visual do strogonoff (cor, brilho, identificação dos ingredientes a olho nu, etc.) consideras que é atrativo? *

Marcar apenas uma oval.

Pouco Atrativo

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito Atrativo

3. No que toca ao CHEIRO do strogonoff, após cozinhado, consideras que é agradável? *

Marcar apenas uma oval.

Pouco agradável

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito agradável

4. Quanto à TEXTURA do prato, consideras que é agradável? *

Marcar apenas uma oval.

Pouco agradável

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito agradável

5. Em relação ao SABOR do strogonoff, consideras que é agradável? *

Marcar apenas uma oval.

Pouco agradável

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

Muito agradável

6. Consegues identificar um ingrediente específico que aprecies e que aches que torna o sabor do strogonoff único? *

7. Gostarias de trocar algum ingrediente no prato? Se sim, qual trocarias e que outro introduzirias? *

8. Ficaste saciado com o teu prato? *

Marcar apenas uma oval.

☐ Sim

☐ Não

9. Usaste algum acompanhamento? Se sim, qual?

10. O que valorizas mais neste prato? *

Marcar tudo o que for aplicável.

- ☐ Ingredientes e valores nutricionais
- ☐ Semelhança a um prato típico
- ☐ Facilidade de preparação
- ☐ Ser Vegan
- ☐ Não ter glúten
- ☐ Aspeto
- ☐ Cheiro
- ☐ Textura
- ☐ Sabor
- ☐ Outra: _____

11. Classificas este prato como "comida de conforto"? *

Marcar apenas uma oval.

- ☐ Sim
- ☐ Não

12. Em geral, como avalias a qualidade do prato? (deslizar para o lado para todas as opções) *

Marcar apenas uma oval por linha.

	Extremamente Pobre	Muito Pobre	Pobre	Minimamente Satisfatória	Satisfatória	Minimamente boa
Strogonoff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Em geral, quanto gostas do prato? (deslizar para o lado para todas as opções) *

Marcar apenas uma oval por linha.

	Odeio	Não gosto	É me indiferente / não tenho opinião	Gosto	Adoro
Strogonoff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Com que frequência gostavas de comer este prato? *

Marcar apenas uma oval por linha.

	Nunca	Raramente	Uma vez por mês	De duas em duas semanas	Uma vez por semana	Duas vezes por semana	Várias vezes por semana	Un vez di
Strogonoff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. Tens alguma sugestão de melhoria ou queres deixar algum comentário?

Obrigado pela tua ajuda!

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Asoka - Strogonoff

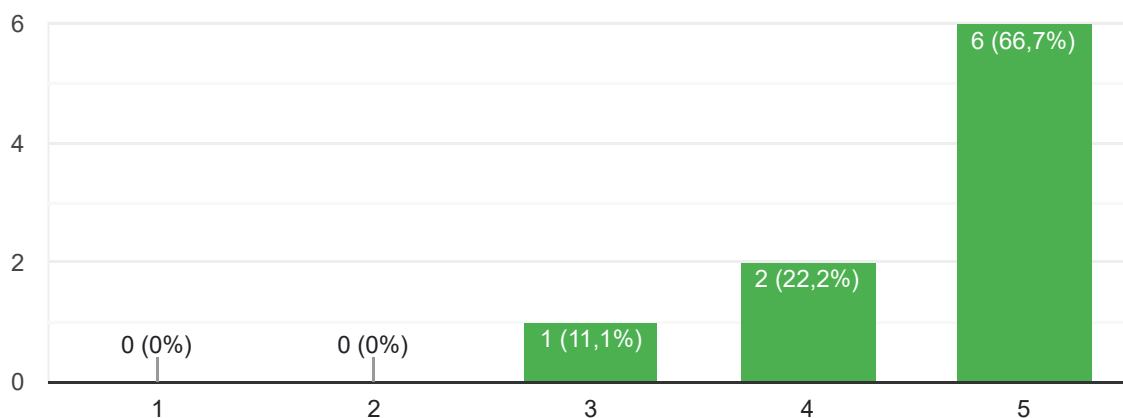
9 respostas

[Publicar estatísticas](#)

Considerando a lista de ingredientes e valores nutricionais do prato, consideras que este é um produto atrativo?

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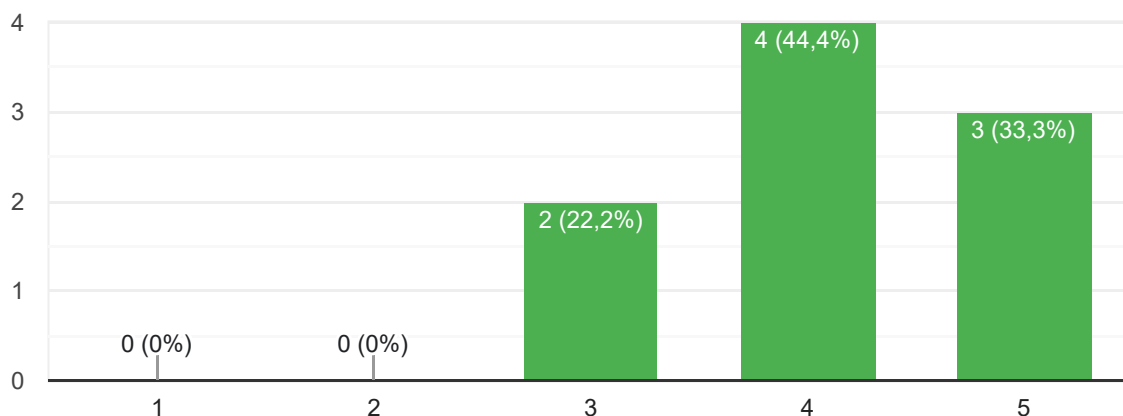
9 respostas



Avaliando o ASPETO visual do strogonoff (cor, brilho, identificação dos ingredientes a olho nu, etc.) consideras que é atrativo?

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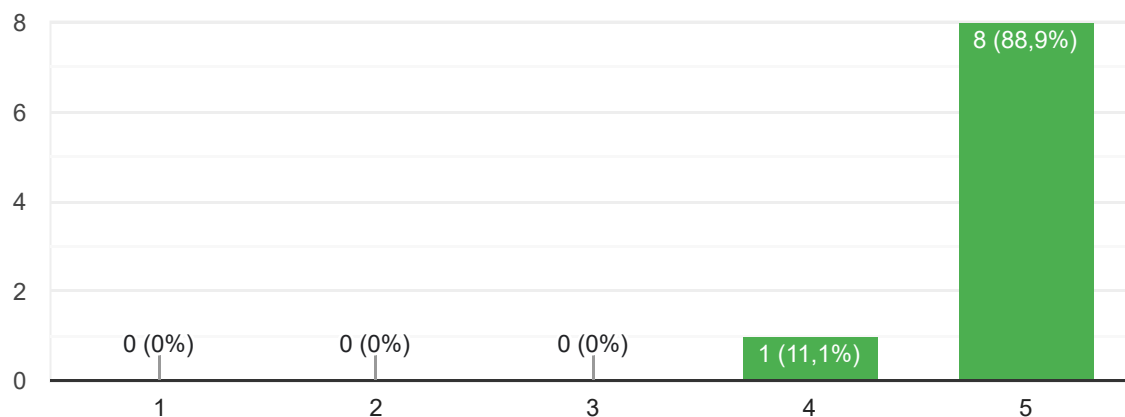
9 respostas



No que toca ao CHEIRO do strogonoff, após cozinhado, consideras que é agradável?

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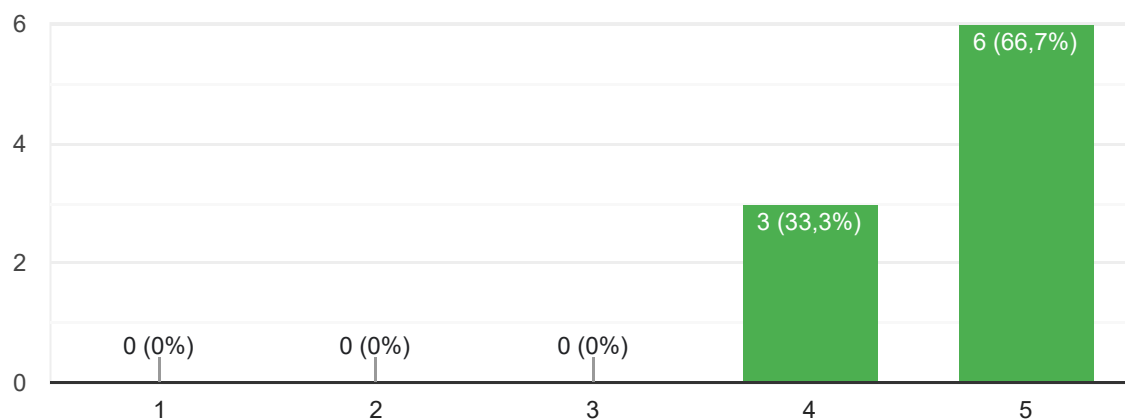
9 respostas



Quanto à TEXTURA do prato, consideras que é agradável?

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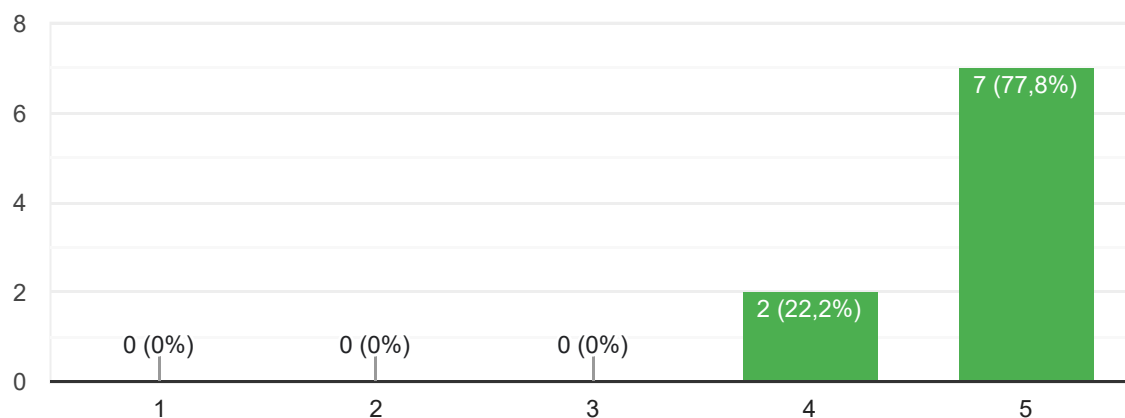
9 respostas



Em relação ao SABOR do strogonoff, consideras que é agradável?

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9 respostas



Consegues identificar um ingrediente específico que aprecies e que aches que torna o sabor do stroganoff único?

9 respostas

Molho todo

Cogumelos

Cogumelo

O cogumelo esta incrível

Concentrado de tomate e os cogumelos

mostarda

Cogumelo Paris

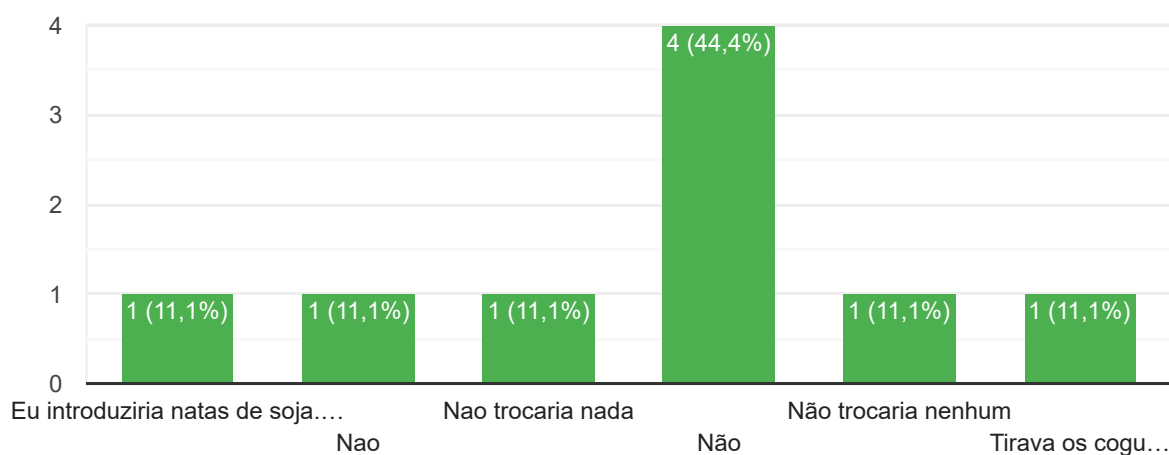
Tomate

Grao

Gostarias de trocar algum ingrediente no prato? Se sim, qual trocarias e que outro introduzirias?

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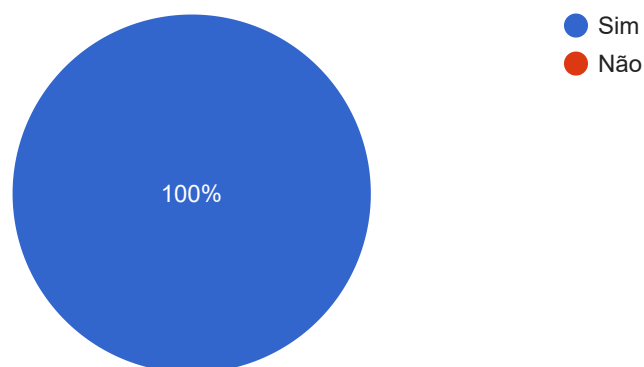
9 respostas



Ficaste saciado com o teu prato?

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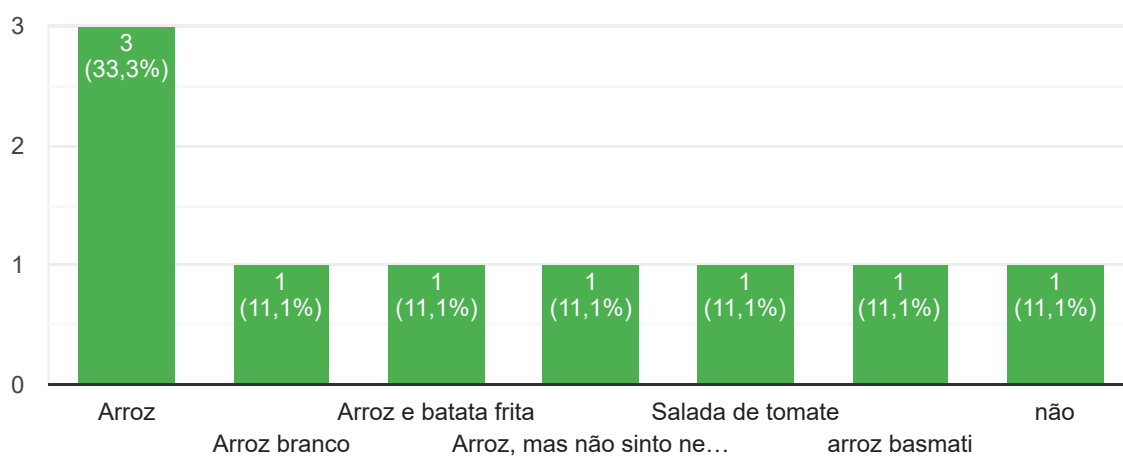
9 respostas



Usaste algum acompanhamento? Se sim, qual?

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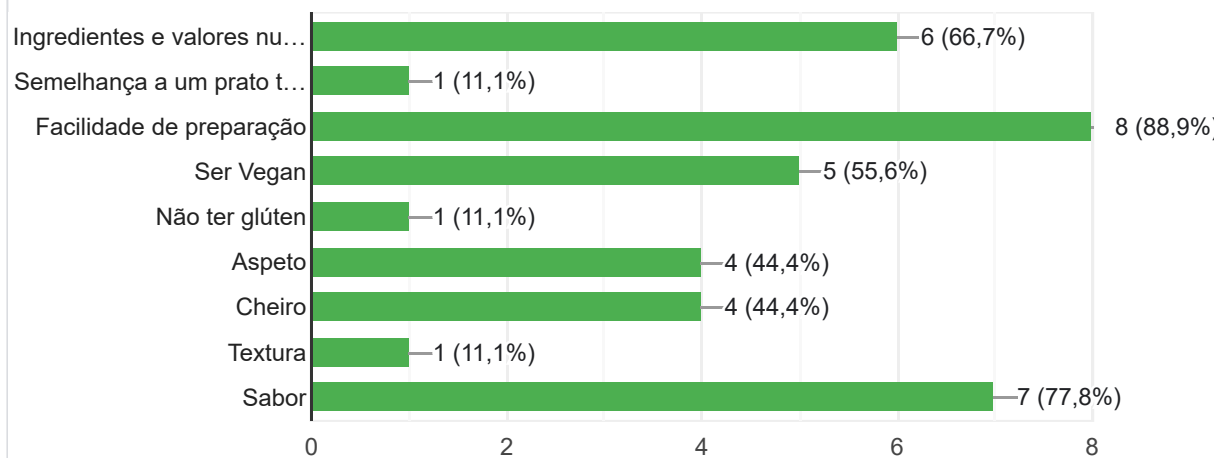
9 respostas



O que valorizas mais neste prato?

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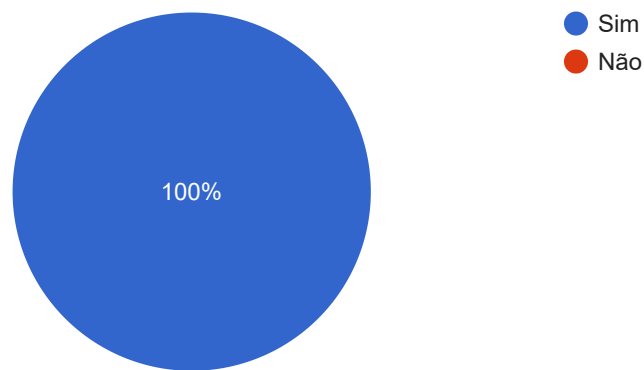
9 respostas



Classificas este prato como "comida de conforto"?

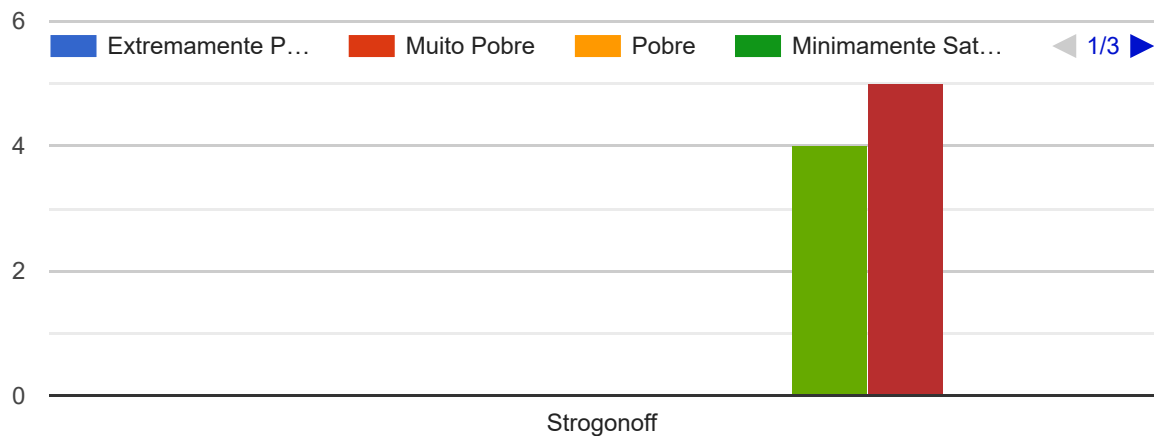
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9 respostas



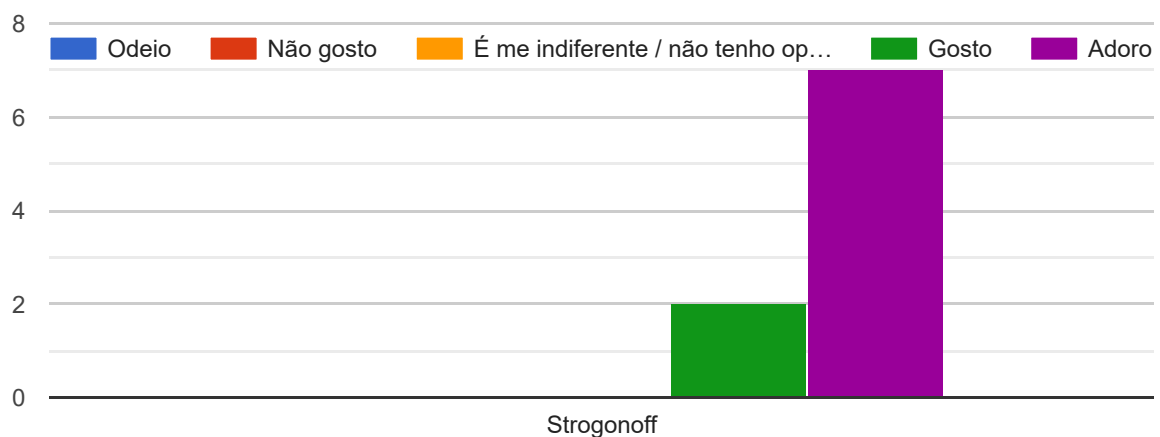
Em geral, como avalias a qualidade do prato? (deslizar para o lado para todas as opções)

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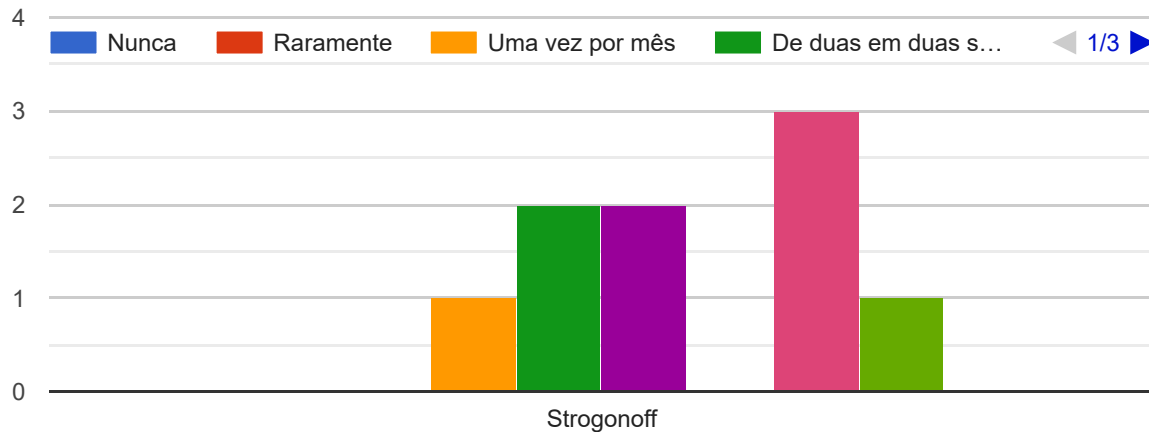
Em geral, quanto gostas do prato? (deslizar para o lado para todas as opções)

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Com que frequência gostavas de comer este prato?

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Tens alguma sugestão de melhoria ou queres deixar algum comentário?

5 respostas

O molho estava muito bom e era tanto que disfarçava os cogumelos, que eu não gosto

Mais creamyness

Acrescentaria mais cogumelos

Não

Está excelente!

Obrigado pela tua ajuda!

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