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*Article*

# Planting Seeds of Change in Foodstyles: Growing Brand Strategies to Foster Plant-Based Alternatives through Online Platforms

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**Abstract:** The article delves into the landscape of the plant-based food industry, exploring innovative market entry strategies and their interplay with the evolving food market and shifting consumer preferences and lifestyles. Adopting a multidimensional approach, the study reflects diverse perspectives at play. Through a comparative analysis of strategic promotion and growth strategies employed by both innovative startups and established industry giants in the plant-based alternatives sector in Germany, the study aims to capture the challenges faced by the 'newer' wave of plant-based alternatives. This examination is particularly relevant for navigating the complexities of entering a competitive market. Striving to penetrate evolving consumer lifestyles, the study draws insightful comparisons with their "older" counterparts. In addition, through in-depth interviews with selected companies, the study investigates the entry methods of startups venturing into the German market, aiming to identify parallels and contrasts in market strategies with established brands. This provides valuable insights into innovation within the alternative food market. Furthermore, the study explores the process of brand "platformization" by scrutinizing the websites of the selected companies and analyzing customers' online reviews of their brand experience. This comprehensive analysis unveils distinctive patterns in communication strategies, brand positioning, and consumer engagement, offering insights into plant-based innovation shaping new, caring lifestyles. Main findings include a strong correlation among dimensions related to food quality, use, and taste, indicating a holistic approach to food consumption facilitated by online platforms

**Keywords:** plant-based food industry; innovative market entry strategies; growth strategies; brand "platformization"; multidimensional approach; caring lifestyles; alternative diets

## 1. Introduction

The interest in this study within the specific field of plant-based business stemmed from the recognition that alternative proteins may serve as indicators of innovation in consumption, appealing to both meat-eaters and non-meat eaters. Recognizing this potential, the authors focused their research on the platformization strategies of businesses operating in the plant-based industry, particularly in Berlin, renowned as the European vegan capital. This focus aligns with the broader trend of veganism, which has grown exponentially in Europe during the last decade [1,2], evolving from a niche movement into a mainstream trend [3].

In parallel the ITD (International Trade Centre) found that the sustainable good market in Europe has also increased. According to the European Commission [4] 85% of retailers reported higher sales of sustainable products within the past 5 years, making the EU the second-largest market after the USA for products made with organic standards. Demographically, generation Z and millennials (people from the ages of 21 to 40), are 75% more likely than baby boomers (ages ranging from 57 to 75 years) to shape their lifestyles around environmental consciousness [5].

Within the European Market, Germany boats the highest per-capita spending on plant-based food, second only to the Netherlands [4]. In 2020, this sector experienced rapid growth with a 53% increase, nearly reaching a 1 billion euros turnover [6]. The best-selling products are vegetarian meat, and milk alternatives [7].

Berlin, in particular, has emerged as a hub for veganism and is witnessing a relevant rise in vegan eateries. According to reports from Happy Cow (HappyCow is a user-driven platform aimed at helping individuals discover, review, and share information about vegan, vegetarian, and vegan-friendly restaurants and health food stores globally [8].), Germany has over 556 vegan restaurants and food establishments, the highest number in Europe, Berlin leading with 122, surpassing all other European capitals [9,10]. Europe's vegan capital, Berlin plays a vital role in shaping Germany's plant-based sector.

In 2022, approximately 8 million individuals adhered to a vegetarian diet, while 1.58 million identified as vegan [11]. Additionally, the trend of reducing meat consumption is also a relevant aspect of consumption, with 55% of Germans identifying as "part-time vegetarians" and "flexitarians" [11]. Furthermore, in 2016 it was estimated than more than 80,000 vegans were living in Berlin [12]. The significance of Berlin within the EU and German plant-based business context justifies the focus of this study on the city and its businesses.

#### 1.1.1. Big versus Small: Size Dynamics in the EU Plant-Based Industry

The European Union offers many programs and facilitation initiatives in support of plant-based companies. These initiatives focus primarily on promoting innovation and growth in the alternative protein sector. Key programs include the EIT Food established under Horizon Europe, and the European Innovation Council (EIC) Accelerator, play an important role in supporting the creation and expansion of startups and established companies working in the plant-based sector.

In 2024, the EIC allocated €50 million in support of startups and small business venturing in alternative protein production. This investment proved the EU's recent commitment to enhancing innovative approaches within the food industry [13].

The EIT Food 'Fast Track to Market funding' offers opportunities to a number of companies, particularly start-ups and SMEs, to accelerate their time to market. This support is especially relevant for companies producing plant-based alternatives, in accordance with the EIT Food's mission [14]. Accordingly, both startups and established companies operating in the sector are granted an accelerated selection process with the EIC panel.

Nevertheless, the entry dynamics of the markets are significantly different between small and large entities. Small-scale firms usually encounter problems such as restricted access to finance, which might hinder their ability to scale up production and effectively market their products [4]. Besides this problem, small companies can find it difficult competing with well-established brands in terms of visibility and consumers' confidence. Conversely, larger companies enjoy benefits like established logistics, extended distribution chains and massive advertising budgets which enable them to enter new markets more rapidly [6]. These disparities make it harder for small companies hence these EU aid programs are critical for their survival and expansion [1].

These facilitations highlight the European Commission's efforts in the creation of a diverse and dynamic plant-based industry, benefiting companies regardless of their scale [15].

The dynamics between small and large companies within the plant-based industry reveal that different strategies are executed due to their size. Small firms, despite their constrained resources, impressively demonstrate agility and flexibility in responding to changes in market conditions. This adaptability allows them to swiftly seize niche opportunities and innovate quickly [16]. SMEs also tend to use informal means of innovation, such as speed to market and secrecy, which are more advantageous than the formal and long processes of intellectual property strategies [17].

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On the other hand, bigger companies, with their established brand recognition and higher resources, enjoy a reassuring advantage. This enables them to engage in strategic planning and leverage their organizational structure for enhanced innovation. Their R&D investments and scale of production give them a strong foothold in market penetration and sustaining long-term growth [18].

However, it is notable that small firms have unique advantages when it comes to navigating environmental challenges. They are often more skilled at leveraging local resources and community connections, which can be crucial in overcoming barriers faced by larger firms. These abilities allow smaller businesses to customize products according to specific consumer demands while rapidly adapting to regulatory changes. [19].

Small and large corporations both play pivotal roles within this sector whereby their strategies and operational dynamics complement each other. The big players set standards for everyone else while the small ones bring out innovations that disrupt existing systems thereby catering to new consumers' tastes. The European Commission's efforts in creating a diverse and dynamic plant-based industry benefit companies regardless of their scale, fostering an ecosystem where both can thrive and contribute to sustainable food innovation.

#### 1.1.2. Research State of the Art

Platforms play a vital role in business operations by engaging consumers in online activities, and consumers actively contribute to shaping brands by using these platforms [20,21]. In this unique looped-like exchange, increasing significance and importance is attributed to platforms themselves, acting as prime agents of development. Involvement and co-creation process carried out by these expanding digital environments enhance perceived value and innovation, deepening the connection between brand and consumers [22]. Various research findings [23, 24] provide evidence of digital platforms' critical role in shaping food choices, particularly in promoting sustainability and health.

Online platforms act as invisible environments where brands and consumers meet and connect [25], granting both actors access to numerous services, allowing brands to gather feedback and facilitate engagement with the consumers. The concept of "platformization" is used in this context to describe the evolving relevance that these non-material spaces hold on the way brands and consumers enter, navigate an engage with the services provided. This signify an important shift in the way interactions are carried out online [26,27].

The literature emphasizes the importance of such platforms, bettering service personalization, customer satisfaction, and brand loyalty, also facilitated by the nuanced use of user data and integration within a diverse ecosystem [28,29]. This helps business create tailor-made services that are able to meet the ever-changing consumer preferences [30,26].

The concept of platformization extends on food culture, where digital platforms have revolutionized the interaction with food. Rosseau [31] reasons that digital spaces facilitate active engagement, inclusivity, and diversification of tastes (see Figure 1). Social media in particular enabled millions of people to actively participate in food culture by sharing and interacting with recipes, photos, and experiences, thereby shaping food trends. This system allows for the creation of a global community of food lovers, connecting on the premises of passion and emotions inspired by food, and dismantling geographical and socio-economical barriers. The exposure to different cuisines, cultures, and food content found online, encourages innovation in culinary habits [31]. Figure 1, adapted from Rousseau's work, illustrates the different aspects of digital platform dynamics within food studies.

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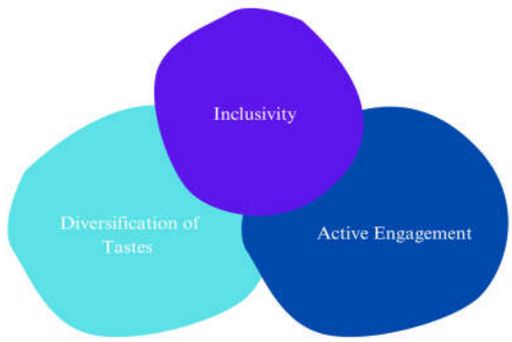


**Figure 1.** Integration of platform dynamics within food studies.

Research confirms that these platforms have deeply changed how people interact with food, mutating their preferences, encouraging culinary experimentation and promoting a diverse food landscape [32-35].

Consumer choices in this sector are especially influenced by sustainability, quality, and health attributes [26-38]. These trends push brands to align their marketing strategies [39,40], and pose a great opportunity for plant-based business.

Understanding consumer preferences becomes fundamental in this industry [41], where factors such as taste and texture represent significant barriers to mainstream consumption [42-44]. Online reviews represent a very useful tool in this context, providing insights into consumer experiences and preferences. Previous research on the specifics of reviews and their potential for brands has focused on various aspects, such as the assessment of review helpfulness [45] and more recent evaluations of helpfulness across multiple platforms [46].

In terms of the semantics of web-written information, studies have explored the process of transforming written content into standardized machine-readable themes, a topic researched before the AI revolution [47], indicating the potential for future innovations in machine-learning processes. Building on this foundation, sentiment analysis is a technique used to assess online text and categorize content as positive or negative. Its implications have been analyzed by Ravi and Ravi [48], as well as in a comprehensive review on sentiment analysis across social media platforms conducted by Rodríguez-Ibánez et al. [49]. This review covered two main research approaches: sentiment analysis techniques and specific domains such as economics, marketing, and politics.

Specifically, sentiment analysis on reviews related to travel platforms has been primarily conducted on platforms like TripAdvisor [34,50] and other social media. In the context of vegan eateries, Shamoi et al. [51] analyzed tweets from the general public to gauge opinions related to vegan food, while Satwani et al. [33] examined opinions related to plant-based products. Focusing on vegan products and their reviews, Thao and Thanh [52] conducted an analysis of customer reviews, categorizing them as positive, negative, or neutral. They assessed sentiment across five aspects: price, packaging, shipment, brand, and quality.

#### 1.1.3. Study Objectives

This study aims to explore the diverse ways online platforms shape and transform the interactions between brands and consumers. Specifically, it examines the way these interactions impact brand strategies and consumer engagement in the plant-based food industry, with a view of developing a market that is driven by community.

By analyzing online reviews and interviewing several plant-based brands, we examine how company size influences market entry strategies and platformization, identify key themes in consumer feedback, and evaluate consumers' primary interests when consuming plant-based foods.

Our research addresses the following questions:

1. Can we identify patterns in brand communication strategies, consumer perception, and customer engagement in the plant-based food sector?

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2. Can platform-driven interactions serve as intermediaries between consumer behavior and brand decision-making in Germany?

## 2. Methodology

### *2.1. Data Collection Methods*

To better understand the looped relationship between brands and consumers, it was crucial to gather feedback from both brand executives and real-life consumers. A questionnaire was provided to the brands, including questions about their size, year of founding, method of founding, average age of personnel, market entry struggles, market strategy, market presence, and platformization strategies. On the consumer side, we analyzed over 800 reviews of products and services offered by two of the interviewed companies. Due to the limited number of reviews available for many of the interviewed businesses, a direct comparison was not feasible. Therefore, we focused our analysis on the businesses with the most reviews to ensure a sufficient data set for meaningful insights. The main objective was to identify and extract the key themes from consumer discussions, allowing us to understand the primary concerns and topics of interest.

By coding these recurring themes and analyzing their co-occurrences within the same reviews, we were able to uncover the intricacies of consumer discourse. This analysis was specific to Germany, with a particular focus on Berlin, and can be replicated in future research with larger companies and a broader scope.

Ultimately, the two approaches serve as indicators of the interactions between the parties involved, aiming to identify shared values within their dynamic and evolving relationship, where each actor influences the other. This interplay is further represented in Figure 2, which illustrates the simplified relationship between consumers and brands, and depicts the data captured in our study.

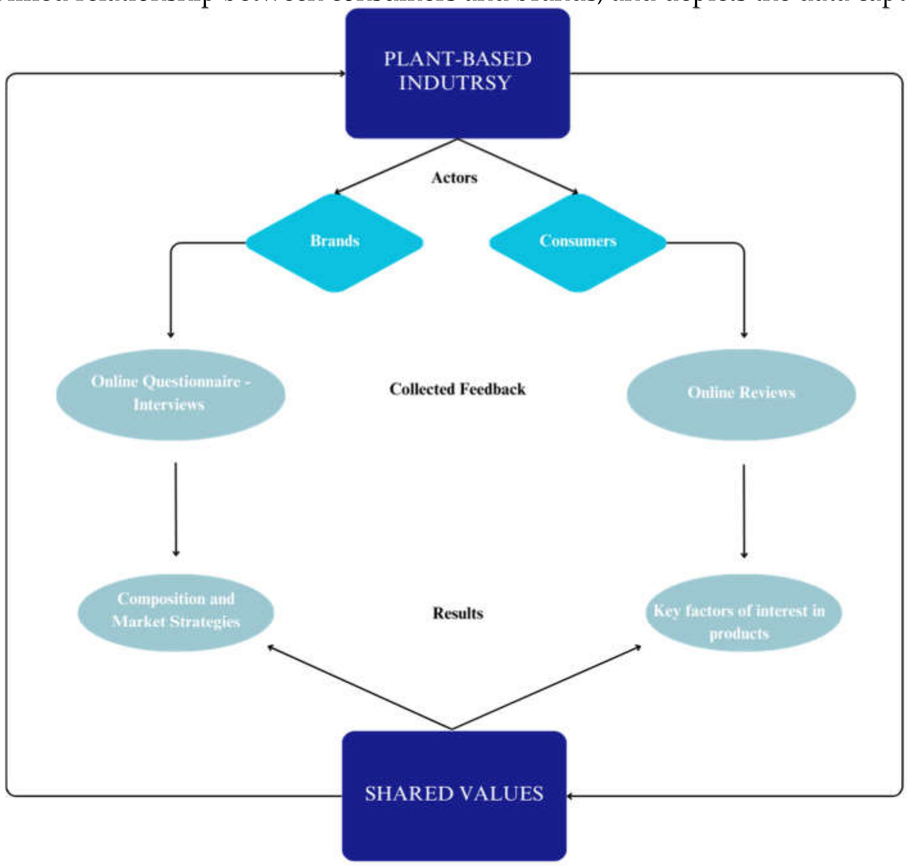


**Figure 2.** Relationship diagram between consumers and brands, illustrating captured data.

The questionnaires were distributed to the brands using Qualtrics analytics software, which facilitated primary analysis. Additionally, telephone interviews were conducted to gather extra qualitative opinions. We utilized a mixed-methods approach for data collection, integrating qualitative and quantitative analysis [53,54].

Reviews were analyzed from various online platforms. These reviews underwent a detailed analysis, with semantic values assigned to uncover underlying sentiments and perceptions. This approach is based on Grounded Theory [55], which constructs theories through systematic data collection and analysis without preconceived hypotheses, allowing theories to emerge organically from the data itself. By iteratively coding and categorizing data, researchers identified patterns and built conceptual frameworks directly from the evidence. This method enabled us to analyze the reviews and identify recurring themes within the corpus, which were then categorized and named.

Employing a bottom-up, post-hoc coding and classification method, we sought to understand trends in product experience and brand impression. The QDA Miner Provalis software was used to create categorical trees and perform qualitative codification of the review texts. The software identified recurring themes within the extracted corpus, which were manually categorized and defined within a coding system for particular subjects. The main sentiments, terms, and subjects in the text were identified by analyzing these codes.

This approach serves multiple purposes. For the companies, the insights gained can be valuable for conducting similar large-scale analyses. For researchers, the results include identifying main semantic clusters, which reveal the primary themes present in the reviews.

#### 2.1.1. Criteria for Selection

We selected German-based companies active in the Berlin area that exclusively produce plant-based food and beverages, focusing on products suitable as standalone meals. Our selection encompassed various segments within Germany's plant-based industry, including meat alternatives, vegan beverages (such as barista-specific options), seafood alternatives, and cheese substitutes. Among the 12 companies chosen, four are international giants based in Germany, two are other major players, and the remainder are startups or very small businesses.

This research delved into market strategies and consumer analysis, highlighting innovative companies, including one utilizing 3D printing for meat replication, another pioneering seafood alternatives with seaweed and beans, and a company offering poultry-like products as a flavorful alternative to conventional meat. Although the selection of 12 companies is not statistically significant, it was designed to represent a cross-section of Germany's plant-based business landscape. This approach allowed us to explore how these companies are structured, providing deeper insights into their internal operations, particularly through interviews.

Among the businesses selected for interviews, two were chosen specifically for the abundance of their online reviews, serving as a "control" group to provide a comprehensive view of consumer interests. These businesses reflect the popularity of plant-based milks and meat alternatives, which are the most common vegan products in Germany [7]. As such, one company specializes in plant-based milk products, while the other offers a diverse range of meat alternatives. The selection criteria were consistent with those used for the interviewed brands, focusing on plant-based food businesses operating in Germany.

For more details on the limitations of this study and recommendations for future research, please refer to paragraph 4.1.

#### 2.1.2. Ethical Considerations

Strict ethical standards were maintained throughout the data collection process. No searchable consumer profile databases were created, and no personal information such as names, gender, or IP addresses was extracted. The information obtained will not be used for profit in any way. Ethical research practices ensured confidentiality and protected the identities of all actors involved in the study. Additionally, the research received approval from the appointed ethical committee at the

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University of Gastronomic Sciences of Pollenzo on 09/12/2023.

## 3. Results

### *3.1. Profile and Analysis of Selected Businesses*

The sample is evenly split, with half of the companies having fewer than 50 people and the other half having 50 or more, according to the analysis of the company interviews (see Figure 3). Specifically, 33% of the businesses have one to ten workers, 17% have eleven to fifty, 17% have fifty to one hundred, and 33% have one hundred or more.

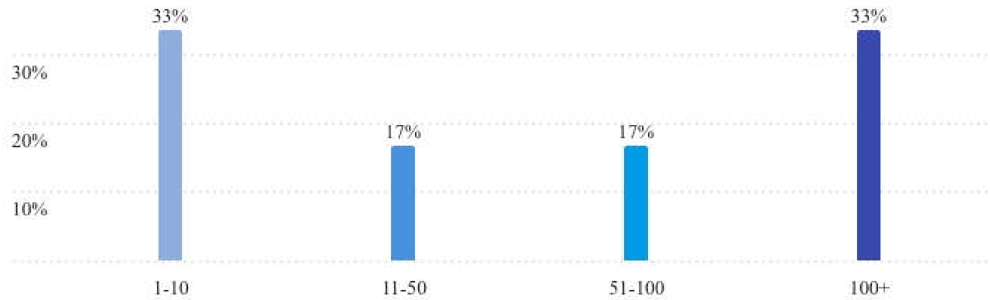


**Figure 3.** Distribution of employee count in sample.

In examining the composition of these companies, several aspects were taken into consideration, including the ways they were founded, duration of operation, and their structural organization (see Figure 4).

67% were founded independently, 17% formed from the expansion of a sub-brand of an existing company, and 8% each originated from accelerator programs or as brand extensions into vegan products.

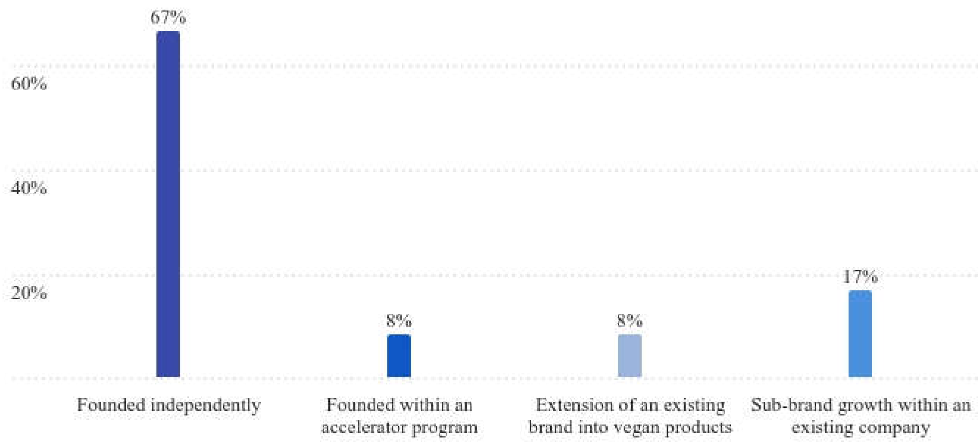


**Figure 4.** Company origin.

When correlating company size with founding methods, it was observed that all startups employing between 1 and 10 individuals were founded independently. However, as companies expanded, the variety in founding methods increased, with only 50% of companies employing more than ten individuals having been founded independently.

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Regarding the founders' age (see Figure 5), 41.7% fall within the range of 36 to 50 years old, while 25% are aged between 26 and 36. Additionally, 8.3% fall within the 46 to 55 age bracket, leaving the remaining quarter above 56 years old. There were no founders between the ages of 18-25.

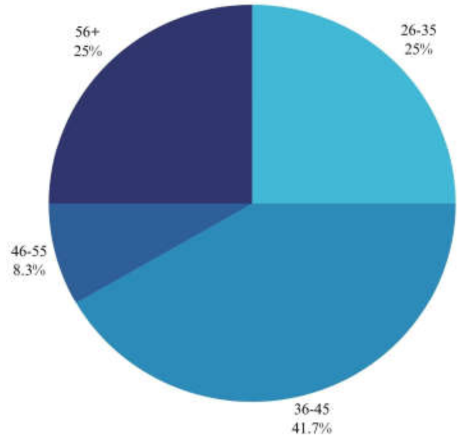


**Figure 5.** Founder age range.

As for age distribution by company size (see Figure 6), 75% of startups with 1-10 employees have founders aged between 26 and 45, while half of the companies with a larger number of employees have founders aged over 56. All founders of the smaller companies are younger than 45.

As per for the gender composition, 25% of founders are only male, another 25% are mostly male, 42% have an equal distribution of male and female founders, and 8% are mostly female. There were no exclusively female or non-binary founding teams.

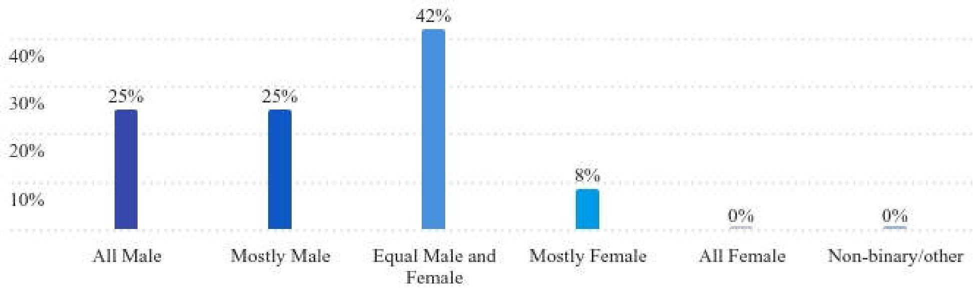


**Figure 6.** Founders by gender identity.

Interestingly, among startups with fewer than 10 employees, 25% have predominantly female founders, exponentially higher than any other category.

The following section will tackle the market entry strategies from the platformization perspective, focusing on the way the businesses analyzed communicated and connected with the public, and the way they incorporate consumer feedback into their operations.

### 3.1.1. Brand "Platformization" Patterns

This section examines how companies in our sample utilize digital tools to engage with customers and gather their feedback. Additionally, it analyzes the questionnaire segments related to the platformization spectrum, specifically focusing on the online business tactics employed by the sample (see Figure 7) and how the brands attempt to connect with their consumers.

Within our company sample, 50% of the businesses utilize social media platforms to enhance costumer engagement, 25% utilize CRM, 8% utilize E-commerce platforms, while 17% favors a mixed approach, employing digital newspaper and answering to online reviews.

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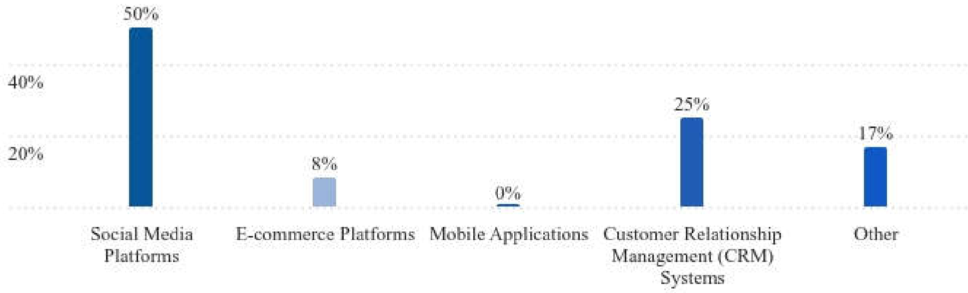


**Figure 7.** Main digital platforms utilized to enhance customer engagement.

The rest of the stratification between small and big companies is rather balanced when considering the approach to customer engagement. 50% of the businesses with more than 100 employees in our sample have registered a mixed approach to customer engagement, with a special focus on digital newspapers.

Despite the wide use of social media and CRM systems, our findings revealed a less prominent use of e-commerce and newer technologies like AI among small business, pointing to potential innovation areas within this framework. This tells us that while business select digital tools aligning with their needs and customer engagement preferences, there is room for further and rounder integration of digital platforms to fully realize the benefits of platformization.

The survey also indicates that business update their social media strategies quite frequently (see Figure 8), with 42% of businesses doing so quarterly, highlighting the intrinsically dynamic nature of social media. This contrasts to the annual adjustment of CRM systems adoption, suggesting that the allocation of resources in social media communication leads to more dynamic and engaging strategies.

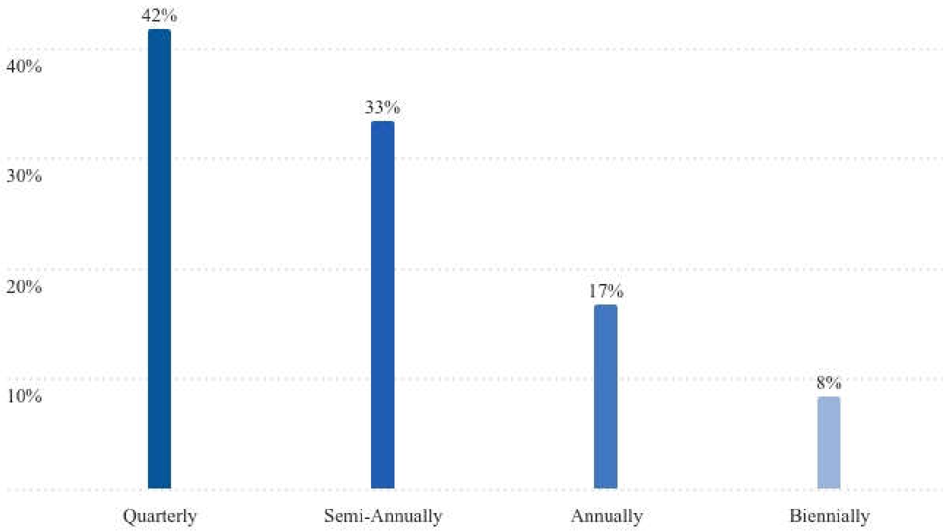


**Figure 8.** Adaption frequency of the business-owned digital platforms.

Notably, 75% of our surveyed start-ups with less than 10 employees tend to update their platform on a quarterly basis, proving a higher use of social media in smaller and younger companies.

Expanding on the dynamic nature of online marketing strategies, we explored how businesses increased engagement (see Figure 9). Overall, our sample drove up engagement with their company through open website access (50%), closely followed by active participation on active blogs or feedback spaces (33%), and finally, through mobile application usage (17%).

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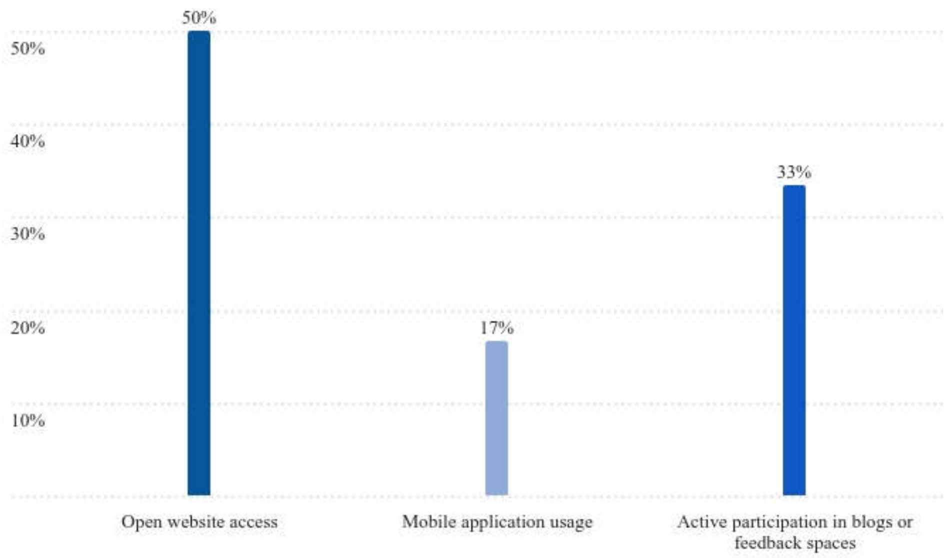


**Figure 9.** Consumer interaction with our sample.

25% of small businesses found their consumers to primarily engage with them through active participation in different digital environments, such as blogs or feedback spaces. These tools represent the primary method of customer engagement only for 2% of big companies. When larger businesses invest in digital engagement, this is mainly addressed to apps developed by their brand, and this happens for more than 50% of big brands in our sample.

Our research also provides detailed insights into the wide range of methods employed for feedback gathering (see Figure 10), with 33% utilizing online channels, 17% relying on social media interactions, and another 17% utilizing focus groups. Interestingly, 17% of businesses employed a combination of methods, including direct human interactions.

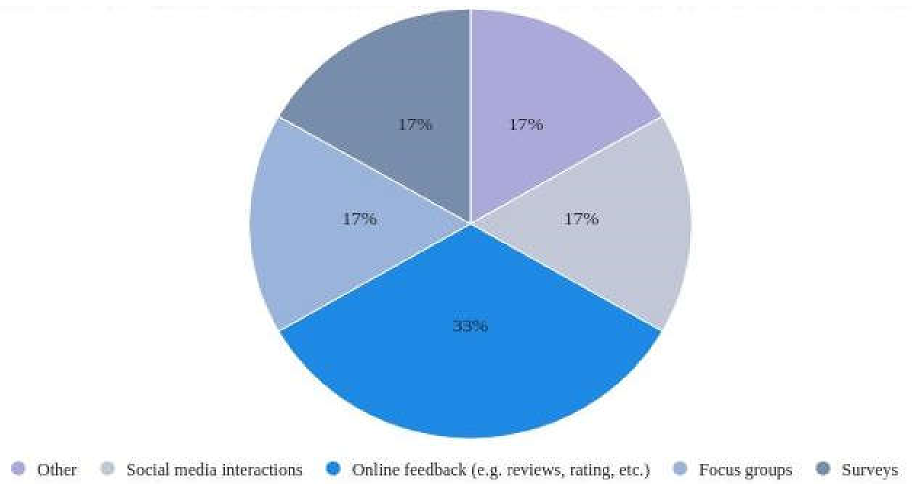


**Figure 10.** Modalities employed by businesses for feedback acquisition.

Our survey also addressed the eco-commitment and sustainability of the businesses under three distinct domains:

- Selection of Organic Ingredients
- Selection of Local and Sustainable Ingredients
- Use of Eco-Friendly Packaging

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Participants rated their practices on a scale ranging from 1, indicating "no commitment," to 5, denoting "high commitment."

Selection of Organic Ingredients

The data revealed a spectrum of commitment levels towards organic ingredient sourcing (see Figure 11). Notably, 58% of businesses exhibited moderate dedication, with the remaining participants dispersed between minimal and full commitment.

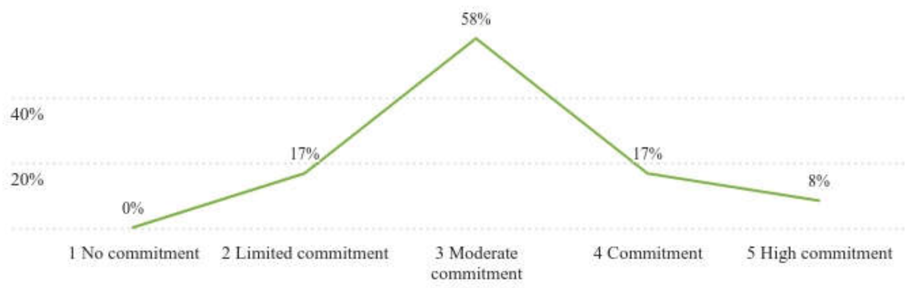


**Figure 11.** Brand commitment to organic ingredient selection.

Selection of Local Ingredients

Our findings indicate a significant inclination towards embracing local and sustainable ingredients (see Figure 12), with the majority of businesses (42% at level 4 commitment) demonstrating a strong preference for these practices.

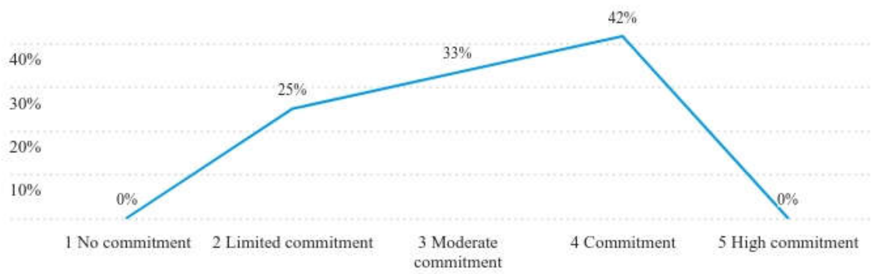


**Figure 12.** Brand commitment to local ingredient selection.

Use of Eco-Friendly Packaging

The trends in eco-friendly packaging mirror those observed in the selection of organic ingredients (see Figure 13).

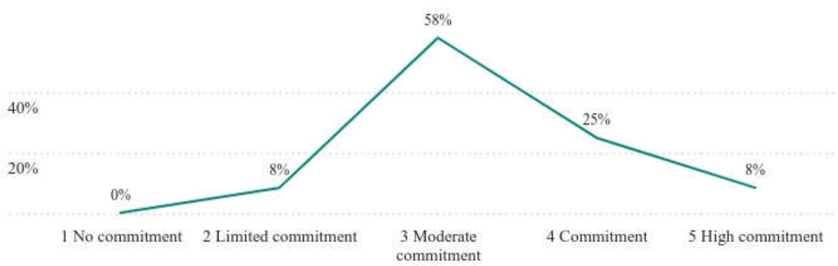


**Figure 13.** Brand commitment to eco-friendly ingredient selection.

Ultimately, more than 58% of brands recognized the importance of their products being perceived as natural and healthy (see Figure 14), showcasing a profound grasp of consumer preferences.

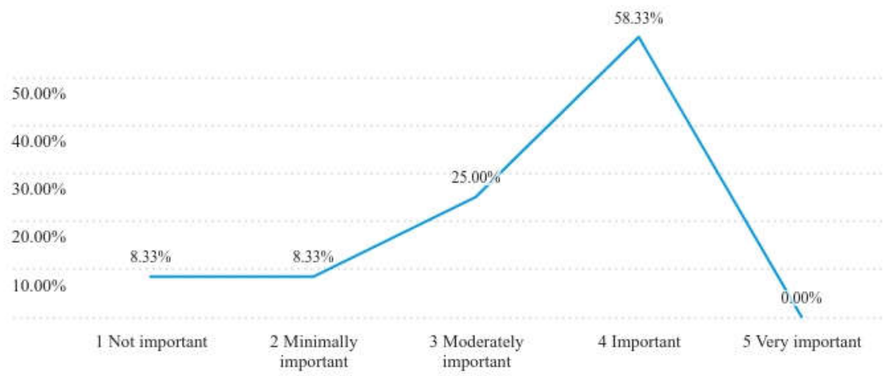


**Figure 14.** Importance of brand perception in regards to natural and healthy attributes.

However, this dynamic shift when examining small versus large brands. Interestingly, we observed that companies with fewer than 50 employees exhibited greater dedication across all three dimensions. Moreover, 25% of smaller companies prioritized this perception, compared to 33% of larger corporations.

Results from the study show that platformization significantly influences strategies of small and large plant-based food companies. Small enterprises, notably, gain from social media and other digital platforms cost-effectiveness that help in their customer relations even when they have few resources. Conversely, larger organizations rely on mixed use of digital platforms like CRM systems and e-commerce solutions to manage their wide consumer base and get varied feedbacks. This demonstrates how well platformization can be tailored for businesses regardless of their sizes, depending on their needs and capabilities.

Both large and small firms enhance their marketing strategies by actively engaging with customer feedback, thereby fostering brand loyalty through a strategic, multi-platform approach. This tactic is increasingly essential given the competitive nature of the vegan food industry.

3.1.2. Focus on Online Review

Our analysis encompassed a total of 27,709 words across 832 reviews. Among the most frequently occurring words, ‘Good’ emerged as the most prevalent, appearing in 29.6% of the reviews, followed by ‘taste’ (25.3%), ‘great’ (24%), and ‘product’ (23.6%). The predominant words are depicted in Figure 15.


**Figure 15.** Illustration of word cloud derived from the analyzed data.

The subsequent step involved examining the associations among the most frequently used words. This was a crucial step in setting up the basis for groping words together with similar meaning later on. To achieve this, we employed the Provalis Wordstat Software, with Figure 16 illustrating link analysis where lines show the strongest connections between the words.

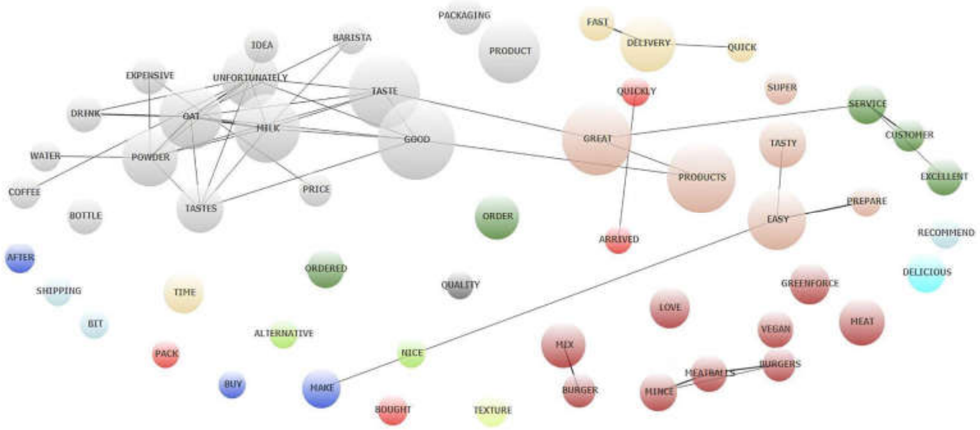


**Figure 16.** Interconnections among the most frequently used words.

For each of the main words displayed above, we found other similar words within the review corpus. For example, the main word ‘Good’ was very similar to adjectives like ‘Great’ or ‘Bad,’ used to describe food or experiences. Thus, we manually included these similarities and grouped them with the most frequently used words, organizing them within a coding system.

The classification scheme was divided into two main categories: “Food” and “Service,” depending on the focus of each review. The “Food” category was further delineated into four sub-categories. The first sub-category, “**Food Use**,” encompassed parts of reviews describing or suggesting methods for cooking, consuming, or storing food. For instance, a review stating, “*To make an oat drink from this powder, I needed three times the specified amount…*,” exemplifies this “Food-use” sub-category. Notably, within a single review, multiple codes could intersect, as observed in the review: “*300 grams of powder (vanilla) - yields just 2.5 liters of vanilla - tastes too bland and very watery to me - good in a pinch but otherwise I’ll stick to my soy milk.*” This review is informative, providing both practical information and personal taste preferences, thereby warranting coding under both the “Food Use” and “Food Taste” sub-categories.

The “**Food Taste**” sub-category encapsulated reviews expressing personal opinions on the taste of the product. The third sub-category, “**Food Quality**,” specifically included references to the product’s actual quality, beyond mere taste descriptions, e.g., “*…the product is sustainable, practical and super tasty. The berry shake is also delicious and both products are really easy to mix*.” Lastly, the “**Food Packaging**” sub-category pertained to comments on the packaging, such as “*…has arrived super packaged. I think the products themselves are really innovative, high quality and simply grea*t.”

In terms of service-related feedback, codes were divided into “**Service Communication**,” referring to the business’s responses to customers. The “**Service Speed**” code addressed delivery times, such as in the feedback: “*Delivery to Switzerland took a long 2 weeks*.” Subsequently, this analysis will quantify the prevalence of these codes within the entirety of the review corpus, providing insights into their significance across the collected reviews.

**Table 1.** Percentage distribution of codes within the review corpus.

| Code | % Cases |
|---|---|
| Food Use | 62,9% |

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| | |
|---|---|
| Food Taste | 41,3% |
| Food Quality | 34% |
| Food Packaging | 13,8% |
| Service Speed | 34,9% |

Lastly, we aimed to explore the correlations among these codes (see Figure 17). As previously discussed, these codes may intricately interact with each other, encouraging an investigation into their co-occurrences. Co-occurrence in this context means that two codes are mentioned together within the same or adjacent sentences in a review. This kind of analysis is useful for understanding the relationship between different aspects of customer feedback. To achieve this, we utilized Jaccard's coefficient ("Jaccard's coefficient is a statistical measure used in this context to quantify the similarity and diversity of sample sets. It is calculated by dividing the number of observations where both codes occur by the union of the number of times each code occurs separately and together. The coefficient ranges from 0 to 1, where 0 indicates no co-occurrence and 1 indicates that the codes always occur together" [56].) of occurrences. The "Response" code will be analyzed separately since it was not included in the primary review corpus.

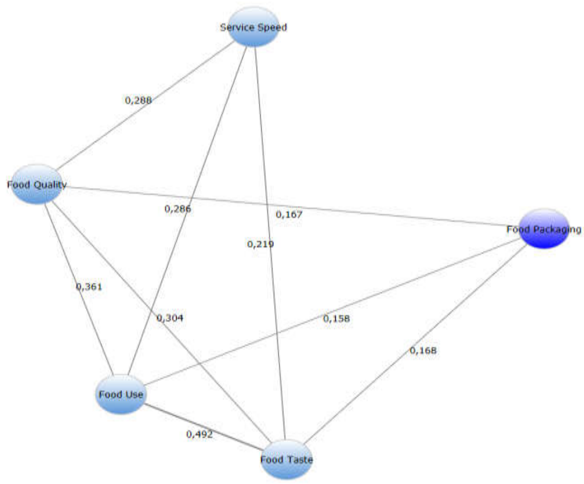


**Figure 17.** Co-occurrence analysis.

In the context of Jaccard's coefficient, we can interpret the values as follows:
0.0 to 0.3 indicates low similarity
0.3 to 0.6 indicates moderate similarity
0.6 to 1.0 indicates high similarity

Food taste had the highest similarity with food use. Food quality showed moderate similarity with both food taste and food use. Connections with service speed exhibited low similarity. Food packaging was an outlier, as it did not show significant similarity with any other codes.

## 4. Discussion

To begin our discussion, we will contextualize the findings from the interviewed brands within the broader framework of platformization and its implications for the plant-based industry. Following this, we will analyze the key themes that emerged from the consumer reviews, using them to extend on our overall analysis. Finally, we will identify the shared values between the perspectives of the brands and the feedback from consumers.

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Although our sample size is relatively small, consisting of 12 businesses focused exclusively on companies producing plant-based food and primarily operating in Berlin, Germany, it offers valuable insights into the platformization strategies employed by these businesses. Our sample is evenly divided in terms of company size: half have fewer than 50 employees, while the other half have 50 or more. Specifically, 33% of the businesses have between one and ten workers, 17% have between eleven and fifty, another 17% have between fifty and one hundred, and 33% have over one hundred employees.

Primary interest points include how startups and small companies were founded independently. As the age of founders and size of companies grew, so did the method of foundation, such as sub-brand growth within an existing company, foundation through an accelerator, or extension of an existing brand into vegan products. Younger CEOs were found to be in charge of small companies founded independently, with 25% founded by women. Conversely, as the CEOs' ages increased, the percentage of women decreased, with older CEOs governing established giants in the market, typically founded by sub-brands or as an extension of existing brands into plant-based. This finding aligns somewhat with Germany's gender equality index, particularly in the power dimension, which refers to the "Share of members of boards in largest quoted companies, supervisory board or board of directors (%)" [57]. Specifically, men score an average of 63%, while women score 37%, indicating a slight deviation from the European average.

The primary ways of engagement were also consistent with the primary ways brands engage with their audience. Literature shows that about 75% of businesses with less than 50 employees use social media as a fundamental means to engage and sell [58]. This is consistent with our findings, where smaller companies heavily rely on social media for consumer interaction, while larger companies show a more diversified approach, including the use of CRM systems and other platforms. Our small sample confirms this trend, showing exactly 75% of the reached startups using platforms precisely for this reason. Overall, social media and CRM were the primary ways to enhance customer engagement for both big and small companies. The survey indicates that businesses update their social media strategies quite frequently, with 42% doing so quarterly, highlighting the intrinsically dynamic nature of social media. In fact, social media plans and strategies have to be constantly changed and retaught [59], especially online, where trends change at the fastest pace ever [60]. This contrasts with the annual adjustment of CRM systems adoption, suggesting that the allocation of resources in social media communication leads to more dynamic and engaging strategies. Although CRM systems are widely accredited to enhance customer satisfaction and operational efficiency, proving the importance of data management and automation in the platformization process [61,62].

These systems help businesses understand consumer behaviors, ultimately facilitating personalized marketing and improved customer service—key elements in building a well-rounded platformized brand.

Despite the wide use of social media and CRM systems, our findings revealed a less prominent use of e-commerce and newer technologies like AI among small businesses, pointing to potential innovation areas within this framework. This indicates that while businesses select digital tools aligning with their needs and customer engagement preferences, there is room for further integration of digital platforms to fully realize the benefits of platformization.

Our sample drove up engagement with their company through open website access (50%), closely followed by active participation on blogs or feedback spaces (33%), and finally, through mobile application usage (17%).

Twenty-five percent of small businesses found their consumers primarily engage with them through active participation in different digital environments, such as blogs or feedback spaces. These tools represent the primary method of customer engagement for only 2% of big companies. Thus, when larger businesses invested in digital engagement, it was mainly addressed through apps developed by their brand, happening for more than 50% of big brands in our sample.

The limited or different investment in platformization by big brands can be attributed to various reasons. Bigger businesses tend to have larger budgets for online advertising, which could place their site at the top of Google search results (see Open website access in Figure 8), making it easier for

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consumers to find and interact with them. Additionally, the development of an app might be an expense and require an amount of effort that only big businesses are able to justify. For a small startup, all of this would be hard to implement, as well as keeping these tools updated and marketed correctly. This also explains why, especially for small businesses, blogs and feedback platforms represent essential tools, not only to gather feedback on their products but also to observe how their consumers interact with each other and their main interests.

When measuring brand sentiments across various dimensions—such as the use of organic and local ingredients and environmentally friendly packaging—small businesses were found to be more invested in these practices than larger brands.

Although traditional marketing practices were not the primary focus of this study, understanding the differences between small and large businesses was essential to identify key challenges faced by plant-based brands, laying the groundwork for future research. In summary, small businesses tended to prioritize interactive content creation, investment in events and trade shows, and collaborations with professional chefs. In contrast, larger organizations concentrated on community development programs, which typically required significant budget allocations and dedicated teams.

Research by Kaplan and Haenlein [63], suggests that platforms can significantly influence how interactions are managed, giving large brands an advantage in this area. With their larger budgets, big brands can create tailored platforms, such as apps or proprietary websites, where discussions can be centralized [23]. This also makes it easier for them to pull data from private channels, allowing for more efficient analysis and targeted marketing. Smaller brands, lacking the budget to develop their own online environments, often utilize existing platforms like Trustpilot, Yelp, and TripAdvisor, and collaborate with chefs to integrate themselves into the plant-based community. Building trust within this community is particularly challenging [64] as plant-based consumers often prioritize values such as environmental sustainability and animal welfare [65]. These values were reflected in our consumer review data, particularly in discussions about packaging and ethical consumption.

For small brands in Berlin, establishing a customer base was crucial for entering and selling their products in large-scale physical markets. To achieve this, small brands collaborated with chefs, providing them with products, educating them on their usage, and thereby reaching a broader audience. This strategy helped familiarize consumers with their products and built a foundation for further market penetration. Additionally, the replicability of plant-based foods for home consumption emerged as a critical value in our data, a point we will explore further in the review portion of this study.

Once small brands and startups established a presence in restaurants, larger companies and resellers often took an interest in their products, leading to broader distribution. This strategy underscores the importance of community engagement and grassroots marketing for small brands aiming to scale up in the competitive plant-based market.

Big companies also face challenges in staying relevant, requiring constant research and product innovation. Their larger consumer base allows for greater control over proprietary platforms, where feedback can be more easily gathered through apps, post-purchase emails, and promotional offers. Conversely, small brands must focus on building their customer base while trying to gather as much feedback as possible. However, as startups are typically younger, they often exhibit a genuine passion for the plant-based food industry, being part of the community themselves.

In conclusion, while big brands leveraged their resources to create and control their digital platforms, small brands can achieve significant market penetration through strategic collaborations and community involvement. Future research could further explore the nuances of these strategies and their long-term impact on brand success in the plant-based sector. At the core of any successful brand, whether small or large, lies a deep understanding of the consumer. With this in mind, the next step in our analysis involved examining over 800 reviews of plant-based businesses, primarily operating in the Berlin area and included in our sample of surveyed businesses. This analysis aimed to identify key topics on plant-based food and public discussions on various platforms, rather than

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reviewing each business individually. Instead, we focused on a representative sample of reviews to capture the main points of discussion.

We began by identifying the most frequently used words within the dataset. Our analysis encompassed a total of 27,709 words across 832 reviews. Among these, “Good” was the most prevalent term, appearing in 29.6% of the reviews, followed by “taste” (25.3%), “great” (24%), and “product” (23.6%). Figure 15 illustrates the most common words identified in the study.

Next, we analyzed the relationships among these frequently used words. After identifying word groups within the entire corpus (see Figure 16), we developed “codes” to systematically represent their associations, with each code serving as a thematic category. Recurring words were manually assigned to specific codes to ensure precise categorization. The primary codes, or recurring themes, that emerged were:

- Food Use: 62.9%
- Food Taste: 41.3%
- Food Quality: 34%
- Food Packaging: 13.8%
- Service Speed: 34.9%

After establishing these primary themes, we examined their co-occurrence, specifically how these code-words were used within the same sentence. This approach ensured that our analysis did not focus on isolated instances within the written corpus but rather on the broader discourse occurring within the platform. The key connections found were as follows: As depicted in Figure 16, the primary findings are as follows.

Food Use and Food Taste:

- The strong link between Food Use and Food Taste suggests that discussions about how to use a product often coincide with comments on its taste. This relationship indicates that, within the context of online reviews, the practical use of the plant-based food product is intrinsically tied to its sensory evaluation. Consumers not only want to know how to use the product but also what sensory experience to expect when following these suggestions.

Food Use and Food Quality:

- Food Use and Food Quality are also closely linked, potentially because when consumers discuss the use of a plant-based product, they are also considering the inherent quality of the product in that usage. High-quality ingredients often yield a better culinary experience, so users discussing one are likely to mention the other.

Food Quality, Food Use, Food Taste:

- The fact that Food Quality and Food Use have a stronger relationship to each other than to Food Taste may be indicative of a trend where the perceived quality of the food is not just about taste but about the entire experience of using the product, including preparation and consumption.

Service Speed and Food Packaging:

- Service speed and food packaging being outliers suggests they aren’t commonly discussed alongside other factors. This denotes a separation from the food’s quality itself. Speed of service likely relates to the purchasing experience, while packaging is often about logistics and the environment. These outliers hint at how consumers compartmentalize their considerations. While product quality dominates, logistical and service aspects form a separate evaluation.

This is particularly relevant for plant-based food companies operating in innovative sectors, where environmental preservation stands as one of the core values embraced by vegans and consumers adopting a mindful lifestyle. This highlights the need to not only innovate products but also enhance the purchasing experience and adopt sustainable packaging. This dual focus could set them apart in a competitive market, especially as consumers increasingly prioritize caring and sustainable lifestyles.

- Response: In our analysis, we found that 89.4% of the time, businesses engaged with customer reviews, and notably, over 9% of these responses were directed towards negative feedback. This pattern predominantly comprised acknowledgments and expressions of gratitude towards consumers, thereby fostering a sense of connection and demonstrating sincere appreciation for their input. Such interactions significantly enhance the likelihood of repeat patronage. According to a survey involving more than 1,000 participants, 89% expressed a high or moderate inclination to support businesses that consistently address online reviews. Conversely, 57% indicated a low or nonexistent propensity to frequent establishments that neglect to respond to customer feedback [66]. This behavior underscores the commitment of our sample businesses to maintaining a strong consumer relationship, signifying an exceptional level of consumer care. This trend is particularly pronounced within plant-based business sectors, suggesting these enterprises are more attuned to customer concerns compared to traditional brands. This might stem from the core values of care and universalism that are prevalent among vegans and those adhering to vegan diets [40]. Given this context, plant-based businesses may benefit from aligning their consumer engagement strategies with these fundamental values, thereby deepening their connection with customers.

Overall, the closed correlation between Product Use, Taste, and Quality highlights the holistic approach consumers have towards plant-based food products [67].

These insights align with the the premise of our study, suggesting that the modern consumer values an encompassing sensory experience [68]. Consumer feedback is not solely related to the product taste, but rather to the quality and applicability in their daily lives that matter [69-71].

## 5. Conclusions

Big vs. Small: our survey revealed that despite structural differences among companies, such as platformization strategies, market entry approaches, and specific challenges, there is a shared understanding of what plant-based consumers value. These consumers greatly appreciate companies that go beyond merely producing indulgent products; they seek businesses offering high-quality items, ideally made from locally sourced, environmentally respectful ingredients. Although differences were noted in how large and small businesses approach platformization—such as the scale of their digital presence and integration—both types of companies recognize the critical importance of a well-implemented business model. German-founded plant-based brands, ranging from startups to established industry players, demonstrated a strong commitment to engaging with consumer feedback on online platforms, incorporating it into various aspects of their operations. This emphasizes that regardless of size, businesses must effectively leverage digital platforms to engage with consumers and enhance their operations.

While strategies for gaining consumer trust vary between large and small businesses, there is a consensus that plant-based consumption represents a new wave. Innovative brands are expected to first engage the community through chefs who introduce and educate consumers on how to use these often novel products. Continuous education on product usage is essential. For large brands, this can be achieved through major events or community-building efforts, while smaller brands may find it more effective to focus on their online strategies.

Consumer Thematic Discussion: the analysis of over 800 product reviews revealed a strong correlation among dimensions related to food quality, use, and taste, indicating a holistic approach to food consumption facilitated by online platforms. This looped-like relationship between brands and consumers offers valuable insights into an evolving industry, with the potential to redefine standards in brand-consumer interactions. Consumers, acting as community contributors, provide feedback on lifestyle-aligned products, while brands affirm consumer identity through value-aligned offerings, positioning themselves as community stakeholders and offering growth incentives for the community.

As consumer expectations evolve beyond taste and hedonistic values, companies should focus on empathizing with their consumers by emphasizing the versatility and quality of their products. This approach addresses diverse consumption needs and aligns with the growing preference for healthier and more sustainable lifestyles. Our research has shown that plant-based food brands possess a deep understanding of their audience's values and expectations.

In this context, the strategic use of digital platforms becomes indispensable. These platforms enable brands to foster a dynamic relationship with consumers, moving beyond simple product exchanges to a co-creative process that supports shared lifestyles and values. For brands advocating sustainable eating, such as those analyzed in this study, digital environments are crucial for enhancing engagement and driving innovation. This curated use of digital platforms not only aligns with consumer expectations but also establishes a new form of brand value co-creation, paving the way for meaningful connections and sustainable innovation.

### *5.1. Study Limitations and Future Opportunites*

To achieve a thorough understanding of consumer behavior, it is essential to use an in-depth profiling approach that considers factors such as gender, interests, age, and location. Research [72, 73] underscores the significant impact of age on review patterns, indicating that incorporating this demographic data could enhance the value of future studies.

Expanding the distribution of questionnaires to a broader range of businesses would enhance the statistical relevance of the data collected. Additionally, a comparative analysis between traditional companies and those in the plant-based sector would provide valuable insights into differing strategies and consumer preferences within these industries. Furthermore, conducting a cross-cultural study comparing various markets and cities would offer a more comprehensive understanding of how consumer behavior varies across diverse cultural contexts.

Although our research has utilized sample reviews to identify key topics and interests among plant-based consumers, a more comprehensive approach would involve gathering specific data directly from the brands analyzed. This could be achieved through collaboration with the brands to collect their own internal reviews. Conducting research following pre-interviews with these businesses could provide valuable insights. Additionally, examining how brands implement consumer feedback post-analysis would offer a deeper understanding of the entire feedback process. This could be approached as a study encompassing pre-analysis, during-analysis, and post-analysis phases, thereby allowing for a detailed exploration of platform strategies and their potential impact.

While the rise of online reviews has empowered consumers with more information for their purchasing decisions, it has also introduced new challenges related to review credibility. Fraudulent practices, such as brands paying for fake reviews, have been a concern. Future research could address this by employing a control group of non-vegans to compare the holistic tendencies of plant-based consumption. As platforms work to verify reviews, future studies might benefit from using controlled opinions and addressing the "non-survivability of data" challenge due to the scale of such research.

The manual coding of thematic codes in this study introduces potential for human error and subjectivity. With the rapid advancement of AI and machine learning technologies in 2024, future research could achieve more standardized results through automated coding and analysis.

**Author Contributions:** Gino Gabriel Bonetti: Conceptualization, Methodology, Data Curation, Writing – Original Draft Preparation; Chelsea van Hooven: Investigation, Writing – Review & Editing, Formal Analysis; Maria Giovanna Onorati: Supervision, Project Administration, Funding Acquisition

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