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Sustainability in Italian Dining: A Comparative Study of Perceptions in Full-Service Restaurants and Agritourism

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ABSTRACT

This study explores how sustainability is perceived and prioritized by consumers within full-service restaurants and rural agritourism settings in Italy, examining the socio-cultural and economic role of the HoReCa sector in promoting sustainable practices and analyzing gender and generational differences in consumer behavior. The research, based on a questionnaire, investigates whether full-service and rural dining formats are evaluated similarly regarding sustainable practices, analyzing consumer preferences, activities, and sustainability practices across different restaurant typologies while examining the relationship between stated sustainability values and willingness to pay price premiums. The analysis shows differences in sustainability perceptions, with consumer preferences closely tied to restaurant typology rather than solely demographic characteristics. A complex relationship emerges between stated sustainability values and actual willingness to pay, particularly among Generation Z consumers where convenience may override sustainability preferences. Moreover, geographical considerations and physical accessibility also emerge as critical factors influencing consumer choices. Finally, this study contributes to the broader discourse on sustainable consumer behavior by demonstrating that sustainability perceptions are fundamentally linked to restaurant typology rather than consumer characteristics, challenging prevailing assumptions about gender-based differences in sustainability preferences and highlighting the need for expanded theoretical models that better incorporate situational factors and the attitude-behavior gap in dining contexts.

1 | Introduction

The HoReCa sector, encompassing Hotels, Restaurants, and Cafés, plays a pivotal role in advancing sustainability due to its direct link between food production and final consumption. Embracing sustainable practices in this industry can lead not only to improved product quality, reduction in food waste, and enhanced energy efficiency, but also contributes significantly to broader environmental goals. In the rural HoReCa sector, sustainability represents a multidimensional contribution to public welfare. Environmentally responsible practices reduce ecological externalities and associated public expenditures, while healthier food environments mitigate long-term health and welfare costs. By supporting local supply chains and

enhancing rural economic resilience, sustainable restaurants create positive spillovers that extend far beyond the enterprise itself. Framing rural restaurant sustainability within this broader socio-economic perspective provides a more comprehensive understanding of its relevance for policy makers, communities, and the rural economy.

Recent research highlights how consumer awareness regarding environmental and social impacts is growing rapidly, influencing food service businesses to adapt accordingly (Estrada et al. 2023). Consumers are becoming more aware of the environmental and social impacts of their consumption choices (Gazzola et al. 2022), and this awareness is reshaping market expectations. Companies that integrate sustainability into their

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operations not only benefit from reputational gains and consumer loyalty, but also from cost reductions through renewable energy use and more efficient resource management (Grillini et al. 2025). These strategies reflect the increasing emphasis on sustainability from both consumers and businesses, signaling a broader shift in economic and social paradigms (Gazzola et al. 2023). From a social perspective, the food service sector also plays a critical role in fostering well-being, as the quality of life is closely connected to food quality and social interaction (Grechi et al. 2024). In this context, rural tourism and agritourism have gained traction as a resilient and sustainable alternative to mass tourism. They present valuable opportunities to integrate sustainability with local culture and cuisine and contribute to sustainability by

- supporting local agriculture and reducing emissions from long-distance food transportation;
- helping preserve ecosystems and traditional agricultural knowledge (Streifeneder et al. 2023);
- stimulating rural economies through job creation and the promotion of regional products (Yang 2012)

While extensive literature exists on consumer preferences for fast food, full-service restaurants, and agritourism-related activities, a clear gap remains in understanding the differences in consumer perception between rural restaurants and full-service ones. In this context, the present study aims to investigate the perceptions, values, and sustainable practices associated with full-service and rural dining experiences from the consumer's point of view. Limited-service restaurants such as Fast-food and Quick-Service Cafè are excluded from the study. This research contributes to the growing body of knowledge on sustainability in hospitality by focusing on how consumers evaluate sustainability in different restaurant settings across Italy.

Building on previous work (Yang and Luo 2021), the study explores the following:

1. whether consumers perceive rural dining establishments as more sustainable than full-service restaurants;
2. the degree to which consumers are willing to pay a premium for sustainable dining experiences;
3. the influence of geographic proximity to urban centers on consumer choices;
4. differences in attitudes across gender and generational cohorts, with a particular focus on Generation Z.

To address these objectives, the study employs a quantitative methodology based on data collected through a structured questionnaire. The findings offer insights into how sustainability is valued by different demographic groups, and how such perceptions might inform policy and business strategy in the restaurant and agritourism sectors. Finally, this research also aims to inform international tourism strategies, especially in countries where rural restaurants are underdeveloped, highlighting their potential as drivers of sustainable tourism development. The paper is organized as follows: Section 2 outlines the theoretical framework, focusing on the concept of agritourism, sustainable

practices in both full-service and rural dining contexts, and sustainable consumer behavior in dining experience, with a special focus on Generation Z; Section 3 presents the research hypothesis; Section 4 concerns the questionnaire and the methodology; Section 5 explains the results; Section 6 discusses the results and the conclusions; and on Section 7, it is possible to have an overview of limitations and future developments.

2 | Theoretical Framework

From a general standpoint, sustainability is understood as a “desired state,” a set of conditions that endure over time (Maclaren 1996). In contrast, sustainable development refers to the *process* by which an organization, region, or sector strives to achieve those conditions. As classically defined by the Brundtland (1987), sustainable development is: “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” As Jones et al. (2016) note, sustainable development in the hospitality industry entails the implementation of strategic, long-term actions that aim to reduce environmental impact while maintaining high service quality and responding to evolving consumer expectations. Within businesses, sustainable development becomes the practical strategy by which sustainability objectives are implemented (Freeman 2011). Focusing on the foodservice sector, the HoReCa industry (Hotels, Restaurants, and Cafés) is particularly relevant in the Italian agri-food system. It plays a central role in promoting territorial identity, enhancing local food products, and acting as a direct link between producers and consumers (Belletti and Marescotti 2020). Despite this potential, the HoReCa sector in Italy is still largely characterized by linear operational models (Donegani et al. 2011), resulting in inefficient resource use—particularly evident in food waste, which contributes to 14% of the sector's environmental impact. To understand the magnitude of the environmental impact of the restaurant sector, it is useful to compare it with other industries: a single Italian restaurant emits more than 110 t of CO₂ equivalents per year, a level comparable to that of a small company fleet and higher than the average emissions of agricultural enterprises (40,000–60,000 kg CO₂e/year), and grocery stores/food retail (30,000–50,000 kg CO₂e/year) (FIPE 2017). A medium-sized hotel (40–60 rooms) produces 250,000–300,000 kg of CO₂e per year, but it is a much larger structure (Becken and Patterson 2006; UNEP 2012). The restaurant sector generates substantially more food waste per customer—two to four times higher than hotels (FIPE 2017)—which explains its disproportionately high emission intensity. From an economic perspective, such inefficiencies significantly impact profitability. The food service industry is one of the sectors most vulnerable to resource inefficiency: water, electricity, and food inputs represent at least 25% of operating costs for restaurants, 10%–15% for supermarkets, 12%–18% for the Food Industry. Moreover, restaurants tend to incur losses at a rate two to three times higher than many other industries: Restaurant (5%), Food Retail (1%–2%), Industry (2%–3%), and Professional Services (0.5–1%) (Di Pierro et al. 2023).

Italian restaurants are not an outlier; in fact, they reflect broader European trends in emissions and inefficiency.

Northern European countries tend to perform better due to stricter regulations and digital monitoring, while Southern Europe (including Italy, Spain, Greece) shows higher emission intensity and food waste. A recent review found that in Europe, the food service sector accounts for 18% of the global food-related carbon footprint, with commercial kitchens emitting 2–5 times more CO₂e than other food-related operations. In the UK, average restaurant emissions range between 80–120t CO₂e/year, depending on size and energy sources. In Germany, similar-sized establishments report 90–130t CO₂e/year, with higher values in meat-heavy menus and older buildings. French and Spanish restaurants tend to have slightly lower emissions (70–100t CO₂e/year) due to better energy efficiency and more plant-based menu options in urban areas (Yang et al. 2025). Concerning food waste, across Europe, restaurants generate two to four times more food waste per customer than hotels, consistent with Italian data. This is due to overproduction, portion sizes, and lack of standardized inventory systems. In countries like Sweden and the Netherlands, stricter food waste regulations and digital tracking systems have reduced waste intensity by up to 30% compared to Southern Europe (Camilleri 2025). European restaurants typically spend 20%–30% of their operating budget on water, energy, and food inputs, like Italy's 25% benchmark. Loss rates in restaurants across Europe range from 4%–6%, compared to 1%–3% in retail and industrial sectors (Yang et al. 2025), confirming the Italian trend of higher vulnerability. The restaurant sector is therefore one of the areas where environmental and economic inefficiencies most significantly overlap, making sustainability a strategic lever for competitiveness, public health, and the reduction of social costs.

At the same time, consumers are increasingly environmentally aware. As shown by Iraldo et al. (2017), customers are not only willing to engage in environmental actions but also actively suggest ways for businesses to improve their ecological performance. This trend aligns with sector-specific definitions of sustainability. According to Kim and Hall (2020) *sustainability in restaurants refers to the integration of environmental, social, and economic practices that reduce negative impacts while maintaining service quality and customer satisfaction*. Similarly, Ecole Ducasse (2025) provides a concrete and operational definition of a sustainable restaurant, emphasizing a conscious commitment to minimizing environmental impact, supporting local communities, and promoting social responsibility. Despite the lack of a universal definition, literature converges on the need for a holistic sustainability approach—one that balances environmental, social, and economic goals (Di Pierro et al. 2023). Moreover, several studies emphasize the impact of sustainable practices on consumer behavior. Gruia et al. (2021), Filimonau et al. (2022), and Tehrani et al. (2020) underscore the significant environmental footprint of food service operations, including water and energy consumption, waste generation, and carbon emissions. Yet, much of the existing research tends to focus on operational sustainability rather than consumer perception and response (Kim and Hall 2020). Environmental values and sensitivity are emerging as important behavioral determinants (Singh et al. 2022), but research comparing rural and full-service restaurants from this perspective remains limited. In the agritourism domain, sustainability is often tied to local food, environmental awareness, and regional development—but

urban consumers may perceive these attributes differently depending on context (Streifeneder et al. 2023; Grillini et al. 2025). Ultimately, sustainability in the restaurant sector should not be reduced to a marketing trend, but understood as a complex, multidimensional process involving business models, customer values, and local ecosystems.

2.1 | Agritourism and Sustainability

Building on the conceptual foundations previously outlined, agritourism emerges as a significant and growing model of sustainable hospitality. According to ISTAT (February 2025), there were 26,129 active agritourism businesses in Italy in 2023, reflecting a 1.1% increase from 2022 and nearly double the number reported in 2004. The sector generated a total production value of €1.5 billion, with a growth of 15.4% over the previous year. Approximately 13,000 establishments (about 50%) offer restaurant services, which experienced a 0.8% growth from 2022. Notably, tasting services saw a 3.8% increase, highlighting a diversification of offerings beyond traditional accommodation. In 2023, 49.6% of agritourism businesses also provided additional experiential services such as horseback riding, hiking, educational workshops, nature observation, and mountain biking. These activities enhance the cultural and recreational value of agritourism, contributing to its growing appeal as a multifunctional, sustainability-oriented model in the broader hospitality landscape. Finally, the number of agritourists reached 4.5 million in 2023, marking an 11% increase compared to 2022. There is no universally accepted definition of agritourism. The concept encompasses a wide range of characteristics and dimensions, making it difficult to find consensus in the literature. Phillip et al. (2010) try to analyze the definitions of agritourism and to identify main features. Main differences across the definitions relate to the link with the agricultural activity, the presence of a working farm and the authenticity of the experience. According to Grillini et al. (2025, 113) “Agritourism (or farm tourism) encompasses tourism activities in rural settings that engage visitors with agricultural operations and activities.” Similarly, international organizations such as The National Agricultural Law Center (2025) define agritourism as follows: “*a form of commercial, recreational, or educational enterprises that link agricultural production and/or processing with tourism to attract visitors onto a farm, ranch, or other agricultural business for the purposes of entertaining and/or educating the visitors while generating income for the farm, ranch, or business owner.*” Other scholars emphasize the opportunity offered by agritourism to diversify incomes for the farm (Streifeneder 2016; Chiodo et al. 2019). More recently, tourists have increasingly sought a connection with nature, local cultures, and communities (Palmi and Lezzi 2020), as well as authentic experiences (Martinus et al. 2024). Italy was selected as the country of analysis for several reasons. It represents one of the first contexts to establish a specific regulatory framework for agritourism and rural restaurants, with Law 96/2006 providing clear legal definitions and quality standards. Moreover, Italy has a long-standing tradition in agritourism, with a well-developed and internationally recognized system. The availability of respondents familiar with both full-service and rural restaurants further supported this choice, as did the clear distinction between the two categories. It aims to integrate farming with tourism, optimizing economic returns

while generating positive externalities for local communities (Belletti 2010). These definitions underscore the hybrid nature of agritourism, blending rural hospitality, agricultural practices, and experiential tourism. It is increasingly seen as a key tool for diversifying farm income, enhancing community engagement, and promoting territorial sustainability (Tew and Barbieri 2012). According to Giaccio et al. (2015) and Mastronardi et al. (2015), the agritourism industry serves as a synthesis between full-service catering services and the multidimensional principles of sustainability: environmental, economic, and social. “Agritourism and rural restaurant activities align with the principles of environmental sustainability” (Mastronardi and Cipollina 2009; Hu et al. 2010). Over the past two decades, agritourism has gained significant traction, particularly among urban populations seeking authentic, nature-based experiences. It strengthens the link between agriculture and tourism, especially in terms of resource sharing and localized supply chains (Ammirato et al. 2020). From an environmental standpoint, agritourism helps mitigate the impact of long-distance food transport by promoting short food supply chains, sustainable land use, and the preservation of natural resources. According to Giaccio et al. (2015), agritourism operations tend to reach a Pareto-efficient equilibrium, producing lower pollution levels compared to conventional farms without tourism components. Supporting this, Mastronardi and Giaccio (2011) present empirical data showing that agritourism products are often of higher quality, particularly due to reduced use of chemical fertilizers and pesticides. Economically, it stimulates local development, generates employment, and supports the market for regional agricultural products. As Garau (2015) notes, this model can significantly improve rural livelihoods and stimulate the export of traditional products through tourist exposure. Agritourism enterprises frequently adopt organic or environmentally sustainable agricultural practices and actively promote local cultural heritage and responsible tourism (LaPan and Barbieri 2014). However, while agritourism offers many benefits, it also poses certain challenges. One notable concern is the competition for time and resources between traditional farming and agritourism activities. This is particularly problematic for small, family-run farms, where limited physical space and labor capacity can hinder the ability to balance both business models (Pehin Dato Musa and Chin 2022).

2.2 | Rural Versus Full-Service Restaurants in the Context of Sustainability

In this context, the focus of this study is the concept of rural restaurants, specifically as they exist within agritourism establishments. These dining venues offer an alternative to full-service conventional restaurants by providing a gastronomic experience embedded in a broader sustainable and territorial context. Full-service restaurants are typically located in urban or peri-urban areas and center primarily on the culinary experience itself. They often feature diverse menus, drawing on a range of international or regional influences, and are designed to cater to a wide spectrum of clientele (Lepkowska-White 2017; Walker 2021). Main features of full-service restaurants include menu consistency, specialization, and an emphasis on service efficiency and turnover. Although some incorporate local products, they are generally less integrated into the agricultural landscape (Muller 1999; Gheribi 2017). The business model of

full-service restaurants also prioritizes profit maximization and table turnover, with a strong focus on operational efficiency. In contrast, agritourism restaurants, that are a key subset of rural restaurants, are deeply tied to their territorial identity and agricultural roots. The menu is often a direct expression of the surrounding land and community, composed of fresh, seasonal ingredients largely produced onsite or sourced from nearby farms (Mahalyanaarachchi 2015). Dishes reflect local culinary heritage, and offerings change with the seasons, highlighting traditional recipes and regional specialties (Leonte et al. 2016). The ambience in agritourism restaurants typically evokes rustic charm and simplicity, often featuring natural materials like wood and stone, and embracing the esthetic of the rural landscape. A defining element is the direct connection between guests and food producers. Visitors may have opportunities to interact with farmers, observe or even participate in food production processes such as harvesting, and gain a deeper understanding of where their food comes from (Che 2008; Brune et al. 2021). This not only enhances perceived authenticity but reinforces the sustainability values discussed in the theoretical framework. From a culinary standpoint, agritourism venues often specialize in a narrow range of regional products with high cultural and symbolic value, thereby supporting both local economies and agricultural biodiversity. In contrast, full-service restaurants typically emphasize diversity of choice, appealing to a broader customer base by offering refined, multicultural cuisine (Fanelli 2022; Morales-Zamorano et al. 2020; Domi and Belletti 2022). In terms of consumer choice, the selection between the two models often depends on personal preferences and the type of experience sought. Agritourism restaurants offer an immersive, rural experience that emphasizes authenticity, sustainability, and community. In contrast, full-service restaurants are associated with convenience, variety, and urban sophistication (Suhartanto et al. 2020). Looking forward, both models play a complementary role in the evolving hospitality landscape. Full-service restaurants are expected to continue adapting to global culinary trends and sustainability demands, while agritourism restaurants are increasingly valued for offering a holistic, place-based experience rooted in local culture and environmental stewardship (Barbieri 2020; Palmi and Lezzi 2020). From a business perspective, the two models also differ significantly. Agritourism and rural restaurants often do not operate solely as foodservice providers, but as multifunctional enterprises that integrate accommodation, experiential tourism, and direct sales of agricultural goods (Mahalyanaarachchi 2015; Morales-Zamorano et al. 2020). Their economic model thus relies on a combination of revenue streams—dining, lodging, farm visits, tastings, and on-site product purchases. Importantly, in Italy, agritourism restaurants must comply with specific legal requirements, including sourcing a minimum percentage of ingredients from their own production or from nearby local suppliers (see Legge 20 febbraio 2006, n. 96). Full-service restaurants, by contrast, face no such restrictions regarding ingredient provenance, allowing for greater flexibility but less territorial embeddedness. Despite these differences, both models share a common emphasis on food quality. Whether rustic or refined, the freshness and authenticity of ingredients remain central to the dining experience (Walker 2021). Likewise, high service standards are essential in both settings, as customers consistently seek not only good food but also attentive, personalized care (Almohaimmed 2017).

2.3 | Consumer Behavior in the Restaurant Sector

Consumer behavior plays a crucial role across all types of businesses, shaped by a complex interplay of social interactions, economic decisions, and psychological processes (Gatersleben et al. 2002). In the context of restaurants, understanding consumer behavior requires an examination not only of observable actions—such as visiting or selecting a dining venue—but also of the internal motivations and mental processes that drive these decisions. This behavior is influenced by both internal and external factors. Internal influences include personal preferences, health consciousness, prior culinary experiences, and sensory expectations. External drivers, meanwhile, involve family dynamics, peer influence, cultural norms, and broader food trends (Chen and Antonelli 2020; Nestle et al. 1998). As customers perceive greater personal relevance in the dining experience, their engagement deepens. In this regard, agritourism restaurants offer more than just meals: They provide an immersive experience encompassing food, rural activities, and often accommodation. These experiences are designed to foster a stronger emotional and educational connection between the consumer and the territory, allowing guests to engage with the land and learn about the origin and production of the food they consume. This aligns with Blackwell et al. (2006), who argue that consumer involvement is driven by three dimensions: the individual, the establishment, and the situational context. At the individual level, dining experiences can shape self-perception, such as contributing to feelings of health, well-being, or ethical satisfaction. The restaurant itself becomes significant when its identity aligns with consumer values (e.g., authenticity and sustainability). Situational context also plays a defining role; for example, a formal business dinner is experienced differently from a casual lunch with friends. Sustainability in consumption has become a key concern within the tourism and hospitality sectors (Han 2021). Environmentally responsible behavior among tourists refers to the selection of green goods and services that support ecological conservation efforts (Han 2020). In the restaurant sector, consumers show increasing interest in sustainable practices: food quality and the origin of ingredients and production methods, especially in environments that reflect sustainability values (John and Pine 2002; Chaturvedi et al. 2024). Erjavec and Sartorio Mengotti (2011) highlight in Italy a growing consumer preference for sustainable, locally sourced products (often referred to as *Km0*). However, sustainability is not only a determinant of choice but also a broader cultural and social construct within the dining experience. While traditional drivers such as price, taste, and convenience remain central to consumer decision-making, sustainability increasingly shapes perceptions of value and responsibility (Gonzaga 2022; Mou and Rasoolimanesh 2023). From an academic perspective, consumer engagement with sustainable practices in restaurants adds value to the overall dining experience (local sourcing, waste reduction) (Bux and Amicarelli 2025), and for certain consumer groups, sustainable dining reflects ethical commitments and moral responsibility, aligning food choices with broader environmental and social values (Berti et al. 2025). Understanding these perceptions is crucial for evaluating the impact of sustainability in restaurants and for designing interventions that align operational efficiency with consumer expectations. By integrating consumer behavior into the analysis, the study highlights how sustainability is

negotiated at the intersection of individual preferences, group norms, and industry practices (Hael et al. 2024). These perceptions translate into consumer decisions. Level of environmental concern, ecological behaviors and awareness of green restaurant practices are considered key factors that influence a consumer's willingness to choose a restaurant (Hu et al. 2010). Principato et al. (2021) found that waste reduction practices have a central role in shaping customer preferences. Restaurants that adopt environmentally responsible strategies (such as using eco-friendly packaging, managing food waste, and recycling) are more likely to attract informed and sustainability-conscious clients. Although less prioritized, energy efficiency and water conservation are also viewed positively by certain segments of consumers (Madanaguli et al. 2022). Moreover, support for fair labor practices and community-based sourcing enhances a restaurant's ethical appeal. Importantly, Hu et al. (2010) demonstrate that knowledge of a restaurant's sustainable actions can reinforce existing environmental values, encouraging consumers to align their choices with those principles. Supporting this, Wu et al. (2021) found that clearly communicating green initiatives (via menu labels, signs, or informational materials) can positively influence eco-conscious diners. Notably, consumers who identify with environmental values often show a willingness to pay a premium at green restaurants (Namkung and Jang 2017; Nicolau et al. 2020; Degli Esposti et al. 2021). Zare Mehrjerdi and Woods (2024) found that consumers in the restaurant sector have a higher willingness to pay for local food. Finally, Kim et al. (2022) and Namkung and Jang (2007) observe a gender-based difference in sustainable behavior, noting that female consumers are particularly willing to pay more for dining experiences that reflect their ecological and ethical concerns.

2.4 | Generational and Gender Effects in Customers Choice

Previous studies about consumers' restaurant choice found that the behavior of people changes according to income, age, household size, household composition (presence of a young child), urbanization, day of the week, and season (Kim and Geistfeld 2003). Especially, age differences have a strong influence on consumer behavior of choosing a restaurant (Sabbir Rahman 2012; Yang et al. 2022). In the tourism and hospitality sectors, where consumer preferences are increasingly shaped by personal values, recognizing generational differences is vital for effective marketing and service design. According to the Generational Theory (Strauss and Howe 1997), socio-demographic variables, particularly generational affiliation, significantly influence environmental attitudes and behavior (Yeoman and McMahon-Beattie 2018; Kafková 2019). As per Generational Theory (Strauss and Howe 1997), consequently, understanding the behaviors of different generations is increasingly important for businesses seeking to align with evolving consumer values (Haddouche and Salomone 2018). Previous literature found that various generations have a different behavior in food and beverage and dining experience (Harrington et al. 2012) and give different importance to various dimensions during the decision process (Ulu and Polat 2021). Baby Boomers and Generation X give more importance to food variety, nutrition, and organicity than Y and Z generation (Kamenidou et al. 2020) and they are more willing to taste local foods. Elderly

individuals are more enthusiastic about gastronomic activities during tourism than young people (Balderas-Cejudo et al. 2021). Significant differences were found between generations also related to satisfaction, importance ratings, and intention to repeat the experience regarding the overall dining service environment (Taylor and DiPietro 2018). Remarkable intergenerational differences were found also in studying sustainable consumption (Eryiğit et al. 2025). Casalegno et al. (2022) found that age plays a key role in the customers' green choices. Collectivism is considered an antecedent of sustainable purchase behavior for Generation Z. Concerning dining consumption and sustainability, generational cohorts interpret this driver differently. Baby Boomers tend to prioritize quality, tradition, and service; in this field, sustainability is acknowledged but often secondary to taste and comfort. Generation X balances convenience and value, showing moderate interest in sustainability but with pragmatic decision-making. Digital-native behaviors, peer influence, and social media play a central role in shaping their dining decisions. For this reason, Generation Z supports businesses that adopt sustainable practices, incorporating ecological responsibility, social equity, and community involvement. Moreover, Generation Z is more inclined than older generations to pay a premium for eco-friendly products and services (Deloitte 2022).

Recent research highlights that gender also plays a key role in shaping consumer decision-making within the food and beverage sector, influencing preferences, risk perception, ethical orientations, and dining behaviors. Early foundational work demonstrated that gender is not solely a biological attribute but a complex social and psychological construct that significantly affects consumption patterns (Fischer and Arnold 1994). Subsequent analyses confirmed that men and women differ systematically in motivations, information processing, and marketplace behavior (Roy Dholakia 1999). Research shows that women adopt more sustainable consumption behaviors than men (Zelezny et al. 2000). Women prioritize private practices such as home energy saving and material reuse (Bulut et al. 2017). Gender roles shape these differences: women practice sustainability in domestic care, while men are more involved in building (Dahl et al. 2013). A substantial body of literature shows that food choice is one of the consumption domains most strongly differentiated by gender. Women generally exhibit a higher preference for healthy foods, plant-based options, and products associated with weight control and well-being (Wardle et al. 2004). Another important field of investigation concerns ethical and sustainable food consumption, where women consistently score higher in environmental concern, ethical motivations, and responsiveness to sustainability labels. Studies show that women are more likely to choose organic, fair-trade, or low-impact products and display stronger ethical reasoning in food-related decisions (Lindeman and Väänänen 2000). However, research on the effects of gender in perceptions of green practices within the hospitality sector presents inconsistent findings. DiPietro et al. (2013) found that women showed more positive attitudes toward restaurant green practices, increasing their intention to patronize eco-friendly venues. Similarly, Han et al. (2011) revealed that American women were more willing to visit, recommend, and pay more for eco-sustainable hotels. Schubert et al. (2010) confirmed that female consumers were more likely to believe that dining at green restaurants is healthier, viewing environmental donations and footprint reduction as

more important initiatives. According to Ulu and Polat (2021) women give more importance to issues such as the cleanliness of the dining room, the compliance of the restaurant employees with the hygiene rules, the cleanliness of the service equipment, and the appearance of the food. However, no significant gender differences emerged concerning energy reduction, use of biodegradable products, or local food sourcing. Conversely, Kim et al. (2015) found no differences among Korean consumers regarding sustainable foodservice initiatives, and Hu et al. (2010) detected no gender differences in the intention to frequent green restaurants among Taiwanese consumers. In the ethnic restaurant sector, female customers expressed significantly higher satisfaction than male customers across three dimensions: operating hours, service accuracy, and altruism among employees (Ma et al. 2014). These discrepancies may stem from differing cultural values and the specific practices measured. Collectively, this literature demonstrates that gender is a powerful structuring factor in food-related decision-making, influencing not only what consumers choose to eat but also how they evaluate dining contexts, process information, and make trade-offs between health, ethics, price, and experiential attributes. Understanding these differences is therefore essential for scholars and practitioners seeking to explain or strategically influence consumer behavior within the food and beverage sector.

3 | Research Hypothesis

Considering the proposed theoretical framework, three hypotheses were formulated.

As previously mentioned, understanding how consumers perceive different types of dining experiences in terms of sustainability is essential for evaluating the broader impact of hospitality models. In recent years, agritourism restaurants, often located in rural settings and closely tied to agricultural production, have been associated with values such as local sourcing, environmental stewardship, and cultural authenticity. These attributes distinguish them from conventional restaurant models, which may not always prioritize sustainability in the same holistic manner. Moreover, this study seeks to determine whether the perceived sustainability of agritourism stems solely from its institutional classification, or if it is also meaningfully acknowledged by consumers themselves. Against this backdrop, the following hypothesis is proposed:

H1. *Consumers perceive agritourism restaurants (rural restaurants) as more sustainable compared to full-service restaurants.*

Building on the earlier discussion, in recent years, growing environmental awareness has significantly influenced consumer purchasing behavior, particularly in the food and hospitality sectors. Numerous studies have shown that individuals are increasingly willing to align their consumption choices with their personal values, especially when it comes to sustainability. Research shows that consumers with strong environmental values are generally more willing to pay extra for sustainable dining options, particularly at green or locally focused restaurants (Namkung and Jang 2007; Nicolau et al. 2020; Zare Mehrjerdi and Woods 2024). Based on this premise, the second hypothesis is formulated as follows:

H2. *Consumers are willing to pay more for a sustainable product in the restaurant or rural-restaurant context.*

Beyond sustainability and product quality, location also plays a critical role in shaping consumer preferences in the hospitality sector. In particular, the rural dimension of agritourism—often defined by its physical distance from urban centers (Confcommercio 2023)—can influence perceptions of authenticity, accessibility, and experiential value. While some consumers may be attracted to the immersive and tranquil nature of rural settings, others may be discouraged by logistical challenges or time constraints (Nicolau and Mas 2006). This geographic component, therefore, deserves attention when analyzing dining choices within rural and full-service restaurant contexts. Based on these considerations, the third hypothesis is proposed:

H3. *The geographic aspect that characterizes agritourism (rural restaurants), including its distance from urban centers, influences consumers' dining choices.*

Based on the discussion in Paragraph 1.4, the above hypotheses will be evaluated in relation to the effects of age (generation) and gender.

4 | Questionnaire and Research Methodology

The study was conducted through the administration of a structured evaluation questionnaire specifically designed to assess respondents' perception of the sustainability of agritourism and restaurant activities in Italy. The survey was created and distributed using Google's "Forms" tool, and was disseminated via online platforms, social media, institutional communication channels, and verbal outreach. Data collection occurred in November 2023. The questionnaire was structured in several sections. The first gathered demographic and descriptive data about the sample. This was followed by questions investigating participants' consumption habits, including the frequency of dining out, and whether eating out occurred more often for leisure or necessity. Necessity was defined as situations where individuals were required to eat out due to work-related reasons or circumstances that prevented them from eating at home. Subsequently, participants' awareness of sustainability issues was assessed, drawing on frameworks such as Gericke et al. (2019), to explore the relationship between their knowledge of sustainability and their perceptions of sustainable practices within the restaurant and agritourism sectors. One section of the questionnaire specifically addressed customer expectations in relation to environmentally sustainable restaurants. Participants were asked to identify the sustainability features they expect to find when dining at establishments that promote eco-friendly values. This insight aims to serve as a practical tool for managers, highlighting the sustainability attributes most valued by consumers and supporting more targeted communication strategies. To distinguish between consumer perceptions of different types of establishments, responses were collected separately for full-service restaurants and agritourism facilities (Trafialek et al. 2019). Furthermore, in order to inform policy and managerial decisions, respondents were asked to evaluate the attractiveness of various agritourism attributes, such as local

products (Muller 1999; Gheribi 2017), organic/biological products (LaPan and Barbieri 2014), renewable energy (Madanaguli et al. 2022), sustainable resources (Nicolau and Mas 2006), and food waste minimization (Buchner et al. 2012). The final question focused on whether the multifunctionality of agritourism (i.e., the integration of hospitality, agriculture, and cultural experiences) increases customer appeal and enhances the overall restaurant experience.

Data were collected using convenience sampling. While this method does not provide a probabilistic sample, it represents the most effective methodology for data collection in terms of time and cost efficiency (Golzar et al. 2022). For data analysis, both descriptive and inferential statistical methods were employed. Descriptive statistics provided summaries of the dataset, highlighting general patterns and characteristics (Paruolo 1999). Inferential statistics were used to draw conclusions about the broader population from which the sample was drawn (Frosini 1990). Specifically, hypothesis testing was conducted to assess statistically significant relationships and differences within the data. For comparisons between two independent groups, the Mann–Whitney U test (also known as the Wilcoxon rank-sum test) was applied to non-parametric variables. Tests for differences between proportions were used where categorical variables were compared across groups. Additionally, several items employed a Rating scale¹ to measure attitudes and perceptions. These responses were analyzed to identify trends, correlations, and potential predictors of sustainability perception and preference.

5 | Findings

5.1 | Descriptive Statistics

The sample consists of 605 respondents: 361 females and 244 males. Considering the age distributions and the purposes of the paper, the sample is divided into two macro groups, the Generation Z (nearly 70%) and other generations (people that are more than 24 years old to nearly 30). Regarding occupational status, 85.4% of respondents identified as students and working students, 5.6% as employees, and the remaining 9% were distributed across other categories (including unemployed individuals, managers, and self-employed workers). Reflecting the sample's educational profile, 72% reported holding a higher education qualification, while 24% indicated having completed a university degree or holding a postgraduate qualification. Focusing on restaurant-related behaviors, Figure 1 illustrates dining frequency by gender. A slightly higher proportion of males reported eating out once or twice a week, while females were more represented among those who dine out once or twice per month.²

The percentage of individuals who dine out for leisure is comparable to those who do so out of necessity, regardless of gender. This is illustrated by the average scores presented in Figure 2, which are based on responses measured using a Rating scale. The scale assigns numerical values to various statements, enabling a comparative analysis of dining motivations across genders. Notably, both male and female respondents report a higher tendency to dine out for pleasure rather than for necessity.

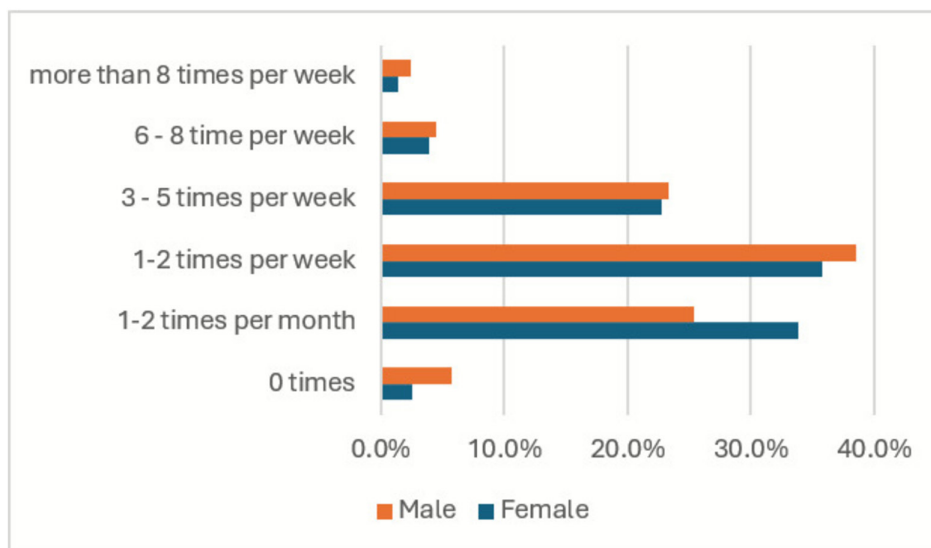


FIGURE 1 | Dining out frequency by gender.

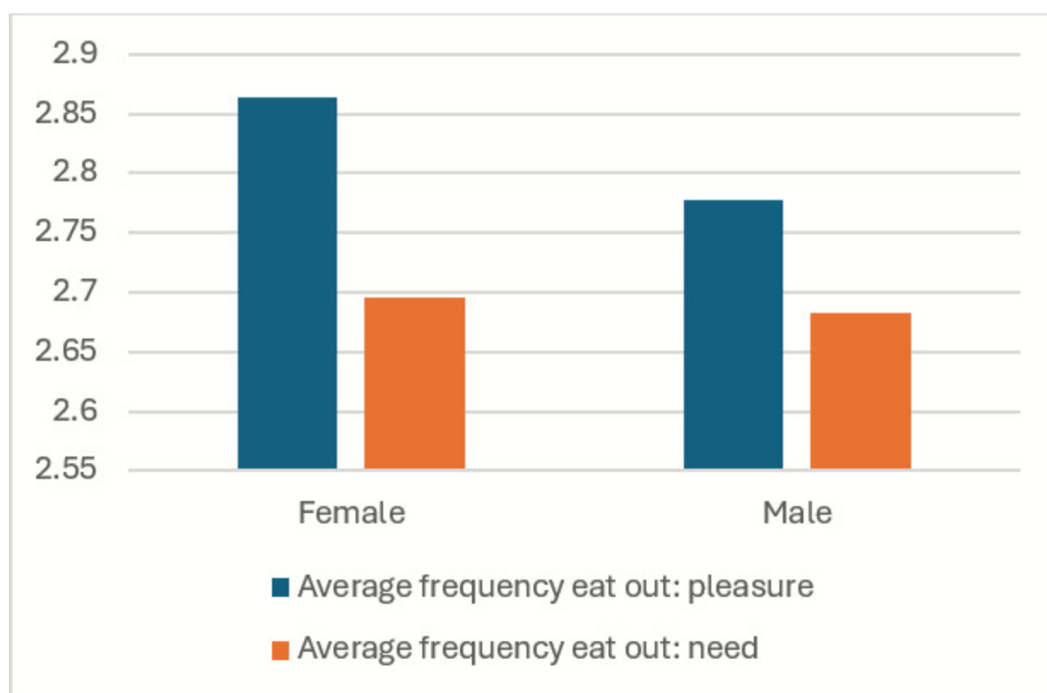


FIGURE 2 | Dining out for need or pleasure.

Subsequently, the focus shifts to various types of restaurants and other dining activities. Moreover, Figure 3 breaks down the results by gender. No substantial gender differences emerge, except that cafeterias are more frequently visited by females.

Finally, Figure 4 presents the different types of dining establishments analyzed in this study, divided by age group, to provide a descriptive overview of usage frequency across the sample. The graph highlights notable differences: full-service restaurants are more frequently attended by older age groups, while ethnic restaurants are more popular among younger age groups. Overall, full-service dining venues appear to hold a central role across all age categories. Focusing specifically on agritourism or rural restaurants, the most frequent users fall within the 25–54

age range, spanning multiple generational cohorts. In Figure 4, average values are reported without adjusting for sample size, as outlined in the previous section. Focusing specifically on agritourism or rural restaurants, the most frequent users fall within the 25–54 age range, spanning multiple generational cohorts. In the following image (Figure 4) the average values are reported without adjusting for sample size, as outlined in the previous section.³

After outlining the main characteristics of the sample, the analysis now moves to the inferential stage, where the three previously stated hypotheses will be tested. Sustainability plays a central role in this phase, as does the comparison between full-service and agritourism dining models. The following analyses

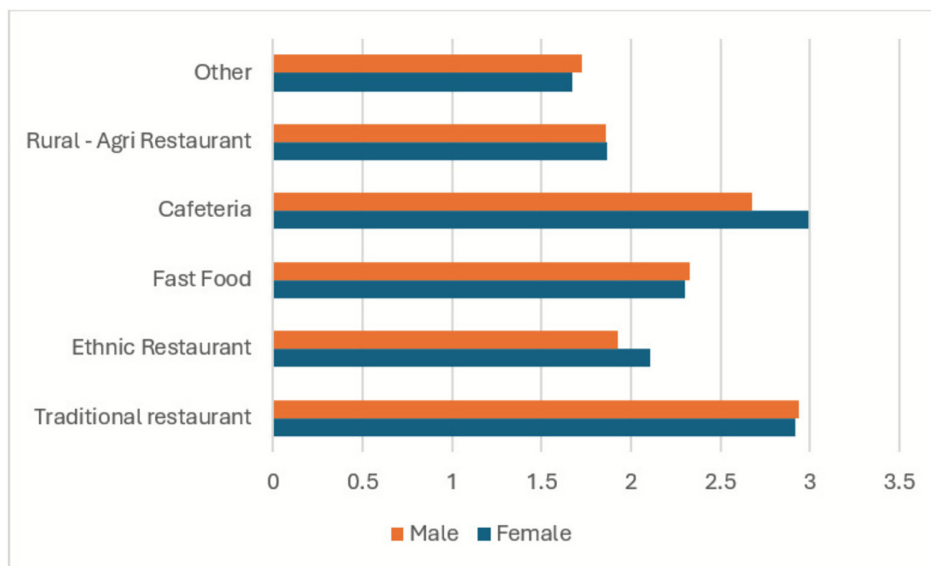


FIGURE 3 | Frequency—different kind of Ho.re.ca. used by gender.

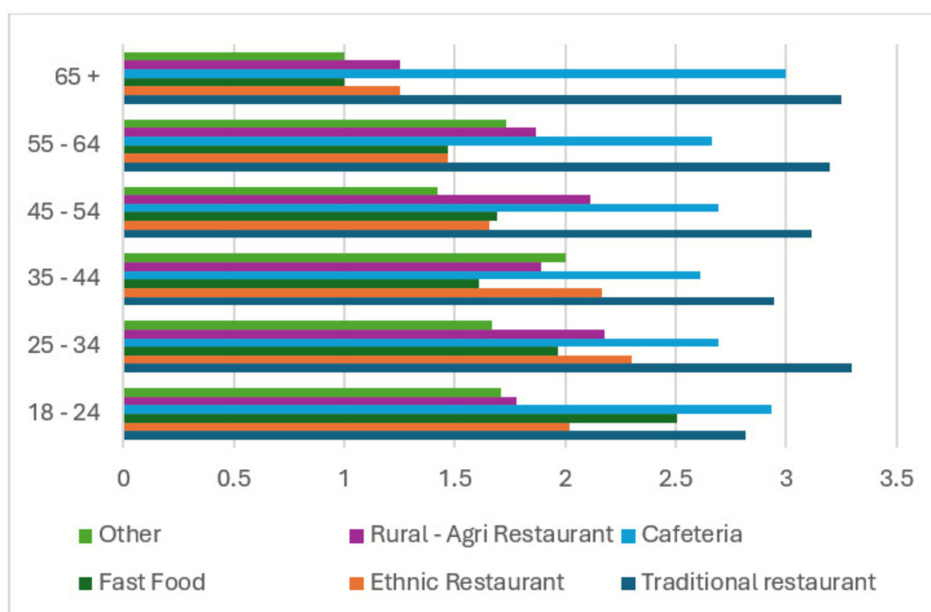


FIGURE 4 | Frequency—different kind of Ho.re.ca. used by age group.

will explore how perceptions of sustainability vary based on age (and generational cohorts) and gender, assessing the relevance and perceived importance of sustainable practices within different dining contexts.

5.2 | Inferential Analysis

Inferential analysis plays a central role in testing the hypotheses outlined earlier. In this section, the results are presented prior to the final discussion. The analysis was conducted across gender and generational dimensions, allowing each of the three hypotheses to be tested through dual comparisons using the same statistical method. This approach offers a comprehensive understanding of variations within the sample.

The first hypothesis explores whether consumer perceptions regarding specific sustainability practices differ between full-service restaurants and agritourism (rural) establishments.⁴ The questionnaire invited participants to evaluate the relevance of several sustainability-related factors using a Rating scale. These factors included the following: Use of local products; Use of organic (biological) products; Vegetarian and alternative menu options; Use of renewable energy; Sustainable materials; Minimization of food waste. In order to evaluate the appropriate statistical tests to use for hypothesis testing, considering the types of variables present in the study, normality tests were conducted. Shapiro–Wilk tests were performed to assess whether the data followed a normal distribution and the results of the tests concerning H1 were all statistically significant, indicating that the data were not normally distributed.

TABLE 1 | Hypothesis testing gender (variables represent participants' perceived adoption of sustainable practices).

Variable (gender)	Rural restaurant male vs. rural restaurant female		Traditional restaurant male M vs. traditional restaurant female		Rural restaurant female vs. traditional restaurant female		Rural restaurant male vs. traditional restaurant male	
	W	p value	W	p value	W	p value	W	p value
Local products	NS		NS		$W = 95,089$	$p \text{ value} < 2.2e-16$	$W = 39,346$	$p \text{ value} < 2.2e-16$
Biological products	NS		$W = 36,196$	$p \text{ value} = 0.02812$	$W = 86,656$	$p \text{ value} < 2.2e-16$	$W = 36,531$	$p \text{ value} = 7.51e-13$
Vegetarian and alternative options	$W = 86,656$	$p \text{ value} < 2.2e-16$	NS		NS		NS	
Renewable energy	NS		NS		$W = 76,095$	$p \text{ value} = 6.921e-08$	$W = 30,769$	$p \text{ value} = 0.001735$
Sustainable material	NS		NS		$W = 67,128$	$p \text{ value} = 0.04985$	$W = 28,751$	$p \text{ value} = 0.09894$
Minimize food waste	NS		NS		$W = 77,435$	$p \text{ value} = 4.319e-09$	$W = 33,166$	$p \text{ value} = 1.255e-06$

Abbreviation: NS = not significant.

* $p < 0.05$;** $p < 0.01$;*** $p < 0.001$.**TABLE 2** | Hypothesis testing generation (variables represent participants' perceived adoption of sustainable practices).

Variable (generation)	Rural restaurant other gen vs. rural restaurant Generation Z		Traditional restaurant other generation vs. traditional restaurant Generation Z		Rural restaurant Generation Z vs. traditional restaurant Generation Z		Rural restaurant other generation vs. traditional restaurant other generation	
	W	p value	W	p value	W	p value	W	p value
Local products	NS		NS		$W = 134,138$	$p \text{ value} < 2.2e-16$	$W = 19,731$	$p \text{ value} < 2.2e-16$
Biological products	NS		NS		$W = 123,888$	$p \text{ value} < 2.2e-16$	$W = 17,835$	$p \text{ value} = 8.048e-10$
Vegetarian and alternative options	NS		$W = 30,139$	$p \text{ value} = 0.04241$	NS		NS	
Renewable energy	$W = 37,380$	$p \text{ value} = 0.03952$	NS		$W = 105,390$	$p \text{ value} = 1.821e-06$	$W = 16,048$	$p \text{ value} = 5.795e-05$
Sustainable material	NS		NS		$W = 95,699$	$p \text{ value} = 0.05478$	$W = 14,190$	$p \text{ value} = 0.08477$
Minimize food waste	$W = 37,555$	$p \text{ value} = 0.03133$	NS		$W = 109,286$	$p \text{ value} = 4.357e-09$	$W = 16,708$	$p \text{ value} = 1.341e-06$

Abbreviation: NS = not significant.

* $p < 0.05$;** $p < 0.01$;*** $p < 0.001$.

TABLE 3 | Willingness to pay a premium price—Gender (premium percentage represents the mean additional amount (in %) respondents are willing to pay above the standard price. F = female; M = male.)

Restaurant type	Respondents willing to pay premium (<i>n</i>)				Mean premium percentage	
	F (yes)	F (no)	M (yes)	M (no)	Female	Male
Traditional	288	259	164	142	8.30%	9.30%
Rural	296	251	157	149	8.60%	9.40%

TABLE 4 | Willingness to pay a premium price—Generation.

Restaurant type	Respondents willing to pay premium (<i>n</i>)				Mean premium percentage	
	Generation Z (yes)	Generation Z (no)	Other Gens. (yes)	Other Gens. (no)	Generation Z	Other gens.
Traditional	352	327	97	64	8.00%	9.60%
Rural	358	321	86	75	8.80%	9.20%

TABLE 5 | Willingness to pay a premium price—Test—gender and generations (two-sample Z-test for equality of proportions).

Variable	Restaurant type	Z value	<i>p</i>	Sig.
Gender	Traditional	0.07	0.79	NS
	Rural	0.62	0.43	NS
Generation	Traditional	3.69	0.05	*
	Rural	0.02	0.87	NS

Abbreviations: NS = not significant; Sig. = significance level.

**p* < 0.05;

***p* < 0.01;

****p* < 0.001.

Consequently, non-parametric tests were deemed appropriate, and the Mann–Whitney U test was selected as the correct methodology for the analyses. Results were segmented by gender (Table 1) and by generation (Table 2), with particular attention to Generation Z. In this second case, comparisons were made between Generation Z and the rest of the sample. Findings reveal several key patterns. When comparing perceptions within the same type of restaurant, no significant gender-based differences emerged in five out of six sustainability factors. However, when comparing rural versus full-service restaurants, significant differences were observed in 5 out of 6 variables for both men and women; only the relevance of vegetarian options was perceived similarly. A comparable trend was found in the generational analysis. No significant differences emerged when evaluating the same type of restaurant across generations. However, when comparing perceptions between full-service and rural restaurants, five out of six variables showed significant generational differences, with only the “vegetarian and alternative options” category proving statistically non-significant. These findings suggest that while restaurant type strongly influences sustainability perception, gender and generational identity do not significantly affect how each group perceives sustainability within the same category

of restaurant. In essence, both men and women, as well as Generation Z and older participants, expect different levels of sustainability from rural versus full-service establishments.

The second hypothesis examined whether consumers are willing to pay a premium price for sustainable products or services in both full-service and rural restaurant settings. To test this, two-proportion Z-tests were conducted to assess differences across gender and generation (Tables 3–5). In terms of gender, a slight majority in both male and female groups indicated willingness to pay more for sustainable options. Similarly, generational comparisons revealed a comparable trend, though absolute numbers varied due to sample imbalance. The proportion of respondents indicating willingness to pay a premium fell between 8% and 9% across both settings. However, the statistical tests confirmed that these differences are not significant, with only one marginally significant result linked to generational variation in the full-service dining context. As a result, Hypothesis 2 cannot be supported, as there is insufficient empirical evidence of a significant willingness to pay more for sustainable offerings across the groups.

The third hypothesis concerned the role of geographical distance in shaping consumer preferences toward rural restaurants. Respondents were asked to assess how distance from urban centers influences their dining choices. Here, due to data normality tested with the Shapiro Wilk Test, Student's *t*-tests were applied to compare responses by gender and generation (Table 6). It is possible to observe a difference between generations that indicate, for this sample, an interesting insight concerning the role of the geographical distance for the two parts of the respondents. Conversely, no significant difference was found by gender, suggesting that men and women evaluate distance similarly. In summary, younger consumers appear to be more sensitive to accessibility and are less inclined to visit rural dining locations if the distance is perceived as inconvenient. However, this concern does not vary by gender.

TABLE 6 | Distance—Gender/generation approach.

Variable	Group	n	Mean	SD	Comparison	Z	p	Sig.
Gender	Female	352	2.79	1.3	Female vs. male	0.46	0.646	NS
	Male	230	2.74	1.3				
Generation	Generation Z	422	2.87	1.3	Generation Z vs. other gens.	2.93	0.003	**
	Other Gens.	160	2.53	1.3				

Abbreviations: NS = not significant; Sig. = significance level.

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$.

6 | Discussion and Conclusions

The restaurant sector—encompassing both full-service and agritourism formats—remains a key driver of the Italian economy and tourism industry. This study aimed to explore how consumers perceive full-service and rural restaurants, with a particular focus on generational and gender differences. Particular attention was given to Generation Z, a cohort that has become the subject of growing academic interest due to its increasing relevance to future consumer markets. The primary objective of this research was to assess whether full-service and agritourism restaurants are perceived similarly by Generation Z compared to other demographic groups. Concerning consumers' perception of agritourism restaurants vs. full-service restaurants (H1), the findings reveal a differentiation in sustainability perceptions between full-service and rural dining establishments. Significant differences were observed in five key sustainability dimensions (Local Products, Organic/Biological Products, Renewable Energy, Sustainable Materials, and Food Waste Minimization). These results suggest that consumer perceptions of sustainability are more strongly influenced by the type of restaurant than by individual characteristics such as age or gender. The only dimension not showing a significant difference between restaurant types was the availability of vegetarian and alternative options, implying that some sustainability values may be viewed as broadly applicable or universally expected by consumers, regardless of context. The analysis of willingness to pay a premium price for sustainability (H2) introduces further nuance. Although respondents indicated general acceptance of an 8%–9% premium for sustainable practices, no statistically significant variation emerged based on gender or generation. It also underscores the need to refine theoretical models of sustainable consumer behavior to account for contextual and sector-specific variables, such as restaurant format and service setting. Another interesting point was to understand how the geographic aspect that characterizes agritourism (rural restaurants), including its distance from urban centers, influences consumers' dining choices determinants (H3). Geographical accessibility emerged as another important determinant of consumer behavior. Specifically, Generation Z showed higher sensitivity to the distance between rural restaurants and urban centers. This finding introduces a potential tension between sustainability values and convenience, suggesting that younger consumers may deprioritize sustainability when access requires greater effort or travel. In contrast, gender was not found to significantly influence sensitivity to distance, further supporting the conclusion that generation, rather than gender, is the more influential demographic

factor in this domain. In conclusion, the study contributes to a deeper understanding of how sustainability is perceived in the restaurant industry and highlights the need for differentiated strategies based on restaurant type and generational traits. These insights have both theoretical implications—by pointing to the need for expanded behavioral models—and practical relevance for hospitality operators seeking to tailor sustainability initiatives to diverse consumer profiles.

From a theoretical perspective, this study contributes to the literature about Rural Tourism through an empirical confirmation that rural restaurants are perceived as more sustainable; it supports literature connecting agritourism to environmental stewardship and socio-economic development (Streifeneder et al. 2023; Grillini et al. 2025). This also underlines the strategic role of food in promoting sustainable rural tourism. The findings confirm that sustainability perception is shaped more by the type of restaurant than by consumer demographics. This reinforces the value of situational and contextual frameworks (e.g., Blackwell et al. 2006) in hospitality consumer behavior theory. The strong influence of contextual factors—such as location, perceived authenticity, and service format—indicates that prevailing behavioral frameworks may require refinement to better capture situational dynamics. This calls for more nuanced approaches to measuring and interpreting consumer preferences across different generational and demographic segments. This confirms the significant role of Generation Z in shaping preferences and confirms the relevance of Generational Theory (Strauss and Howe 1997) in sustainability studies within tourism and hospitality. The study also confirms previous literature that found a different behavior among various generations in food and beverage and dining experience (Harrington et al. 2012). It suggests that future models must include digital nativity, convenience expectations, and social engagement as generational traits. The study suggests the need to differentiate between types of sustainable dining experiences (e.g., agritourism vs. urban restaurants with token sustainability efforts). This can refine consumer segmentation models and sustainability scaling frameworks. From a managerial perspective, findings suggest some strategies for managers and policy makers. Since consumers perceive rural restaurants as more sustainable than full-service ones (especially regarding local sourcing, energy use, and material choices), full-service restaurants should improve how they communicate their sustainability practices. Transparency in sourcing and operational processes may help reposition them in the eyes of increasingly eco-conscious consumers. Restaurants could differentiate the communication strategies according to the type of restaurants, and use in-store messaging,

digital platforms, and menu labeling to highlight sustainability features. The results indicate that Generation Z is particularly sensitive to distance from urban centers. To attract this segment, agritourism operators must reduce perceived accessibility barriers. For example, they could communicate with mobility services (e.g., shuttle transport and car-sharing platforms), develop immersive social media campaigns, and offer flexible reservation or travel packages. Generation Z demands not only sustainable practices but also digital visibility and authenticity. Rural restaurants and agritourism venues should invest in digital branding, leveraging social media and storytelling to amplify their unique sustainability narratives. For instance, rural restaurants can foster community engagement by leveraging short-form video content, collaborating with influencers, and sharing real-time updates across digital platforms. Although most respondents indicate a willingness to pay an 8–9% premium for sustainable practices, the lack of statistical significance suggests that price sensitivity remains a critical challenge. This highlights the need for pricing models that effectively balance economic value with sustainability. Restaurants could adopt strategies that align pricing with perceived value, for example, by creating bundled offerings such as tasting experiences combined with local farm tours that enhance the overall experience, rather than presenting sustainability as an added cost.

7 | Limitations and Future Research

Regarding the generalizability of the results, this study acknowledges important limitations. The questionnaire could be applied in other countries, but such replication would require preliminary analyses of local food consumption habits, national regulations, and the recognition of rural restaurant categories. Since eating practices and cultural perceptions of what is considered “rural” or “full-service” vary greatly across contexts, direct comparisons may not be straightforward. For this reason, the present research focuses on Italy, where the distinction between rural and full-service restaurants is well established and widely recognized.

Shifting on the sample, due to the use of convenience sampling, it is evident that there is a demographic skew of the data. The respondents are predominantly young adults aged 18–24, most of whom are either full-time students or student-workers. This homogeneity limits the generalizability of the findings, as the sample is not representative of the broader population and the youthful age and relatively high educational attainment of the participants may have significantly influenced the results in several key ways. As members of a younger demographic, respondents may possess a more idealistic or optimistic outlook compared to older individuals who have greater life experience. Their views may not adequately capture the attitudes, values, and concerns of middle-aged or senior consumers. Furthermore, the educational background of the sample could lead to a bias rooted in their access to information and resources, which may not reflect the lived realities of less-educated populations. Their responses might therefore be shaped by aspirational ideals rather than grounded, real-world experience. Another limitation concerns the nature of the responses, which are often based more on perceived possibilities and expectations than on concrete personal experiences. Young adults may be prone to answering survey questions from a normative or aspirational standpoint,

potentially leading to a discrepancy between what they believe should happen and what they have encountered. This gap between ideals and lived reality may skew the data, as the findings might reflect what respondents hope is true rather than what they have directly experienced. Moreover, their limited exposure to real-world financial, logistical, or environmental constraints could mean their sustainability perceptions diverge from those of older, more experienced individuals. Future research should seek to address these limitations by diversifying the sample to include a broader range of age groups, education levels, and socioeconomic backgrounds. Longitudinal studies would be particularly valuable for tracking how sustainability perceptions and behaviors evolve over time, offering a deeper understanding of consumer decision-making across different life stages. Further investigation into the psychological and contextual mechanisms underlying sustainability perceptions could also enhance theoretical models, especially concerning the role of restaurant type (rural vs. full-service) and accessibility factors. In practical terms, future studies could explore innovative strategies to overcome geographical barriers without compromising sustainability credentials that offer real-world solutions for rural establishments aiming to attract younger, urban consumers. Finally, cross-cultural research would help assess the extent to which these findings apply across varying economic and cultural contexts, thereby increasing the global relevance and applicability of the research.

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Endnotes

- ¹ For further information on this type of scale and its application, see Friedman and Amoo (1999).
- ² The figures are based on personal survey’s data.
- ³ The values related to the frequency (Figures 2–4) are expressed using a weekly rating scale where 1 is *never* and 5 is *every day*.
- ⁴ The inferential analysis is provided only using data related to Rural Restaurant and Full-service restaurant.

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