



AI Transparency to Elevate Ethical Personalized Marketing: A Study in Vineyard Management

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Abstract

Title: AI Transparency to Elevate Ethical Personalized Marketing: A Study in Vineyard Management

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This research has sought to identify the role of AI transparency in driving ethical personalized marketing within vineyard management, considering its effect on consumer trust and business performance. The research identifies key mechanisms through which transparency supports ethical practices, involving: clear communication strategies, explainability for gaining trust, and transparent data utilization. By placing a strategic focus on the unique relational dynamics of the wine industry, this research enhances current literature on the challenges and opportunities that the integration of AI-driven marketing faces within an industry so deeply rooted in tradition and emotional connections. The research design proposed for this study relies on qualitative methodology, deploying data analysis using the Gioia methodology. Findings show that AI transparency promotes trust through ethical storytelling, data practices compliant with the GDPR, and explainable dashboards that align with brand authenticity and consumers' expectations. Findings also identify major challenges relating to resistance to change, resource limitations, and cultural barriers, underscoring the complexity of AI adoption in vineyard marketing. The results demonstrate that AI transparency is a critical driver of consumer trust, and leads to increased brand loyalty, improving at the same time business outcomes and the ethical standing of the organization. Managerial implications include the adoption of phased AI strategies to reduce resistance, integration of ethical guidelines, and leveraging transparency as a strategic advantage. Overall, this research contributes to the field of ethics of AI in business, by underscoring the importance of balancing innovation with tradition, thus yielding responsible implementation of AI-driven marketing in authenticitysalient industries.

Keywords: Artificial Intelligence (AI) Transparency, Ethical Personalized Marketing, Vineyard Management, Consumer Trust, Explainable AI (XAI), Tradition vs. Innovation

Abstrato¹

Título: Transparência em IA para Elevar o Marketing Personalizado Ético: Um Estudo na Gestão de Vinhedos

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Esta pesquisa buscou identificar o papel da transparência em IA na promoção do marketing personalizado ético na gestão de vinhedos, considerando seu efeito na confiança do consumidor e no desempenho empresarial. A pesquisa identifica mecanismos-chave pelos quais a transparência apoia práticas éticas, envolvendo: estratégias de comunicação claras, explicabilidade para gerar confiança e utilização transparente de dados. Ao focar estrategicamente nas dinâmicas relacionais únicas da indústria do vinho, esta pesquisa aprimora a literatura atual sobre os desafios e oportunidades que a integração do marketing impulsionado por IA enfrenta em uma indústria profundamente enraizada na tradição e nas conexões emocionais. O desenho metodológico proposto para este estudo baseia-se em uma abordagem qualitativa, utilizando a metodologia Gioia para análise de dados. Os resultados mostram que a transparência em IA promove confiança por meio de narrativas éticas, práticas de dados em conformidade com o GDPR e painéis explicáveis que se alinham à autenticidade da marca e às expectativas dos consumidores. Os resultados também identificam grandes desafios relacionados à resistência à mudança, limitações de recursos e barreiras culturais, destacando a complexidade da adoção de IA no marketing de vinhedos. Os resultados demonstram que a transparência em IA é um motor essencial da confiança do consumidor, aumentando a lealdade à marca e melhorando, simultaneamente, os resultados empresariais e a postura ética da organização. As implicações gerenciais incluem a adoção de estratégias graduais de IA, integração de diretrizes éticas e aproveitamento da transparência como vantagem estratégica, equilibrando inovação com tradição.

Palavras-chave: Transparência da Inteligência Artificial (IA), Marketing Personalizado Ético, Gestão de Vinhedos, Confiança do Consumidor, IA Explicável (XAI), Tradição vs. Inovação

¹ The translation into Portuguese was done via ChatGPT

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"The ethical implications of advanced AI are too important to leave them in the hands of the technologists alone." — Stephen Hawking

1.Introduction

Over a short period, AI technologies have picked up rapid momentum and transformed industries. Machine learning, a method of data analysis that automates analytical model building, enables computers to learn and improve autonomously without explicit programming (Sharifani & Amini, 2023). Predictive analytics, which uses data, statistical algorithms, and machine learning techniques to forecast future outcomes based on historical data (Aladwani et al., 2024), is also playing a pivotal role. As organizations strive to stay competitive, predictive analytics offers reliable forecasting of trends and behaviors, making it an invaluable tool for strategic business decisions (Henry, 2021; Vartak, 2020).

The rapid advancements in artificial intelligence have significantly transformed the landscape of personalized marketing (Rathore, 2020), enabling the tailoring of marketing messages and timing to meet the specific needs and preferences of individual customers (Deligiannis et al., 2020), which presents both opportunities and ethical challenges. The integration of AI technologies, such as sentiment analysis, voice assistants, and real-time response capabilities, has revolutionized the way businesses engage with their customers (Maheswari, 2023). All these technologies help companies to monitor consumption patterns, enabling them to deliver targeted messages and making personalized marketing effective and successful (Babatunde et al., 2024).

AI has enormous potential by making predictive analyses on consumer preference, thereby, supporting personalized interactions (Babatunde et al., 2024; Huang & Rust, 2021). The extensive use of AI-driven marketing (Davenport et al., 2020) and, more in detail, in personalized advertising (Babatunde et al., 2024; Huang & Rust, 2021) has raised scholarly attention to ethical concerns regarding transparency and trust since AI systems could influence consumer behavior in a non-transparent manner (Davenport et al., 2020). Personalizing interactions has significant effects on both consumers and businesses: by tailoring recommendations to individual customer preferences, satisfaction is increased, which in turn boosts engagement (Babatunde et al., 2024). This may lead to brand loyalty and higher conversion rates for businesses (Davenport et al., 2020). Although some studies have concluded that these advantages are not universal, as certain AI-driven personalization efforts may alienate

consumers if they perceive the system as manipulative or overly intrusive (Longoni & Cian, 2022).

For instance, machine learning algorithms enable analyzing previous consumer behavior of a certain individual in order to forecast their preferences for the times to come. Some scholars believe that these predictive algorithms enhance the customer experience by making timely and appropriate suggestions (Huang & Rust, 2021), while others view all this as a possibility for distrust when information about how the data is used is not transparent or consumers misunderstand them (Pasquale, 2015; Wang, 2019). Transparency is one of the most salient variables among the many important ones since it has a direct influence on consumer trust (Buchholz et al., 2023). Transparency of AI systems enhances the consumer's trust in the system and the brand that employs it. Trust, indeed, has been shown to be the main mediator between satisfaction and long-term loyalty, as suggested by Garbarino & Johnson 1999, making transparency one of the important drivers of strong customer relationships.

With AI finding wide applications in personalized marketing across many industries, what the literature shows is a gap in the application to niche markets, such as vineyard management. Most of the existing research relates to larger industries where AI would be applied to improve customer experience and business performance with personalized strategies (Davenport et al., 2020; Huang & Rust, 2021) or as a commercial service with a focus on sectors like the hotel industry (Prentice et al., 2020). However, the unique nature of the wine industry, where authenticity and emotional touch are deeply linked with brand-consumer relations (Cahill, 2017), involves specific challenges that have not been thoroughly explored. Huang and Rust (2021) emphasize the importance of emotional engagement and authenticity in customer relationships, elements that are particularly relevant for vineyard marketing, where brand-consumer relationships are deeply rooted in tradition and personal connection (Cahill, 2017). While much of the existing research focuses on AI's potential in personalized marketing, particularly in large industries, it remains unclear how AI can be ethically implemented in smaller, more niche industries like the wine industry. Very few studies, like the ones from Kedi et al. (2024) and Babatunde et al. (2024), have discussed this complex balance between AI-driven personalization and the preservation of traditional customer relationships, highlighting a crucial gap in both academic research and practical application. What remains to be explained is how AI-driven personalized marketing can be adapted to respect and enhance the unique relational dynamics of vineyard management, ensuring that traditional customer relationships are preserved even as personalization strategies evolve. This gap makes the current study both

timely and necessary, as it aims to explore how AI-driven personalized marketing can be adapted to respect and enhance the unique relational dynamics of vineyard management.

The global wine market represents a complex, global industry affected by rapidly evolving consumer trends, presenting both a challenge and an opportunity for the innovator. According to the recent report by the International Organisation of Vine and Wine on the State of the World Vine and Wine Sector in 2023, global vineyard areas are shrinking, and wine production levels have reached historic lows because of increased climate extremes and fungal diseases. Additionally, global wine consumption has stalled due to financial strains and inflation, which reduced the purchasing power of consumers. Despite all challenges, resiliency within the U.S. market was revealed in the 2024 BMO Wine Market Report. High-end consumers and direct-to-consumer sales channels have become crucial channels for growth in terms of increasing costs and regulatory pressures. Besides that aspect, sustainability has also been a critical point of focus, and consumer willingness to pay for environmentally responsible practices is on the rise, as noted by Santini et al. (2015). Studies such as Galletto et al. (2015) have shown how sustainable practices, for example, the use of drought-resistant rootstocks, increase consumer willingness to pay, which in this case would differ given consumers' awareness and taste expectations. In such a complicated environment, balancing innovation and tradition for vineyards will ensure that transparency and ethical standards are worked out to gain the trust of consumers and create brand loyalty in such a highly competitive market.

With the research question: „How can vineyard management implement AI transparency to enhance ethical personalized marketing, thereby increasing consumer trust and improving business performance?“ This dissertation is designed as follows: Chapter 2 discusses relevant literature with respect to AI, ethics, and personalized marketing, with a focus on transparency and trust. Chapter 3 identifies the gap in the existing research and sets out new insights. Chapter 4 covers the methodology, which consists of qualitative interviews conducted among vineyard managers and marketers, such as vineyard consultants. The final chapters present critical findings and recommendations for vineyard management in regard to the ethical application of AI in personalized marketing.

2. Literature Review

2.1 Artificial Intelligence Overview and Ethical Considerations

Artificial intelligence (AI) is defined as systems capable of exhibiting intelligent behavior by analyzing their environment and taking actions with some degree of autonomy to achieve

specific goals (Sheikh et al., 2023). AI is emerging as a transformative technology with the ability to learn, adapt, and anticipate outcomes, distinguishing it from traditional algorithms (Deng, 2018; Yarali et al., 2023). Core technologies underpinning AI include machine learning, neural networks, and natural language processing, which allow machines to analyze vast amounts of data, recognize patterns, and make autonomous decisions (Wang, 2019). Two primary types of AI have emerged: narrow or weak AI, designed for specialized tasks, and general or strong AI, envisioned to replicate human-like cognitive capabilities and solve diverse problems independently (Huang & Rust, 2024).

The increasing integration of AI across industries has generated significant ethical concerns, particularly regarding transparency, fairness, and accountability (Mittelstadt et al., 2016). Ethical AI development requires aligning AI's capabilities with societal values, emphasizing principles such as fairness, transparency, accountability, and bias mitigation to promote human well-being and build trust (Hagendorff, 2020). These principles are especially critical in marketing, where AI-driven technologies enable advanced personalization by predicting consumer behavior and tailoring experiences. However, this reliance on predictive analytics also raises issues of bias, data privacy, and the potential for manipulation, demanding robust ethical frameworks to mitigate harm (Garvey, 2021; Sreerama & Krishnamoorthy, 2022). Deep learning techniques, such as machine learning, neural networks, and natural language processing, are particularly effective in marketing due to their ability to analyze unstructured data and extract actionable insights (Liu & Xiao, 2022). These capabilities allow marketers to predict consumer preferences, personalize content, and enhance engagement by tailoring strategies to individual behaviors. However, as Garvey (2021) critiques, uncritical adoption of AI poses risks, including erosion of transparency, lack of accountability, and unintended consequences in decision-making processes. These risks are particularly relevant in industries like marketing, where trust is paramount, and ethical lapses can significantly impact consumer relationships (Davenport et al., 2020).

Transparency plays a foundational role in ethical AI by enabling users to understand the processes and decisions made by AI systems, fostering trust, and addressing ethical concerns (Jobin et al., 2019; Mittelstadt et al., 2016). Transparency signaling—offering selected, comprehensible insights—can help manage user expectations while ensuring ethical engagement (Park & Yoon, 2024). Transparency and accountability are critical to ethical AI deployment. Transparency fosters trust, while accountability ensures that organizations remain responsible for their systems' outcomes, preventing misuse and addressing harm when it occurs (Mittelstadt et al., 2016). This dual emphasis on transparency and accountability is critical to

ensuring AI's ethical deployment in marketing, where the line between influencing and manipulating consumer behavior is often blurred (Davenport et al., 2020).

Ethicswashing, where organizations superficially engage in ethical debates while benefiting from light-touch regulation, further complicates the landscape. Peukert et al. (2020) note that such practices erode consumer trust and create confusion, undermining genuine efforts to promote ethical AI. Addressing these issues requires robust regulatory frameworks and meaningful enforcement. The European Union (EU) has taken a proactive approach by establishing policies that emphasize democracy, rule of law, and fundamental rights in AI development (Colcelli & Burzagli, 2021). These policies provide a strong foundation for harmonizing innovation with societal values. However, as Hagedorff (2020) argues, more meaningful enforcement is necessary to move beyond symbolic gestures and ensure real accountability.

Small businesses, such as vineyards, face unique challenges in operationalizing ethical AI principles. Limited resources and data availability make it difficult to implement robust transparency and accountability measures, despite their importance in building consumer trust and maintaining brand authenticity (Naz & Kashif, 2024). Personalized marketing in such contexts requires careful balancing of AI's capabilities with ethical considerations, ensuring that practices remain fair, respectful of user autonomy, and transparent in their intent (Sreerama & Krishnamoorthy, 2022).

Marketing applications of AI, particularly in personalization, raise critical ethical questions. Transparency involves more than merely disclosing information; it requires clear communication that allows consumers to make informed decisions. Wang et al. (2023) emphasize that transparency in marketing includes disclosing advertising intent, clarifying data collection purposes, and designing systems that support user autonomy. By fostering user understanding, transparency mitigates ethical concerns, such as manipulation, and helps maintain the boundary between influence and undue persuasion.

In personalized marketing, where AI has significant influence over consumer behavior, these principles are particularly relevant. Practices like transparency signaling and clear communication allow organizations to demonstrate their commitment to ethical AI, building trust and enhancing consumer satisfaction (Park & Yoon, 2024).

With transparency serving as a cornerstone for responsible and effective AI-driven personalized marketing, the following section will explore its specific applications within vineyard management, focusing on building trust and ensuring ethical engagement in consumer-facing practices.

2.2 Transparency in AI

Transparency, defined as the extent to which stakeholders perceive an organization as providing learning opportunities about itself (Parris et al., 2016), is a cornerstone of ethical AI in personalized marketing, directly impacting consumer trust by addressing vulnerabilities in decision-making processes (Mirghaderi & Monika Sziron, 2023). It is an intrinsic aspect of business strategy, interwoven with organizational components and management processes (Baraibar-Diez et al., 2017). In the context of AI in business, transparency becomes crucial as AI systems increasingly make automated decisions. Transparency by Design principles have been proposed to guide the development of transparent AI systems, addressing contextual, technical, informational, and stakeholder-sensitive considerations (Felzmann et al., 2020). For marketing, therefore, transparency becomes vital for sustaining consumer trust in businesses that engage directly with their customers (Garvey, 2021; Mittelstadt et al., 2016). Sometimes, transparency in AI systems will help in gaining consumer trust through making them aware of how decisions are arrived at, which is an important aspect in personalized marketing (Larsson & Heintz, 2020). Therefore, clarity in the process of AI will make businesses be able to build up confidence among consumers, which largely relates to emotional attachment and brand loyalty in a business like the wine industry.

Most AI algorithms, particularly deep learning models, operate as black boxes with opaque decision-making processes that are unintuitive to users, leading to potential distrust in personalized marketing where algorithms determine targeting decisions (von Eschenbach, 2021).

These systems process enormous amounts of data and make predictions based on patterns that are often too complex for human interpretation (Pasquale, 2015). Mittelstadt et al. (2016) and Davenport et al. (2020) underline that this trend of making AI processes understandable is very serious, especially in marketing, with the aim to prevent its misuse and to ensure that consumers feel personal data is treated responsibly. For vineyard managers, this opacity complicates the assurance of ethical marketing practices to stakeholders. In the context of transparency, having even partial insight into AI processes (through methods like Explainable AI (XAI)) can improve trust, as it provides stakeholders with a basis to understand and justify the technology's outcomes.

Explainable AI (XAI) addresses the transparency problem by making AI decision-making processes interpretable, with explanations understandable by non-experts. In personalized marketing, XAI frameworks are critical for building consumer trust by enhancing transparency (Davenport et al., 2020). Davenport et al. (2020) emphasize that for AI systems to enable

marketers to explain why certain recommendations are made or why particular consumers are targeted, such systems will need to embed XAI frameworks. Balasubramaniam et al., (2023) supports this view, and, in the context of vineyards, this approach can be applied to improve the transparency of their AI-driven marketing strategies, aligning with ethical best practices. Building on the principles of XAI, Robbins (2019) argues that balancing ethical demands with operational flexibility is essential, especially in practical applications. For vineyards, this approach underscores the value of implementing XAI where it most impacts consumer trust while allowing internal marketing operations to maintain efficiency without requiring full transparency for every process.

Regulatory frameworks, such as the European Union's guidelines on AI, emphasize transparency and fairness as integral principles, creating a path for industries like the wine industry to apply transparent AI systems aligned with consumer rights and ethical guidelines (Wang et al., 2023). Wang et al., (2023) explain efforts toward the realization of interpretable large AI models through these regulatory activities—and how these will be applicable in marketing. Industries that rely heavily on consumer trust, such as the wine sector, must prioritize transparency to uphold loyalty and authenticity, as these values are integral to their brand (Ranaweera et al., 2021). Integrating IoT, AI, and blockchain technologies within the wine supply chain can enhance transparency, efficiency, and cost-effectiveness, supporting these trust-building efforts (Adamashvili et al., 2024).

Bertino et al. (2019) propose a multi-dimensional transparency framework addressing the needs of diverse stakeholders, including data participants (e.g., consumers), curators (e.g., vineyard managers), users, and those impacted by unintended consequences. Applying this framework suggests that transparency efforts in vineyard marketing should not only meet consumer expectations but also support internal stakeholders like vineyard managers, who play an essential role in data curation and responsible AI application. This broader view of transparency aligns with the ethical standards required in personalized marketing, as it considers the diverse interests that AI systems must balance to foster trust and accountability across the organization.

| Issue of Transparency in Marketing | Discussed By | Description of the Problem |
|---|--|---|
| Algorithmic Transparency | Cahill (2017), Kumar et al. (2024), Babatunde et al. (2024), von Eschenbach (2021), Pasquale (2015) | Lack of transparency in AI decision-making reduces consumer trust, especially in emotionally-driven industries. AI's "black box" nature and deep learning complexities make it difficult for businesses to assure ethical and trustworthy outcomes. |
| Consumer Understanding of AI Decision-Making | Kumar et al. (2023), Glikson & Woolley (2020), Davenport et al. (2020), Balasubramaniam et al. (2023) | Consumers need clarity on how AI reaches decisions to build trust beyond personalization. XAI frameworks offer interpretable explanations that are essential for emotional industries like the wine industry. |
| Transparency in Data Practices | Nan & Hu (2022), Wang et al. (2024), Glikson & Woolley (2020), Adamashvili et al. (2024), Wang et al. (2023) | Opaque data practices in AI-driven personalization can make consumers feel manipulated or uncomfortable. Solutions include integrating IoT, blockchain, and compliance with regulatory guidelines for fairness and transparency. |
| Sustainability of Transparency Over Time | Glikson & Woolley (2020), Oyekunle et al. (2024), Bertino et al. (2019) | Transparency must be consistently maintained to sustain consumer trust. Ethical frameworks and stakeholder-specific transparency (e.g., data curators and users) help ensure trust across organizational levels. |
| Transparency as Part of Ethical Frameworks | Glikson & Woolley (2020), Robbins (2019), Bertino et al. (2019) | Transparency must align with broader ethical commitments and balance operational flexibility. Multi-dimensional transparency considers the needs of consumers, data curators, and end-users to foster trust and accountability. |

Figure 1: Key Transparency Challenges in AI Marketing and Their Implications.

In this way, transparency not only supports ethical AI design but also strengthens consumer engagement, which is essential in industries where trust fosters long-term loyalty. The following section delves into how transparency and other ethical principles translate into AI applications in personalized marketing, establishing their importance in fostering long-term consumer relationships.

2.3 Transparency in Personalized Marketing

Algorithmic transparency is fundamental to ethical AI-driven personalized marketing, ensuring fairness, non-discrimination, and accountability in decision-making processes, especially in industries like wine, where emotional connections drive loyalty (Cahill, 2017; Chaudhary,

2024; Franzoni, 2023). As Kumar et al., (2024) notes, the power of AI in marketing lies in its ability to shape consumer segmentation and recommendation strategies, allowing brands to target specific audiences effectively. However, this power brings a critical responsibility to provide transparent communication about AI's decision-making processes.

Similarly, Behera et al. (2020) show this concern and state that AI-driven personalized marketing should be coupled with transparency of operations, or there is always an underlying risk of diminishing consumer confidence. In this view, trust in AI is not merely an outcome of effective personalization but a direct consequence of consumers' understanding of the system's processes. This argument is particularly relevant for brands that deeply rely on emotional loyalty. When companies don't clarify how recommendations are made, consumers may question the motivations behind the marketing they experience, risking a breakdown in trust. Here, the intersection of AI's power and ethical transparency is apparent: while AI enhances targeting precision, its benefits are contingent on transparent practices that assure consumers of its ethical use (Babatunde et al., 2024; Behera et al., 2020).

Transparency in data practices is critical for building consumer trust, as it ensures that consumers feel their data is handled responsibly and ethically, fostering lasting confidence in AI-driven marketing strategies (Nan & Hu, 2022; Wang et al., 2023). A lack of clarity about how big data informs personalization can lead to discomfort and a sense of intrusion (Nan & Hu, 2022). Wang et al., (2024) further explain this, emphasizing that data-driven marketing is indeed powerful in emotional appeal to consumers but needs to be transparent and not perceived as manipulative.

Transparency in AI explanations fosters trust when consumers understand decision-making processes and can assess the relevance and fairness of targeted content (Glikson & Woolley, 2020). This aligns with Kumar et al., (2024) and Behera et al. (2020), who argue that in-depth transparency enhances consumer evaluation of AI's intentions. For small businesses like vineyards, where brand authenticity and trust are paramount, transparency becomes even more critical. However, practical research on how to implement transparency in such niche industries is scarce, as the existing studies primarily address larger enterprises with significant technological infrastructure (Mylrea & Robinson, 2023).

On the other hand, confidence-building explanations do not shed any light on the operation of the system but instead rest their logic on the perceived system benefits. These certainly can make consumers feel comfortable, but because they often fail to address deeper concerns about fairness or data use, long-term impacts on consumer trust are limited (Pieters, 2011, as cited in Glikson & Woolley, 2020).

Additionally, the need for consistent transparency through time is necessary for the sustainability of consumer trust. Indeed, such a concept of a 'trust trajectory' is considered by Glikson and Woolley (2020), whereby initial high trust disappears if AI systems fail to provide consistent transparency through time. In this respect, personalized marketing may see initial consumer interest in AI-driven personalization dissipate if transparency regarding algorithmic decisions fades or becomes ambiguous over time. In emotionally driven industries like wine, where trust strongly influences brand loyalty, maintaining open communication about AI's role is even more essential to reinforce consumer confidence.

Transparency, as part of an ethical framework emphasizing competence, benevolence, and predictability, is essential for industries where emotional connections are key, such as wine. Oyekunle et al. (2024) stress that transparency should reflect a company's broader ethical commitment, particularly in contexts involving sensitive data.

Transparency is a key ethical principle for organizations, reflecting respect for autonomy, prevention of harm, and traceability, and is vital for addressing the needs of stakeholders, including customers and developers (Balasubramaniam et al., 2023; Calegari & Sabbatini, 2023).

To achieve transparency, approaches include using interpretable models, developing explanation techniques, and implementing technologies like PSyKE for knowledge extraction from black-box predictors (Calegari & Sabbatini, 2023; Franzoni, 2023). Regulatory frameworks, such as the EU's General Data Protection Regulation (GDPR), are addressing algorithmic transparency as well (Chaudhary, 2024). Moving towards more transparent "glassbox" AI systems, ensures that AI technologies are ethically and aligned with human values (Franzoni, 2023).

Transparency is essential for ethical AI-driven personalized marketing. By ensuring operational clarity and ethical data practices, brands can foster trust, avoid manipulation, and strengthen emotional connections with consumers.

2.4 AI in Personalized Marketing

While AI offers significant benefits for personalized marketing, particularly in emotionally driven sectors like wine, it also raises ethical concerns that must be addressed to sustain consumer trust. AI revolutionizes marketing by leveraging data analytics and predictive algorithms to analyze consumer behavior, enabling highly targeted campaigns that increase engagement and drive better business outcomes (Kotras, 2020). This is a significant deviation from traditional marketing activities, which relied on general market segments rather than individualized customers' insights (Davenport et al., 2020). The capability of AI to build rich

consumer profiles, being adaptive and in real-time and with the ability for personalized suggestions, potentially increases significantly the value of customer experiences throughout a consumer journey (Kietzmann et al., 2018).

AI-driven marketing strategies are particularly relevant to vineyards, where emotional connections and personalized interactions are key to enhancing customer satisfaction and loyalty (Behera et al., 2020; Cahill, 2017). In predictive marketing, machine learning has great importance since it empowers real-time personalization through communication with customers based on their actions and preferences of the past. In turn, Behera et al. (2020) proved that AI-driven personalization gave a considerable positive shift in business performance for many industries and thus could also assure better consumer loyalty and authenticity of a brand if similar approaches were used in vineyard marketing. Small businesses, particularly in the wine industry, face significant barriers to AI adoption, including a lack of knowledge, resources (e.g., financial capital, data infrastructure), and resistance due to perceived complexity (Hossain et al., 2022; Weber et al., 2024). However, adopting AI could provide a competitive advantage, particularly for export markets (Hossain et al., 2022). SMEs are encouraged to focus on internal training and collaborate with specialists to overcome these barriers (Weber et al., 2024). SMEs, particularly in sectors like agriculture and viticulture, often face resource limitations, such as financial constraints and lack of technical expertise, which hinder AI adoption (Kedi et al., 2024). Despite these barriers, AI offers significant benefits in decision-making and efficiency, and researchers suggest that simplified AI models could help alleviate these constraints for small businesses (Anusha & Rao Kunte, 2024).

For vineyards, where long-term customer relationships are critical to brand loyalty, transparency and confidence in AI processes are essential to sustaining consumer trust (Cahill, 2017; Garbarino & Johnson, 1999). Naz and Kashif's contribution in 2024 states, that while embedding AI for efficiency and personalization, the threat of data privacy and manipulation of consumers arises. In the broader ethical debate on AI, the need for transparency and accountability is also considered. For this reason, AI systems in marketing should be created to have an approach considerate of ethical principles, so that any handling of information regarding clients be done responsibly and in a very clear manner (Naz & Kashif, 2024). Rust and Huang extend the ethical debate by focusing on mechanical, thinking, and feeling AI. Particularly important for personalized marketing is feeling AI, given the fact that most purchases of wine today are emotionally linked. Thus, the integration of feeling AI in vineyard marketing could play a pivotal role in forming emotional connections with customers and retaining customer loyalty. Yet this also creates possibilities for ethical issues concerning

emotional manipulations that managers must navigate carefully to avoid abusing consumer trust (Huang & Rust, 2021).

Longoni and Cian (2022) further consider consumer trust in AI recommendations through the Elaboration Likelihood Model. They show that consumers, though more likely to base their trust on the recommendations of AI in utilitarian contexts, resist the influence of AI when making emotional decisions, such as taste-based wine selections. This highlights a key challenge for vineyards in balancing the functional benefits of AI with the emotional nature of wine selection.

The personalization-privacy paradox reflects the balance between personalization and privacy. Where personalization is desired by consumers but privacy in terms of data use is raising caution among the same consumers (Cloarec, 2020). In working out this paradox, transparency in AI use would need to show the protection of consumer privacy by the vineyards. The work of Cloarec (2020) is aligned with the much wider calls for transparency regarding AI ethics, as presented by Mittelstadt et al. (2016). This underlines that vineyards should be proactive in taking responsibility to show consumers how their data will be handled and utilized in order to personalize. And this proactive transparency, apart from diffusing the potential for outrage over privacy concerns, helps establish deeper trust, which is required for long-term brand loyalty in a category based on emotional relationships.

While AI has a big opportunity for personalization in marketing, just as in every other industry where an emotional touch is so important, for example, wine, ethical issues also come with it that cannot be compromised. The insights of Sreerama and Krishnamoorthy (2022) provide reason to believe that if these ethical principles are not thoughtfully considered, AI-driven marketing has the potential to further reinforce biases or manipulate consumers. As such, vineyards should be very considerate in the setting up of their AI systems in order to find a balance between capitalizing on AI's predictive capabilities and upholding ethical standards that engender consumer trust and loyalty.

To succeed in AI-driven personalized marketing, businesses must address ethical concerns like transparency, accountability, and emotional manipulation, particularly in emotionally sensitive markets like wine (Behera et al., 2020; Naz & Kashif, 2024). These come about as a result of AI capabilities in prediction of consumer behavior and personalization of interaction, which, in the goal of bettering customer satisfaction, can equally breach privacy and autonomy if not handled collaboratively with proper ethics (Naz & Kashif, 2024). The Personalization-Privacy Paradox highlights the tension between consumers' desire for personalized experiences and their concerns about intrusive data practices (Cloarec, 2020). First, clear privacy frameworks and

data maturity models can guide the vineyards to handle the consumers' data responsibly and allow these consumers to know how their data was used for them to have confidence (Gao et al., 2023). Other approaches are less about how AI algorithms balance explainability with user comprehension and include a trust-based transparency approach, which is particularly useful in contexts where too much technical detail would alienate consumers (Subaveerapandiyana et al., 2024). Self-regulation through ethics audits and tools that detect biases allows companies to align AI personalization with standards on fairness; AI recommendations should treat diverse customer backgrounds with respect and not reinforce stereotypes (Gao et al., 2023). Balancing AI's transformative potential with ethical practices is paramount for vineyards, where consumer loyalty depends on tradition, authenticity, and trust.

3. Empirical Setting

3.1 AI in Vineyards and Wine Marketing

Vineyards, by nature, rely heavily on emotional ties, authenticity, and deep-rooted brand loyalty, often passed down through generations (Cahill, 2017). AI offers immense potential for vineyards by enabling personalized marketing that resonates with individual customers. AI's ability to tailor wine recommendations or offer personalized deals based on each consumer's preferences can significantly enhance the customer experience. Rane et al. (2024) and Patel et al. (2023) demonstrate how AI-driven personalization increases customer satisfaction and loyalty across various industries, and this concept can be effectively applied in vineyards as well. By analyzing customer data, AI can suggest wines that align with the individual's taste, history, and even lifestyle preferences, creating a more meaningful connection between the vineyard and the consumer. While AI offers significant potential for vineyards, small wineries often face challenges in adopting these technologies. Resource limitations, such as insufficient financial capital, data infrastructure, and a shortage of skilled professionals, are particularly prevalent in small- and medium-sized enterprises (SMEs) in the wine sector (Hossain et al., 2022). Additionally, resistance to AI adoption is common, with many small vineyards perceiving AI technologies as complex and costly to integrate into their traditional marketing practices (Weber et al., 2024). These barriers can limit the ability of smaller vineyards to fully leverage AI's benefits, hindering their competitiveness compared to larger enterprises with more resources.

However, the emotional connection remains a key factor in the wine industry, and AI must enhance rather than diminish this connection. Personalization through AI must respect the essence of the wine industry, where consumers often form emotional ties to brands. Studies,

such as Mazzocchi et al. (2019), have shown that wine consumers appreciate experiences that are deeply personalized and connected to the brand, which could strengthen the relationship between wine brands and their customers. AI facilitates this by offering experiences that align with customers' unique preferences without compromising authenticity. For example, an AI-powered wine recommendation system might suggest wines based on an individual's past purchases or similar profiles, but it must also acknowledge and respect the emotional stories and heritage associated with each product.

AI can also integrate real-time support tools, such as AI-driven chatbots and virtual assistants, which provide seamless customer engagement. These tools are essential in creating a fluid, interactive experience, contributing to customer retention and business growth. Chhabria et al. (2023) underline how AI systems enhance customer interaction, making it easier for consumers to explore wines or receive assistance in a manner that feels intuitive and engaging, thereby improving overall satisfaction and loyalty. As the wine industry increasingly shifts toward more personalized experiences, integrating AI in customer interactions can elevate engagement by streamlining the decision-making process and reducing friction points, ultimately improving customer retention.

The use of AI must also consider the sustainability concerns of modern wine consumers. According to Mazzocchi et al. (2019), consumers in the wine industry demonstrate increasing concern about sustainability, often willing to pay a premium for wines that support environmentally friendly practices in vineyards. Although this study does not directly address AI, it strongly implies that AI-driven marketing should not only focus on personalization but also communicate the sustainability practices behind each product. AI systems that transparently demonstrate how a vineyard contributes to sustainable practices—such as supporting biodiversity or reducing carbon footprints—would align with consumer expectations for ethical behavior in businesses. Transparency in AI processes, especially regarding how AI integrates sustainability data into personalized marketing strategies, is vital for maintaining consumer trust and loyalty.

3.2 Navigating Transparency Challenges in AI-Enhanced Personalization

While AI offers significant benefits in personalized marketing, its integration in the vineyard industry presents particular challenges, particularly related to transparency, emotional manipulation, and brand authenticity. AI-driven personalization must remain transparent to customers to ensure that trust is maintained. The complexity of AI algorithms can make it difficult for consumers to understand how their preferences are being shaped, which could potentially lead to a loss of trust if not properly communicated. Transparency regarding how

AI-driven decisions are made—such as how customer data is used, how recommendations are tailored, and the ethical implications of AI involvement—becomes crucial in preventing customers from feeling manipulated or alienated.

This transparency extends beyond explaining how AI algorithms work. Vineyards must also communicate their commitment to data privacy and how the data is being used to create personalized experiences. Consumers have an increasing awareness of data privacy issues, and the failure to address these concerns could damage the authenticity that vineyards have long cultivated. To avoid this, vineyards must provide clear, accessible explanations about the data collection and usage processes, ensuring that the AI systems are not seen as "black boxes" but rather as understandable tools that serve to enhance customer relationships. As Salah and Ayyash (2024) suggest, AI systems should be user-friendly and appropriate for the technological comfort level of the customer base, ensuring that customers feel empowered rather than overwhelmed by the technology.

Furthermore, vineyards must navigate the challenge of integrating AI without alienating customers who have strong ties to tradition and authenticity. Wyler et al. (2023) discuss the difficulty some vineyards face in balancing innovation with more traditional practices that resonate deeply with customers. If AI is introduced in a way that disrupts the emotional and cultural connections that consumers have with the vineyard's history or practices, there is a risk of undermining consumer loyalty. For example, if a vineyard moves too quickly toward hightech, impersonal methods, it could diminish the emotional bond consumers feel with the brand, which is often built on a foundation of authenticity and tradition. This balance is crucial in the wine industry, where the connection to heritage is as important as the product itself.

Schaffernicht (2017) underscores the importance of emotional and relational aspects in the vineyard industry. Vineyards are not merely businesses; they are cultural and emotional touchstones for many of their consumers. This relationship requires that any technological integration—such as AI—enhance, rather than detract from, the emotional narratives that are central to the vineyard's identity. AI technologies must be deployed thoughtfully to preserve these emotional connections while still allowing for the efficiencies and personalized experiences that technology can provide. This ensures that AI adoption supports, rather than disrupts, the deeply rooted authenticity that makes the vineyard's brand unique.

Another significant challenge is the potential ethical risks associated with emotional manipulation in AI-driven marketing. Huang and Rust (2021) highlight the emotional aspects of AI-driven marketing, noting that it can sometimes be used manipulatively, influencing consumer behavior in ways that may not align with the consumer's best interests. This issue is

especially pertinent in the wine industry, where strong emotional connections often guide purchasing decisions. While AI can enhance customer experiences, it must do so in an ethical manner, ensuring that it does not cross the line into manipulation. The AI tools used in vineyards should focus on improving the consumer experience without exploiting emotional vulnerabilities for profit. This balance requires that AI systems be transparent, equitable, and respectful of consumer autonomy.

Transparency is a key part of maintaining this ethical approach. When vineyards deploy AI systems that are both transparent and aligned with the consumer's values—such as sustainability, authenticity, and data privacy—they can enhance trust. By ensuring that their AI systems are used ethically and transparently, vineyards will be able to build lasting customer relationships that are grounded in mutual respect and authenticity. Mittelstadt et al. (2016) and Naz & Kashif (2024) reinforce the idea that AI-driven marketing should not only be aimed at increasing sales but also focus on fostering long-term trust and loyalty through ethical practices. Despite the significant theoretical advancements in AI-driven personalized marketing, there remains a gap in understanding how to apply the ethical principle of transparency in small businesses like vineyards. The existing literature is primarily concerned with broader industries, with little focus on niche markets such as the wine industry. The lack of empirical research on consumer perceptions of AI-driven marketing in industries where emotional connections to the brand are central is another gap that this study aims to address. Understanding how AI can be integrated into the relational dynamics of vineyard marketing without compromising authenticity or trust is vital to ensuring that vineyards can benefit from AI without alienating their customer base.

4. Research Design and Methodology

This study adopts an inductive qualitative research design (Denzin & Lincoln, 2011), aiming to explore the research question: *“How can vineyard management implement AI transparency to enhance ethical personalized marketing, thereby increasing consumer trust and improving business performance?”* through emergent patterns and themes, rather than predefined theories or hypotheses. By focusing on how AI transparency fosters trust and drives performance, the study remains open to new insights and theories developed directly from the data.

Through semi-structured interviews and secondary data analysis, the study examines how AI transparency fosters consumer trust and drives business performance. The analysis identifies pathways linking transparency, via themes like ethical practices and clear communication, to these outcomes, ensuring a focused and nuanced understanding of their interconnection.

4.1 Data Collection

Semi-structured interviews served as the primary source for data collection, as they are quick and efficient in capturing specific details and context from key stakeholders (Dearnley, 2005). In this respect, interviews targeted vineyard managers, marketing professionals, and consultants specializing in vineyard marketing, identified as experts directly related to the practices of marketing and decision-making processes. The concept of data saturation justified conducting six interviews, as further appointments with vineyard representatives or consultants could not be secured despite extensive outreach efforts. Numerous potential participants from wine regions worldwide were contacted; however, many did not respond or were unable to participate due to the ongoing harvest season or holiday business activities. While Guest et al. (2006) observed that saturation often occurs within the first 12 interviews, basic themes may emerge as early as six interviews, which was the scope of this study. These six interviews were enough to explore in detail such topics as the role of AI in personalized marketing, the ethical challenges occurring in the implementation of AI, and perceptions of transparency in AI and their effects on consumers' trust (Naz & Kashif, 2024). This approach ensured a meaningful and thorough contribution to the research question within the practical constraints encountered. Given the practical constraints, this allowed for an effective contribution.

Through email contacts, interviews were scheduled at a time that suited the participants. To provide accessibility, the interviews were conducted online via Microsoft Teams and lasted, on average, about 27 minutes. However, one participant, due to time constraints, was unable to schedule a live interview and instead provided written answers to the interview questions via email. Interviews could be conducted in either English or German, depending on the participant's preferred language.

Every session began with an explanation of the study's purpose and procedures, emphasizing the confidential nature of the data handling process, including how anonymity would be ensured. Consent was sought for recording prior to the interview. This approach adhered to ethical research practices to ensure the credibility of the findings, as confidentiality and the anonymization of sensitive information are key to protecting participant privacy (Allmark et al. 2009)

While the sample size of six interviews might appear limited, this approach aligns with qualitative research practices in niche industries, where depth and specificity are prioritized over quantity. Guest et al. (2006) suggest that thematic saturation often occurs within the first six to twelve interviews, and smaller, focused samples can effectively capture rich, in-depth insights. Recruiting participants during the harvest and holiday business season presented

significant challenges, as many vineyard managers were unable to participate. Despite these constraints, the six participants represent diverse roles within vineyard marketing, vineyard management, and vineyard consulting, ensuring a well-rounded representation of perspectives. To mitigate the limitations of the small sample size, this study integrates secondary data, including academic literature and industry reports, providing additional contextual validation and enriching the findings. This methodological data triangulation ensures a robust analysis that reflects the complexities of AI transparency, ethics, and personalized marketing in vineyard management. As Kvale and Brinkmann (2015) note, small, targeted samples in qualitative research are effective for uncovering nuanced insights, especially in niche sectors. By integrating multiple data sources, this study adheres to established research standards while addressing practical constraints.

This approach underscores the balance between methodological rigor and contextual relevance, enabling a thorough exploration of the interplay between AI transparency, ethical considerations, and consumer trust in vineyard marketing. The findings, therefore, provide a meaningful contribution to understanding how transparency can enhance trust and business performance within this unique industry context. Table 1 outlines the participants' roles, interview details, and AI involvement.

| Area of Expertise | Position in the Company | Date of the Interview | Interview Length | Use of AI |
|------------------------------|--------------------------------|------------------------------|-------------------------|------------------------|
| Vineyard Business Management | Business Operations | 2024-05-10 | 21 minutes | Implementing AI |
| Vineyard Consultant | Managing Director | 2024-07-10 | 24 minutes | Exploring AI |
| Vineyard Marketing | Marketing Specialist | 2024-11-11 | 26 minutes | Not currently using AI |
| Vineyard Marketing | Marketing Specialist | 2024-11-12 | 34 minutes | Not currently using AI |
| Vineyard Marketing | Marketing Director | 2024-26-11 | 28 minutes | Exploring AI |
| Vineyard Consulting | Managing Director | 2024-27-11 | Written Interview | Implementing AI |

Figure 2: Overview of participant roles, interview details, and AI usage status.

Grounded theory approaches offer a systematic framework for developing interview protocols (Bearman, 2019) and generating new theoretical concepts in qualitative research. This method emphasizes the importance of transparency and trust in data collection and analysis (Tucker, 2014). Four distinct interview protocols were developed to address the interviewees more

specifically and to ensure the relevance of the questions to their experience. Two interview guides were designed for marketing specialists working within vineyards: one for those who are already utilizing AI in their marketing processes (See Appendix 4) and another for those who are not currently working with AI (See Appendix 5). Similarly, two protocols were created for vineyard consultants: one tailored to consultants who have experience with AI implementation (See Appendix 2) and another for those who have not yet incorporated AI into their work (See Appendix 3). This structured approach ensures that the discussions are focused and contextually appropriate for each group of interviewees. For example, questions relating to

'perceptions about transparency' were informed by the findings of Mittelstadt et al. (2016), while questions that sought to understand 'ethical use of AI in application' drew on Jobin et al. (2019). This way, it was ensured that there is a strong link between the theory and data collection. Such open-ended questions allowed the participants to narrate both experiences and opinions, giving room for the interviewer for further probes on emerging issues. Key themes were participants' role in vineyard marketing, knowledge of AI technologies, and use of themviews about transparency, trust, and ethical consideration about AI-driven marketing (Potter, 2018).

In addition to interviews, secondary data was collected to complement the primary data. This included academic literature, industry reports, and case studies relevant to AI ethics and vineyard marketing. This would provide a broader context, which helped to either validate or broaden the themes that emerged from the interviews according to Johnston (2017).

4.2Data Analysis

The Gioia methodology was applied for data analysis, providing a systematic and inductive approach for qualitative research (Gioia et al., 2012). The interviews were transcribed and reviewed to achieve familiarity with the data, forming the basis for the subsequent analysis. Initial themes were identified through the Gioia Methodology, which emphasizes maintaining the interviewees' original terminology during the first-order concept analysis.

The Gioia methodology was applied to analyze the qualitative data, providing a systematic, inductive approach for uncovering themes and theoretical constructs (Gioia et al., 2012). The analysis began with transcription and translation of the interviews. While some interviews were conducted in German and subsequently translated into English using ChatGPT to ensure consistency and accuracy, others were conducted directly in English, eliminating the need for translation. This approach ensured that the data preparation process was consistent across all interviews, regardless of the language used.

The coding process was conducted in multiple stages to ensure analytical rigor while addressing the unique context of vineyard marketing. First-order concepts were identified in MAXQDA, preserving the participants' original terminology to reflect their perspectives authentically. These codes were then grouped into emerging patterns to form higher-level, second-order themes. Subsequently, the analysis was transferred to Excel, where the three stages of the Gioia methodology were systematically organized. First-order concepts were manually assigned to second-order themes, enabling iterative refinement and precise alignment with the study's objectives. The second-order themes were further abstracted to identify broader patterns and connections, leading to the development of aggregate dimensions. These dimensions synthesized the data into theoretical constructs, highlighting relationships between key concepts and their relevance to vineyard marketing. First-order codes were assigned to second-order themes such as „*Explainability as a Trust-Building Measure*“ and „*Clear Communication Strategies*,“ which were then grouped under the aggregate dimension „*AI Transparency in Ethical Practices*.“

This process was particularly suited to the study's niche context, as the manageable amount of data made it feasible to manually refine and organize codes without relying solely on software. The hands-on approach facilitated a deeper engagement with the data, ensuring that the unique dynamics of vineyard marketing were adequately captured. Throughout this process, consistent revisiting of the data and iterative adjustments ensured the reliability and validity of the thematic clusters and their alignment with the study's research objectives.

By employing this structured yet flexible approach, the analysis preserved the richness of participants' experiences while distilling the data into actionable insights and theoretical contributions. This method allowed the study to remain deeply grounded in the qualitative data while addressing the specificities of AI transparency in vineyard marketing.

The relationships among the aggregate dimensions were mapped to provide a dynamic view of AI transparency in vineyard marketing. This step further developed the static data structure into a conceptual model, which aligned the findings with the relevant literature to uncover precedents and introduce new contributions (Gioia et al., 2012). This comprehensive approach allowed analysis to be inductive, systematic, and grounded in the data.

5. Findings

The results of the semi-structured interviews, analyzed using the Gioia methodology, provide key insights into the role of AI transparency in ethical personalized marketing in vineyard management. This section presents the key aggregate dimensions that emerged from the data

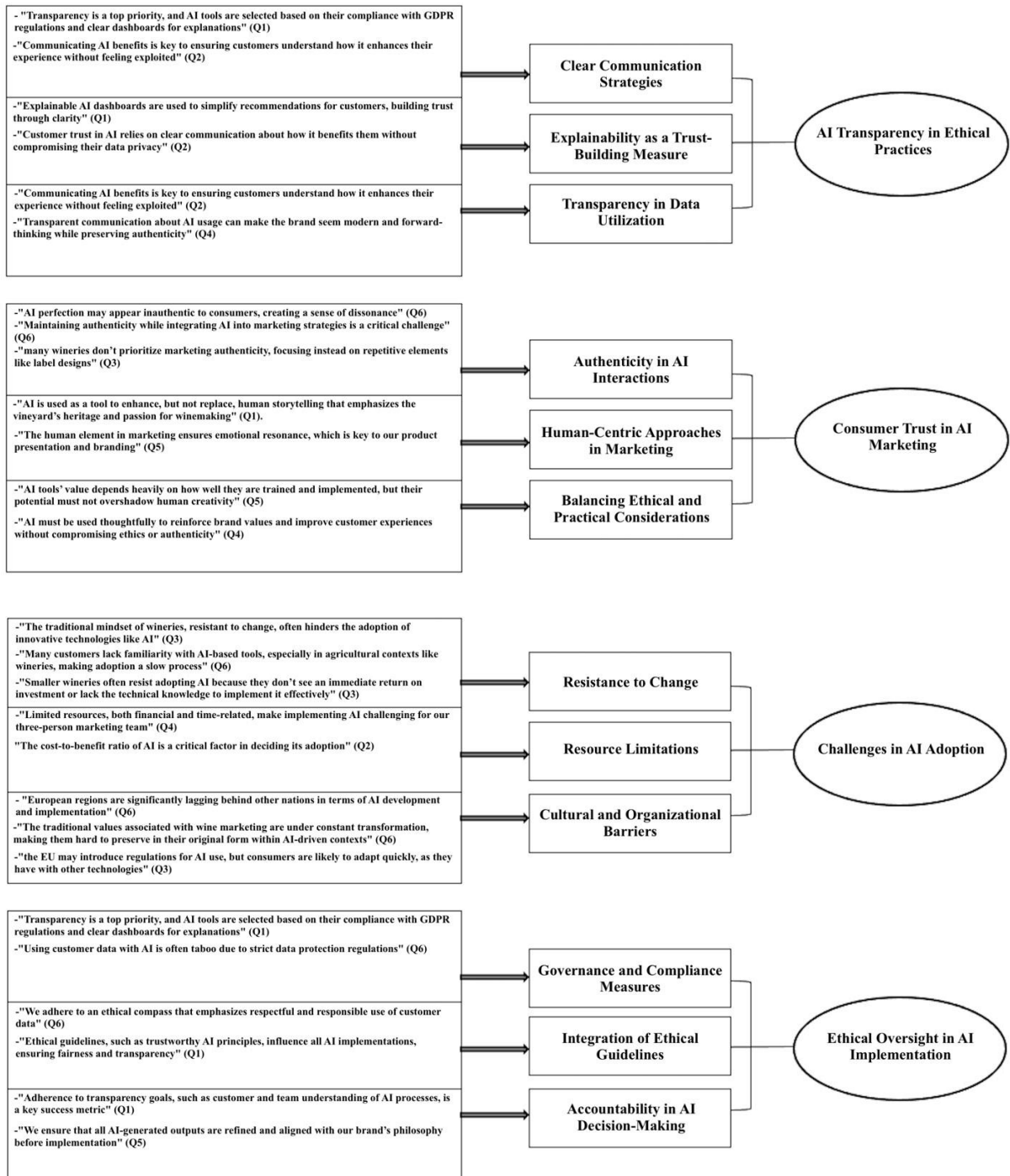
and highlights the importance of transparency, consumer trust, and ethical considerations in AI-enabled marketing. We look at three other themes that are connected to AI transparency: clear communication strategies, explainability as a trust-building measure, and transparency in data use. All of these themes help to build trust and ensure the ethical use of AI in marketing. The findings also highlight significant challenges to the adoption of AI in the wine sector, including resistance to change, resource limitations, and cultural and organizational barriers. These factors make it difficult to successfully integrate AI into traditional marketing strategies. Also, ethical oversight is very important when using AI. Key factors for the responsible use of AI include governance and compliance measures, as well as incorporating ethical guidelines and accountability into the decision-making processes of AI.

Finally, the performance aspects of AI-enabled marketing are looked at. This shows how ethical AI practices can improve efficiency, help target and grow markets, and give businesses a strategic edge. These key findings are explored in detail in the following sections to provide a comprehensive understanding of the dynamics of AI transparency, trust, and ethical marketing in vineyard management.

First-order Concepts

Second-order themes

Aggregate Dimensions



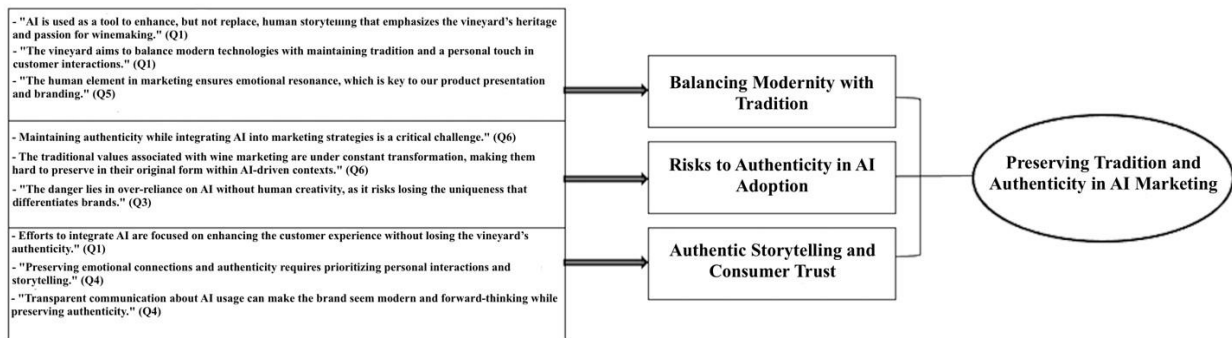
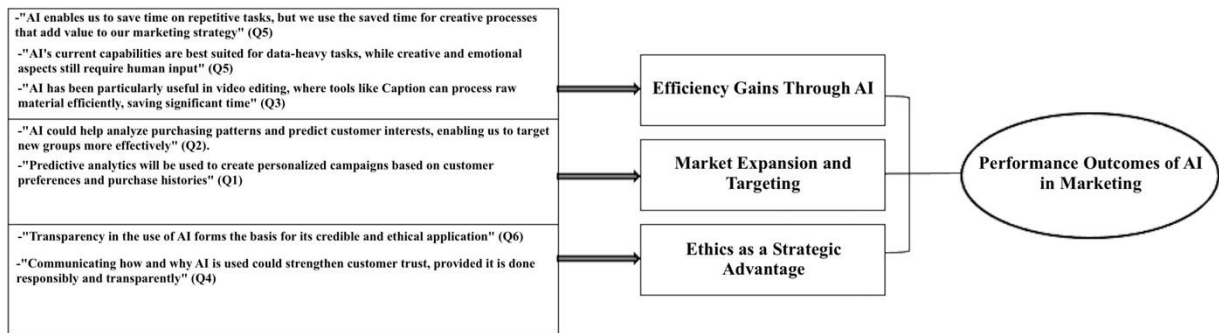


Figure 3: Overview of Data Analysis Following the Gioia Methodology.

Source : Own illustration.

5.1 AI Transparency in Ethical Practices

AI transparency plays a critical role in ensuring ethical practices in personalized marketing, particularly in sectors like vineyard management, where consumer trust and brand authenticity are vital. This section explores how the second-order *themes*—*Clear Communication Strategies*, *Explainability as a Trust-Building Measure*, and *Transparency in Data Utilization*—contribute to promoting transparency, trust, and ethical AI application in vineyard marketing.

The theme *Clear Communication Strategies* emphasizes the importance of effectively communicating AI processes to both consumers and internal stakeholders. One interviewee noted, "Transparency is a top priority, and AI tools are selected based on their compliance with GDPR regulations and clear dashboards for explanations" (Q1). This underscores that transparency is not just about explaining AI's functions but also ensuring AI tools meet ethical standards such as data privacy regulations. Transparent communication about AI's benefits is crucial in building consumer trust. As another participant stated, "Communicating AI benefits is key to ensuring customers understand how it enhances their experience without feeling exploited" (Q2). This underscores the importance of transparency in addressing consumer concerns about manipulation or misinformation.

The theme *Explainability as a Trust-Building Measure* highlights how making AI decisions understandable builds consumer trust. One participant explained, "Explainable AI dashboards

are used to simplify recommendations for customers, building trust through clarity" (Q1). This demonstrates how clear explanations of AI recommendations can increase consumer confidence. Another interviewee noted, "Customer trust in AI relies on clear communication about how it benefits them without compromising their data privacy" (Q2). This reinforces that trust also depends on how well consumers understand AI's benefits, particularly in terms of data protection. Clear communication about AI's operations ensures consumers feel their data is being used ethically, fostering trust.

The theme *Transparency in Data Utilization* focuses on the importance of openness regarding how consumer data is collected and used. One participant shared, "Communicating AI benefits is key to ensuring customers understand how it enhances their experience without feeling exploited" (Q2), emphasizing the need for clear communication about data usage. Transparency about data usage allows consumers to feel more comfortable with AI systems, knowing their information is handled responsibly. Additionally, transparent communication about the brand's use of AI helps strengthen its reputation. One participant stated, "Transparent communication about AI usage can make the brand seem modern and forward-thinking while preserving authenticity" (Q4). This highlights how transparency can position a vineyard as both innovative and authentic, ensuring AI adoption enhances rather than erodes consumer trust.

5.2 Consumer Trust in AI Marketing

Consumer trust is essential for the successful implementation of AI-driven marketing, particularly in sectors like wine marketing, where emotional connections with consumers and brand authenticity are of utmost importance. This section explores how the second-order themes—*Authenticity in AI Interactions*, *Human-Centric Approaches in Marketing*, and *Balancing Ethical and Practical Considerations*—affect consumer trust in AI marketing.

The theme of *authenticity in AI interactions* reveals the challenges of maintaining the human touch in AI-driven marketing. One participant noted, "AI perfection may appear inauthentic to consumers, creating a sense of dissonance" (Q6). This highlights the issue that overly polished AI-driven interactions can feel disconnected from the emotional, human-driven connections consumers value. In industries like wine, emotional resonance rather than efficiency builds personal connections with brands, making authenticity in marketing crucial. Another interviewee emphasized, "Maintaining authenticity while integrating AI into marketing strategies is a critical challenge" (Q6), underscoring the difficulty of balancing AI's technological capabilities with the emotional aspects of branding that foster trust. Additionally, it was noted that "many wineries don't prioritize marketing authenticity, focusing instead on

repetitive elements like label designs" (Q3), which further complicates efforts to integrate authenticity into AI-driven strategies.

The theme *Human-Centric Approaches in Marketing* emphasizes integrating AI as a tool to enhance, not replace, human-driven marketing strategies. One participant shared, "AI is used as a tool to enhance, but not replace, human storytelling that emphasizes the vineyard's heritage and passion for winemaking" (Q1). This illustrates that AI should complement the emotional narratives fundamental to wine marketing. AI can assist in personalizing content and improving efficiency, but it must not overshadow the human elements that create emotional connections with consumers.

Another interviewee noted, "The human element in marketing ensures emotional resonance, which is key to our product presentation and branding" (Q5). This statement reinforces the idea that AI alone cannot replicate the emotional connections consumers form with brands through human-driven narratives. AI can assist, but personal interactions and storytelling are essential for building lasting relationships based on trust.

The theme *Balancing Ethical and Practical Considerations* highlights the need to use AI in a way that aligns with both ethical principles and practical business objectives. One participant explained, "AI tools' value depends heavily on how well they are trained and implemented, but their potential must not overshadow human creativity" (Q5). This emphasizes that AI should complement, not replace, the creative aspects of marketing that are critical in the wine industry. AI must enhance, not diminish, the human elements consumers expect from their interactions with brands.

Another interviewee shared, "AI must be used thoughtfully to reinforce brand values and improve customer experiences without compromising ethics or authenticity" (Q4). This highlights the importance of using AI responsibly to ensure it aligns with the brand's core values and maintains consumer trust over time.

5.3 Challenges in AI Adoption

The adoption of AI in vineyard marketing faces several significant challenges, primarily linked to *resistance to change*, *resource limitations*, and *cultural and organizational barriers*. These themes reveal the obstacles vineyards encounter when attempting to integrate AI into their traditional marketing strategies.

The theme *Resistance to Change* emphasizes the difficulty many vineyards face in embracing new technologies. One interviewee noted, "The traditional mindset of wineries, resistant to change, often hinders the adoption of innovative technologies like AI" (Q3). The adoption of AI appears disruptive as many vineyards continue to rely on established practices passed down

through generations. The unfamiliarity with AI-based tools further complicates adoption. As one participant explained, "Many customers lack familiarity with AI-based tools, especially in agricultural contexts like wineries, making adoption a slow process" (Q6). Smaller wineries also face additional challenges, with one participant observing, "Smaller wineries often resist adopting AI because they don't see an immediate return on investment or lack the technical knowledge to implement it effectively" (Q3).

The theme *Resource Limitations* highlights the financial and operational challenges vineyards face in adopting AI. One interviewee shared, "Limited resources, both financial and timerelated, make implementing AI challenging for our three-person marketing team" (Q4). Many small vineyards lack the financial and human resources to dedicate to AI projects. The financial costs and uncertainty surrounding ROI are significant barriers, as noted by another participant: "The cost-to-benefit ratio of AI is a critical factor in deciding its adoption" (Q2).

The theme *Cultural and Organizational Barriers* points to deeper structural challenges. One participant stated, "European regions are significantly lagging behind other nations in terms of AI development and implementation" (Q6). Additionally, the traditional values associated with wine marketing often clash with the technological changes AI brings. As one interviewee explained, "The traditional values associated with wine marketing are under constant transformation, making them hard to preserve in their original form within AI-driven contexts" (Q6). However, it was noted that "the EU may introduce regulations for AI use, but consumers are likely to adapt quickly, as they have with other technologies" (Q3), suggesting a potential shift in how AI is integrated despite these barriers.

5.4 Ethical Oversight in AI Implementation

Implementing AI responsibly in vineyard marketing requires ethical oversight. This section examines how the second-order *themes of Governance and Compliance Measures, Integration of Ethical Guidelines, and Accountability in AI Decision-Making* ensure AI technologies are used ethically and transparently.

The theme *Governance and Compliance Measures* highlights the importance of ensuring AI tools adhere to legal standards, particularly regarding data protection. One participant noted, "Transparency is a top priority, and AI tools are selected based on their compliance with GDPR regulations and clear dashboards for explanations" (Q1). Following data protection laws guarantees the responsible use of AI tools. Another participant shared, "Using customer data with AI is often taboo due to strict data protection regulations" (Q6), reflecting the privacy concerns many vineyards face in using AI for marketing.

The theme *Integration of Ethical Guidelines* emphasizes embedding ethical principles into every stage of AI implementation. One participant shared, "We adhere to an ethical compass that emphasizes respectful and responsible use of customer data" (Q6). Ethical guidelines ensure that AI is used responsibly, protecting consumer rights while delivering value. Another interviewee emphasized, "Ethical guidelines, such as trustworthy AI principles, influence all AI implementations, ensuring fairness and transparency" (Q1).

The theme of *accountability in AI decision-making* underscores the importance of ensuring that AI decisions align with brand values and consumer expectations. One interviewee stated, "Adherence to transparency goals, such as customer and team understanding of AI processes, is a key success metric" (Q1). This ensures that AI decisions are transparent and accountable. Another participant shared, "We ensure that all AI-generated outputs are refined and aligned with our brand's philosophy before implementation" (Q5).

5.5 Performance Outcomes of AI in Marketing

AI in vineyard marketing has the potential to generate significant performance outcomes. This section explores how the second-order *themes—Efficiency Gains Through AI, Market Expansion and Targeting, and Ethics as a Strategic Advantage—*contribute to the success of AI-driven marketing efforts.

The *theme Efficiency Gains Through AI* highlights how AI can improve operational efficiency by automating time-consuming tasks. One participant shared, "AI enables us to save time on repetitive tasks, but we use the saved time for creative processes that add value to our marketing strategy" (Q5). AI allows marketing teams to focus on high-value activities such as creativity and strategic thinking. Another participant noted, "AI's current capabilities are best suited for data-heavy tasks, while creative and emotional aspects still require human input" (Q5), highlighting AI's role in enhancing efficiency without replacing human creativity. As one interviewee pointed out, "AI has been particularly useful in video editing, where tools like Caption can process raw material efficiently, saving significant time" (Q3), demonstrating AI's specific applications in optimizing workflows.

The theme *Market Expansion and Targeting* focuses on AI's potential to enhance targeting and customer segmentation. One participant noted, "AI could help analyze purchasing patterns and predict customer interests, enabling us to target new groups more effectively" (Q2). Predictive analytics can optimize marketing campaigns, making them more relevant and personalized. As one interviewee explained, "Predictive analytics will be used to create personalized campaigns based on customer preferences and purchase histories" (Q1), highlighting AI's ability to finetune marketing efforts and improve customer engagement.

The theme *Ethics as a Strategic Advantage* emphasizes the importance of transparency in AI's role in marketing. One participant stated, "Transparency in the use of AI forms the basis for its credible and ethical application" (Q6). Ethical considerations, such as transparency and fairness, can position a vineyard as both responsible and innovative, providing a competitive edge. As one interviewee pointed out, "Communicating how and why AI is used could strengthen customer trust, provided it is done responsibly and transparently" (Q4), reinforcing the idea that clear communication about AI use is essential for fostering trust and credibility in the marketplace.

5.6 Balancing Modernity with Tradition

The integration of AI into vineyard marketing presents unique challenges and opportunities, particularly in balancing technological advancements with the deeply rooted traditions and authenticity of the wine industry. This section explores how the second-order *themes*—*Balancing Modernity with Tradition*, *Risks to Authenticity in AI Adoption*, and *Authentic Storytelling and Consumer Trust*—contribute to successful AI integration in vineyard marketing.

The theme *Balancing Modernity with Tradition* highlights how vineyards can leverage AI to enhance personalized marketing while preserving their heritage and authenticity. Participants emphasized the importance of using AI as a supportive tool rather than a replacement for traditional practices. As one participant noted, "AI is used as a tool to enhance, but not replace, human storytelling that emphasizes the vineyard's heritage and passion for winemaking" (Q1). By integrating AI thoughtfully, vineyards can augment traditional storytelling, creating marketing strategies that resonate with consumers while honoring their legacy. Another participant highlighted the importance of personal interactions, stating, "The vineyard aims to balance modern technologies with maintaining tradition and a personal touch in customer interactions" (Q1). This approach ensures that AI-driven marketing remains authentic and emotionally engaging, fostering deeper connections with consumers.

The theme *Risks to Authenticity in AI Adoption* addresses concerns about maintaining a brand's traditional values while embracing modern technologies. One participant explained, "Maintaining authenticity while integrating AI into marketing strategies is a critical challenge" (Q6). The dynamic nature of consumer expectations further complicates this balance, as traditional values in wine marketing are constantly evolving.

Over-reliance on AI can also dilute the uniqueness of a brand. One respondent noted, "The danger lies in over-reliance on AI without human creativity, as it risks losing the uniqueness

that differentiates brands" (Q3). This highlights the need for thoughtful implementation to ensure AI complements rather than undermines the vineyard's identity.

The theme of *Authentic Storytelling and Consumer Trust* emphasizes the importance of integrating AI in ways that enhance, rather than compromise, a vineyard's authenticity. Participants discussed the importance of using AI to support transparent and emotionally resonant storytelling. One respondent stated, "Efforts to integrate AI are focused on enhancing the customer experience without losing the vineyard's authenticity" (Q1).

Transparency about AI's role in marketing further supports consumer trust. As another participant explained, "Transparent communication about AI usage can make the brand seem modern and forward-thinking while preserving authenticity" (Q4). By openly addressing AI's contributions to personalized marketing, vineyards can position themselves as both innovative and respectful of their heritage.

This section underscores the delicate balance vineyards must achieve when integrating AI into their marketing strategies. By focusing on enhancing rather than replacing traditional practices, vineyards can leverage AI to create innovative yet authentic consumer experiences. The findings emphasize that AI must be implemented thoughtfully to preserve the emotional resonance and authenticity that define vineyard branding.

These insights contribute to a broader understanding of how niche industries can modernize their marketing practices while maintaining core values. By balancing innovation with tradition, vineyards can ensure their adoption of AI aligns with their identity, fostering long-term consumer trust and loyalty.

6. Discussion

6.1 Theoretical contribution

This study makes a significant theoretical contribution to our knowledge of AI transparency and how it can be used to improve ethical personalized marketing in the vineyard industry. It focuses on how AI transparency affects customer trust, customer loyalty, and business performance. The ethical principles of Fairness, Accountability, and Transparency (FAT), AI transparency, and trust are all shown to have complex and interdependent relationships with each other. These relationships create a feedback loop where trust leads to customer loyalty, which in turn improves business performance. While AI transparency remains central, the FAT principles are very important to ensure that AI is used in an ethical way that builds trust. This cycle is crucial in industries like vineyard marketing, where emotional connections and authenticity are fundamental to brand success.

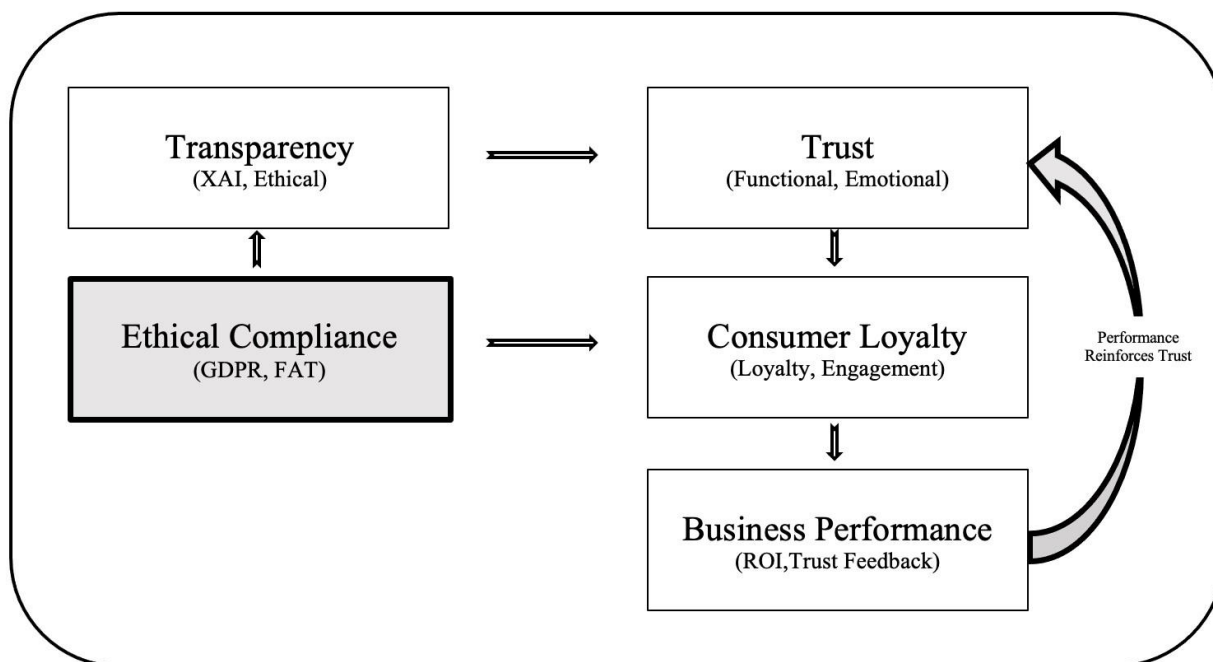


Figure 4: Conceptual Model Linking AI Transparency, Trust, and Business Performance.

Source : Own illustration

At the core of this study is the extension of existing transparency frameworks, in particular “Transparency by Design” (Felzmann et al., 2020), to the specific context of vineyard marketing. The research emphasizes that transparency in AI in marketing not only means disclosing the functions of AI but also aims to make the workings of AI understandable and comprehensible to consumers. Tools such as dashboards for explainable AI (XAI) are an example of this, as they simplify AI-supported recommendations and make decision-making processes transparent. This is in line with the principles of ‘Transparency by Design’ by making AI understandable for stakeholders and reducing consumer uncertainty, which directly contributes to customer loyalty.

In addition, compliance with the GDPR is proving central to maintaining ethical AI practices. By aligning AI tools with legal frameworks, vineyards can uphold data privacy and transparency, thereby strengthening consumer trust. This observation builds on the work of Mittelstadt et al. (2016), who argue that transparency mitigates risks associated with “black box” systems and is essential for building trustworthy AI ecosystems. Integrating ethical principles with transparency creates a foundation of trust that is crucial for long-term customer relationships.

Transparency in data use further strengthens this trust by addressing consumer concerns about the collection and use of their information. When consumers understand the role their data plays

in personalized marketing, their perception of risk is reduced, promoting fairness and consumer trust. This is in line with research by Park and Yoon (2024), who emphasize that open communication about data use builds trust and loyalty, especially in emotionally driven industries such as wine marketing.

Furthermore, this study highlights the challenges of maintaining authenticity in AI-driven interactions and provides a significant theoretical contribution to understanding the role of AI in emotional branding. AI interactions that appear too slick run the risk of being perceived as inauthentic, which can disrupt the emotional connections valued by consumers in vineyard marketing. This is in line with Longoni and Cian's (2022) argument that AI in emotionally driven industries must avoid alienating consumers from the brand. Instead, AI should support human storytelling without replacing it to ensure a balance between efficiency and authenticity. This balance is critical to maintaining emotional resonance and trust in brands, a key factor in building customer loyalty.

In summary, this study significantly expands our understanding of AI transparency in personalized marketing, particularly in the vineyard industry, by demonstrating how transparency, ethical principles, and consumer trust are linked. The findings show that transparency in AI tools such as XAI dashboards and clear communication about data usage are not only ethical obligations but also key drivers of consumer trust and loyalty. This study extends existing models of AI transparency by applying them to niche markets where emotional connection and authenticity are central to brand success. By demonstrating how AI transparency builds trust, which in turn improves customer loyalty and business outcomes, this study provides new theoretical insights into the ethical integration of AI into marketing strategies without jeopardizing brand identity. Furthermore, the feedback loop identified in this research, where trust and loyalty continuously reinforce each other, provides a novel theoretical perspective on how AI transparency contributes to long-term business success in emotionally driven industries.

6.2. Managerial contribution

This study provides several practical insights that vineyard managers can use to improve their marketing strategies and overall business performance through AI transparency. One of the key takeaways is the importance of clear communication about how AI works and how it benefits consumers. Managers can help consumers understand how AI makes decisions by prioritizing transparency and providing XAI dashboards. This transparent approach not only builds trust but also reduces consumer skepticism, ultimately leading to stronger engagement with the brand. Vineyard managers should consistently meet ethical standards, particularly when it comes to data privacy, in addition to clear communication. Adhering to frameworks like GDPR shows

consumers that their personal information is handled responsibly. This focus on ethical AI practices helps reinforce trust in AI-driven marketing, which is critical for building consumer loyalty. By being transparent about data collection and usage, managers can effectively reassure customers that their privacy is safeguarded, encouraging long-term relationships.

Instead of replacing the human element of marketing, marketers should view AI as a tool to enhance it. In the vineyard industry, where emotional connections with consumers are paramount, it's essential to maintain the authenticity of brand storytelling. Managers should integrate AI in a way that complements human-driven narratives. For instance, managers can use AI to personalize marketing efforts, but it should never overshadow the vineyard's story or heritage. By maintaining this balance, AI can support, rather than detract from, the emotional connection that customers feel toward the brand.

The study also highlights that smaller vineyards, often constrained by resources, should adopt phased AI adoption strategies. This gradual approach allows businesses to implement AI technologies incrementally, reducing resistance to change and making the process more manageable. Managers can start small, integrating AI into less critical areas, such as customer segmentation or inventory management, and then scale it as the organization becomes more comfortable with the technology. This approach minimizes overwhelm and allows for continuous refinement based on feedback, ensuring that AI adoption remains aligned with the vineyard's core values.

Additionally, transparency in data usage is a powerful tool for enhancing consumer trust. Consumers can feel confident in the ethical use of their information when they understand how their data contributes to more personalized marketing. This fosters a deeper connection with the brand and strengthens loyalty. Moreover, AI can bring significant efficiency gains by automating repetitive tasks, which frees up valuable resources for more creative and personalized marketing efforts. This allows vineyard managers and marketing specialists to focus on high-value activities like crafting compelling brand narratives and connecting emotionally with their customers.

Finally, embedding ethical guidelines into the AI implementation process is essential. Managers should align the AI systems they use with their brand's values. This could include focusing on fairness, transparency, and accountability in all AI-related activities. By doing so, vineyard managers can safeguard consumer trust while positioning their businesses as responsible and innovative, enhancing the brand's reputation.

The new findings also underscore the importance of balancing modern AI capabilities with traditional values. Managers should ensure that AI supports the preservation of authenticity and

tradition in their marketing narratives. For example, AI can provide personalized recommendations while still reflecting the vineyard's heritage and emotional storytelling. This balance not only strengthens consumer trust but also ensures that AI adoption does not compromise the unique identity of the vineyard.

In conclusion, vineyard managers can leverage these findings to implement AI in ways that enhance both business performance and consumer relationships. By communicating clearly, adopting ethical practices, and ensuring authenticity in AI interactions, they can build lasting trust with consumers, ensuring long-term loyalty and driving business success. These strategies will not only help improve operational efficiency but also create a positive feedback loop that reinforces both consumer trust and business growth.

6.3 Limitations and further research

This study provides valuable insights into the transparency of AI in personalized marketing but has several limitations that should be addressed in future research.

One key limitation is the small sample size. Due to the harvest season and Christmas shopping, only six interviews were conducted. This limited sample restricts the generalizability of the results. Future studies should increase the sample size and broaden the geographical scope to include participants from different regions and industries. This would improve generalizability and provide a broader understanding of how AI transparency is applied in different contexts. The study also focuses specifically on the wine industry, which may not be representative of other sectors. While emotional connection and authenticity are key in this industry, different priorities may prevail in other sectors. Future research should investigate the transparency of AI in industries such as luxury goods, consumer electronics, or mass market products, where factors such as efficiency and price competition may dominate consumer purchasing decisions. Comparative studies could provide a more comprehensive view of the role of AI transparency in different markets.

Another limitation is the focus on the gradual introduction of AI in small companies, especially vineyards. Although this approach is helpful for smaller companies with limited resources, it may not be transferable to larger organizations. Future studies could investigate the adoption of AI in larger companies and analyze how incremental adoption differs across industries. Extending the research to SMEs in other industries would help refine AI adoption models and determine whether this approach is universally applicable.

The study also does not shed light on the long-term impact of AI transparency on consumer trust and business performance. As AI technologies evolve over time, the lasting effects of transparency on trust remain unclear. Long-term studies could fill this gap by tracking the

impact of AI transparency on trust and loyalty over time. This would help to assess whether trust and loyalty remain stable as AI is increasingly integrated into marketing practices.

In conclusion, while the study discusses ethical principles such as transparency and GDPR compliance, it does not provide a detailed framework for SMEs in niche markets. Future research should focus on developing context-specific ethical frameworks to support small businesses in the responsible adoption of AI. This would provide practical insights into maintaining consumer trust when integrating AI into marketing strategies.

In summary, addressing these limitations through larger samples, long-term research, and context-specific frameworks would significantly broaden the understanding of AI transparency and its role in personalized marketing and improve its application in both niche markets and broader industries.

7. Conclusion

This study explores how vineyard management can implement AI transparency to promote ethical personalized marketing, ultimately enhancing consumer trust and improving business performance. The findings show that AI transparency is central to fostering trust and loyalty, particularly in industries like vineyard marketing, where authenticity and emotional connections are essential to brand identity.

Transparency in AI systems, especially through tools such as XAI dashboards, allows consumers to understand AI decision-making processes, reducing uncertainty and reinforcing trust. Ethical handling of consumer data, coupled with clear communication, ensures that marketing practices align with both consumer expectations and regulatory standards like GDPR. These practices not only build trust but also create strategic advantages by strengthening consumer loyalty and driving retention.

A key takeaway from this research is the importance of balancing modern AI capabilities with the traditional and emotional aspects of wine marketing. While AI can personalize marketing efforts and predict consumer preferences, it must complement rather than replace human creativity and storytelling. This balance is particularly critical for smaller vineyards, where resource constraints and resistance to AI adoption can be significant barriers. A gradual, step-by-step integration of AI enables these businesses to adopt new technologies while preserving their authenticity and brand values.

The study also underscores the potential of AI to improve operational efficiency, automating repetitive tasks and freeing up resources for more creative and personalized marketing activities. However, ethical oversight of AI systems is crucial to ensure responsible use. By establishing

internal ethical guidelines and adhering to data protection regulations, vineyard managers can safeguard consumer trust and maintain the long-term sustainability of AI-powered marketing strategies.

In conclusion, vineyard management can successfully navigate the complexities of AI adoption by integrating transparency, ethical practices, and a balanced approach that respects tradition and emotional branding. These strategies not only enhance consumer trust and loyalty but also position vineyards for sustained success in an increasingly digital and competitive marketplace.

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Appendix 1: Table of Findings Gioia Methodology

| First Order Concepts ² | Second Order Themes | Aggregate Dimensions |
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² All Translations from German to English were done by ChatGPT

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| <p>- "Transparency is a top priority, and AI tools are selected based on their compliance with GDPR regulations and clear dashboards for explanations." (Q1)</p> <p>- "Adherence to transparency goals, such as customer and team understanding of AI processes, is a key success metric." (Q1)</p> <p>- "We communicate transparently about using AI, but as of now, we don't rely entirely on it for our work." (Q5)</p> <p>- "Communicating AI benefits is key to ensuring customers understand how it enhances their experience without feeling exploited." (Q2)</p> <p>- "Understanding customer expectations through surveys and feedback is essential before investing in AI technology." (Q4)</p> <p>- "Team preparation for AI implementation would include training and collaboration with external providers to ensure a smooth transition." (Q2)</p> <p>- "Customer data is stored in a CRM software, which helps us segment and target our audience effectively." (Q2)</p> <p>- "We use the Limbic Types Scan by Hans-Georg Häusel, merging it with modern neuromarketing approaches to refine strategies." (Q6)</p> | <p><i>Clear Communication Strategies</i></p> | <p>AI Transparency in Ethical Practices</p> |
| <p>- "Explainable AI dashboards are used to simplify recommendations for customers, building trust through clarity." (Q1)</p> | <p><i>Explainability as a TrustBuilding Measure</i></p> | |

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| <p>- "Customers are informed about how their data is used through clear communication on the website and in direct interactions." (Q1)</p> <p>- "We adhere to an ethical compass that emphasizes respectful and responsible use of customer data." (Q6)</p> <p>- "Customer trust in AI relies on clear communication about how it benefits them without compromising their data privacy." (Q2)</p> | | |
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| <p>- "Communicating AI benefits is key to ensuring customers understand how it enhances their experience without feeling exploited." (Q2)</p> <p>- "We communicate transparently about using AI, but as of now, we don't rely entirely on it for our work." (Q5)</p> <p>- "Transparent communication about AI usage can make the brand seem modern and forward-thinking while preserving authenticity." (Q4)</p> <p>- "The human touch in storytelling, emphasizing imperfection and barriers, creates relatability and breaks down walls." (Q6)</p> | <p><i>Transparency in Data Utilization</i></p> | |
| <p>- "AI perfection may appear inauthentic to consumers, creating a sense of dissonance." (Q6)</p> <p>- "Maintaining authenticity while integrating AI into marketing strategies is a critical challenge." (Q6)</p> <p>- "Efforts to integrate AI are focused on enhancing the customer experience without losing the vineyard's authenticity." (Q1)</p> <p>- "AI-generated labels, such as those on online wine descriptions, are still rare and often confuse or unsettle consumers." (Q6)</p> <p>- "Emotional values can only be preserved through mutual respect and appreciation between all parties involved." (Q6) -</p> <p>"Many wineries don't prioritize marketing authenticity, focusing instead on repetitive elements like label designs." (Q3)</p> | <p><i>Authenticity in AI Interactions</i></p> | <p>Consumer Trust in AI Marketing</p> |
| <p>- "Social media is used for brand presence rather than deep personalization." (Q2)</p> | | |

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| <p>- "AI is used as a tool to enhance, but not replace, human storytelling that emphasizes the vineyard's heritage and passion for winemaking." (Q1)</p> <p>- "The human element in marketing ensures emotional resonance, which is key to our product presentation and branding." (Q5)</p> <p>- "The creative aspects of marketing remain challenging for AI, emphasizing the need for human oversight and refinement." (Q5)</p> <p>- "Preserving emotional connections and authenticity requires prioritizing personal interactions and storytelling." (Q4)</p> <p>- "We rely on traditional methods like social media campaigns and events to engage with target audiences and understand customer preferences." (Q4)</p> <p>- "Events and competitions help us connect with customers and gain insights into their interests and values." (Q4)</p> | <p><i>Human-Centric Approaches in Marketing</i></p> |
| <p>- "AI tools' value depends heavily on how well they are trained and implemented, but their potential must not overshadow human creativity." (Q5)</p> <p>- "AI must be used thoughtfully to reinforce brand values and improve customer experiences without compromising ethics or authenticity." (Q4)</p> <p>- "We adhere to an ethical compass that emphasizes respectful and responsible use of customer data." (Q6)</p> <p>- "Transparency in the use of AI forms the basis for its credible and ethical application." (Q6)</p> <p>- "The decision to adopt AI depends on its ability to improve targeting and increase revenue." (Q2)</p> | <p><i>Balancing Ethical and Practical Considerations</i></p> |

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| <p>- "The traditional mindset of wineries, resistant to change, often hinders the adoption of innovative technologies like AI." (Q3)</p> <p>- "Many customers lack familiarity with AI-based tools, especially in agricultural contexts like wineries, making adoption a slow process." (Q6)</p> <p>- "Smaller wineries often resist adopting AI because they don't see an immediate return on investment or lack the technical knowledge to implement it effectively." (Q3)</p> <p>- "The vineyard faces skepticism from older customers about AI, addressed through proactive explanations and personal communications." (Q1)</p> | <p><i>Resistance to Change</i></p> | <p>Challenges in AI Adoption</p> |
| <p>- "Limited resources, both financial and time-related, make implementing AI challenging for our three-person marketing team." (Q4)</p> <p>- "The cost-to-benefit ratio of AI is a critical factor in deciding its adoption." (Q2)</p> <p>"The challenge with AI is the cost and the effort required to set it up, especially when unsure of customer response." (Q2)</p> <p>"Training and external expertise would be critical for helping our team effectively implement and manage AI systems." (Q4)</p> <p>"AI usage depends on factors such as the budget, project deadlines, and client preferences for manual work." (Q6)targeting and increase revenue." Q2</p> <p>"The advantage would be that we could work much more precisely and reach new target groups we wouldn't address otherwise." Q2</p> <p>"AI enables insights into customer preferences, helping the vineyard identify trends and improve offerings." Q1</p> | <p><i>Resource Limitations</i></p> | |

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| <p>- "European regions are significantly lagging behind other nations in terms of AI development and implementation." (Q6)</p> <p>- "The traditional values associated with wine marketing are under constant transformation, making them hard to preserve in their original form within AI-driven contexts." (Q6)</p> <p>- "AI must support our focus on regionality and tradition while maintaining the brand's personal touch." (Q2)</p> <p>- "Financial constraints and the need for external support are key factors in determining whether we adopt AI." (Q4) - "We noticed that wineries had to explore new avenues during the lockdowns, and social media proved to be an effective channel to market wine directly to end consumers." (Q3) - "The EU may introduce regulations for AI use, but consumers are likely to adapt quickly, as they have with other technologies." (Q3)</p> <p>- "Team preparation for AI implementation would include training and collaboration with external providers to ensure a smooth transition." (Q2)</p> | <p><i>Cultural and Organizational Barriers</i></p> | |
| <p>- "Transparency is a top priority, and AI tools are selected based on their compliance with GDPR regulations and clear dashboards for explanations." (Q1)</p> <p>- "Using customer data with AI is often taboo due to strict data protection regulations." (Q6)</p> <p>- "Ethical guidelines and compliance with data protection laws are central to how we would implement AI in marketing." (Q4)</p> <p>- "Customer trust in AI relies on clear communication about how it benefits them without compromising their data privacy." (Q2)</p> | <p><i>Governance and Compliance Measures</i></p> | <p>Ethical Oversight in AI Implementation</p> |
| <p>- "We adhere to an ethical compass that emphasizes respectful and responsible use of customer data." (Q6)</p> | <p><i>Integration of Ethical Guidelines</i></p> | |

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| <p>- "Ethical guidelines, such as trustworthy AI principles, influence all AI implementations, ensuring fairness and transparency." (Q1)</p> <p>- "AI must be used thoughtfully to reinforce brand values and improve customer experiences without compromising ethics or authenticity." (Q4)</p> <p>- "Transparency in the use of AI forms the basis for its credible and ethical application." (Q6)</p> | | |
| <p>"Adherence to transparency goals, such as customer and team understanding of AI processes, is a key success metric." (Q1)</p> <p>"We ensure that all AI-generated outputs are refined and aligned with our brand's philosophy before implementation." (Q5)</p> <p>"Maintaining customer trust depends on ensuring AI is not perceived as a tool for exploiting or misusing their data." (Q4)</p> | <p><i>Accountability in AI Decision- Making</i></p> | |
| <p>- "AI enables us to save time on repetitive tasks, but we use the saved time for creative processes that add value to our marketing strategy." (Q5)</p> <p>- "AI has been particularly useful in video editing, where tools like Caption can process raw material efficiently, saving significant time." (Q3)</p> <p>- "The biggest advantage of AI for us is time-saving, allowing us to generate multiple ideas or drafts quickly and then refine them to meet our standards." (Q5)</p> <p>- "AI's current capabilities are best suited for data-heavy tasks, while creative and emotional aspects still require human input." (Q5)</p> | <p><i>Efficiency Gains Through AI</i></p> | <p>Performance Outcomes of AI in Marketing</p> |

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| <p>- "AI could help analyze purchasing patterns and predict customer interests, enabling us to target new groups more effectively." (Q2)</p> <p>- "Predictive analytics will be used to create personalized campaigns based on customer preferences and purchase histories." (Q1)</p> | <p><i>Market Expansion and Targeting</i></p> |
| <p>- "Dynamic pricing and optimized online shops driven by AI have potential but are underutilized in the wine industry due to a lack of forward-thinking among many wineries." (Q3) -</p> <p>- "Personalization based on past purchases helps foster stronger relationships with regular customers." (Q2)</p> <p>- "To analyze the current target group, we examine the product range, revenue, previous marketing efforts, and overall success to gain a comprehensive understanding." (Q6)</p> <p>- "We collaborate with wineries to develop economically feasible visions for the future." (Q6)</p> <p>- "A key objective is to redefine wine prices, often too low to include margins, and acquire new customer groups." (Q6)</p> | |
| <p>- "We adhere to an ethical compass that emphasizes respectful and responsible use of customer data." (Q6)</p> <p>- "Transparency in the use of AI forms the basis for its credible and ethical application." (Q6)</p> <p>- "Communicating how and why AI is used could strengthen customer trust, provided it is done responsibly and transparently." (Q4)</p> <p>- "Ethical guidelines, such as trustworthy AI principles, influence all AI implementations, ensuring fairness and transparency." (Q1)</p> | <p><i>Ethics as a Strategic Advantage</i></p> |

Appendix 2: Interview Protocol: Prior AI Experience

| Interviewee | Question | Objective |
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| Company/Consultant | How is AI currently integrated into your personalized marketing strategy, and what specific technologies (e.g., sentiment | To understand the current use of AI technologies and their influence on marketing practices. |
| | analysis, predictive analytics) are you using? | |
| | Based on which criteria do you decide on what AI software to use for your marketing efforts, and what measures do you take to ensure transparency in AI-driven recommendations? | To uncover decision-making processes for selecting AI software and evaluate transparency standards. |
| | How do you balance AI personalization with maintaining the authenticity and emotional connection critical in vineyard marketing? | To explore strategies for preserving traditional and emotional marketing aspects alongside AI-driven personalization. |
| | Do you follow specific ethical guidelines or regulatory frameworks when implementing AI in your marketing, and how do these influence your strategy? | To assess compliance with ethical standards and their role in the marketing strategy. |
| | Have you encountered challenges related to transparency or consumer trust since integrating AI in your marketing? If yes, how have you addressed them? | To identify transparency issues and strategies to mitigate trust risks associated with AI use. |
| | What methods do you use to explain AI-driven marketing processes to your customers, and how effective have these been in building trust? | To examine the use of XAI frameworks and their effectiveness in promoting transparency and understanding. |

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| | How do you measure the success of AI-driven marketing, and do your metrics align with transparency and ethical guidelines? | To determine whether success metrics incorporate transparency and ethics, linking to ethical AI use. |
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Appendix 3: Interview Protocol: No Prior AI Experience

| Interviewee | Question | Objective |
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| Company/Consultant | What methods do you currently use for personalized marketing, and how do you collect and manage customer data? | To establish current marketing practices and data management methods, setting the foundation for discussing AI benefits. |
| | What potential benefits or challenges do you see with adopting AI for personalized marketing in your vineyard? | To explore perceptions of AI's advantages and obstacles, understanding apprehensions or motivations. |
| | How important is transparency when considering new technologies, such as AI, in your marketing strategy? | To understand their emphasis on transparency and whether they prioritize it for AI solutions. |
| | If you were to implement AI, how would you ensure that it aligns with your brand's authenticity and the emotional connections you have with your customers? | To assess how AI might impact brand identity and strategies to preserve authenticity. |
| | What kind of consumer feedback would you require to feel confident about integrating AI in a way that supports transparency and builds trust? | To evaluate willingness to involve consumers in ensuring transparency and trust through proactive measures. |

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| | Are there any regulatory or ethical guidelines you would consider following when implementing AI in marketing, and how would they influence your decision? | To assess awareness of AI ethics frameworks and openness to align with these standards. |
| | What factors would influence your decision to adopt AI technology for marketing, and how would you | To explore readiness for AI adoption, focusing on organizational and technological preparedness. |
| | prepare your team for this transition? | |

Appendix 4: Interview Protocol: Prior AI Experience

| Interviewee | Question | Objective |
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| Vineyard | Can you describe how AI is currently integrated into your personalized marketing strategy, and what specific technologies (e.g., sentiment analysis, predictive analytics) are you using? | To understand the current use of AI technologies and their influence on marketing practices. |
| | Based on which criteria do you decide on what AI software to use for your marketing efforts, and what measures do you take to ensure transparency in AI-driven recommendations? | To uncover decision-making processes for selecting AI software and evaluate transparency standards. |
| | How do you manage the balance between AI personalization and maintaining the authenticity and emotional connection that is critical in vineyard marketing? | To explore strategies for preserving traditional and emotional marketing aspects alongside AI-driven personalization. |
| | Do you use any specific ethical guidelines or regulatory frameworks when implementing AI in your marketing, and how do these influence your strategy? | To assess compliance with ethical standards and their role in strategic marketing decisions. |

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| Have you encountered any challenges related to transparency or consumer trust since integrating AI in your marketing? If yes, how have you addressed them? | To identify transparency and trust challenges and the methods used to mitigate these issues. |
| What methods do you use to explain AI-driven marketing processes to your customers, and how effective have these been in building trust? | To assess the use and effectiveness of XAI in enhancing customer understanding and trust. |
| How do you measure the success of AI-driven marketing, and do your metrics align with transparency and ethical guidelines? | To determine if success metrics incorporate transparency and ethics, aligning with responsible AI practices. |

Appendix 5: Interview Protocol: No Prior AI Experience

| Interviewee | Question | Objective |
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| Vineyard | What methods do you currently use for personalized marketing, and how do you collect and manage customer data? | To understand existing marketing strategies and data management practices, providing a basis for discussing AI adoption. |
| | What potential benefits or challenges do you see with adopting AI for personalized marketing in your vineyard? | To explore perceptions of AI's benefits and obstacles, addressing motivations and concerns about its use. |
| | How important is transparency when considering new technologies, such as AI, in your marketing strategy? | To evaluate the priority given to transparency when considering the integration of AI solutions. |
| | If you were to implement AI, how would you ensure that it aligns with your brand's authenticity and the emotional connections you have with your customers? | To assess strategies for ensuring AI aligns with the brand's identity and emotional connection. |

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| <p>What kind of consumer feedback would you require to feel confident about integrating AI in a way that supports transparency and builds trust?</p> | <p>To examine the role of consumer feedback in achieving transparency and building trust in AI adoption.</p> |
| <p>Are there any regulatory or ethical guidelines you would consider following when implementing AI in marketing, and how would they influence your decision?</p> | <p>To understand awareness and application of ethical guidelines and their impact on marketing strategies.</p> |
| <p>What factors would influence your decision to adopt AI technology for marketing, and how would you prepare your team for this transition?</p> | <p>To explore readiness strategies and steps for smooth AI adoption, focusing on organizational and technological aspects.</p> |