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Integrating sustainability and technology: How green and digital marketing drive business performance through market orientation

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Abstract: This study aims to examine the impact of green marketing and digital marketing on business performance, with a particular emphasis on the mediating role of market orientation. A quantitative research design was employed, using a structured questionnaire distributed to 138 electric vehicle users in Makassar, Indonesia. Data were analyzed using Structural Equation Modeling with Partial Least Squares (SEM-PLS) to assess both direct and indirect relationships among the studied variables. The results demonstrate that digital marketing significantly influences business performance both directly and indirectly through market orientation. In contrast, green marketing does not have a direct effect but significantly enhances business performance indirectly via market orientation. The study concludes that market orientation is a crucial mediating factor in translating sustainable and digital marketing efforts into improved business outcomes. These findings suggest that firms should strengthen their market orientation to fully leverage green and digital marketing strategies. By doing so, businesses can more effectively meet consumer expectations, adapt to technological changes, and address environmental challenges, thereby achieving sustainable competitive advantage and enhanced performance.

Keywords: *Business performance, Digital marketing, Green marketing, Market orientation, Sustainability, Technology integration.*

1. Background

In today's fast-changing global landscape, intense competition and rapid technological advancement are pressuring firms to remain adaptive and responsive to shifting consumer preferences and market dynamics. The rise of digital technologies and the increasing demand for environmentally conscious practices have compelled organizations to rethink traditional business models. Companies must now balance profitability with broader responsibilities, including environmental sustainability and social accountability [1]. As a result, the performance of a business is no longer measured solely by financial indicators but also by its ability to adapt to technological trends and ecological demands [2].

The marketplace is experiencing a paradigm shift from shareholder-centric objectives to stakeholder-focused models. This shift emphasizes the need for companies to provide value not just for investors but also for consumers, communities, and the environment. Businesses are thus integrating environmental, social, and governance (ESG) dimensions into their strategic planning to enhance legitimacy, trust, and long-term sustainability [3]. Green marketing has emerged as a response to this evolving consumer awareness and environmental consciousness, providing companies with a mechanism to differentiate themselves while contributing to sustainability goals.

Green marketing refers to the strategic promotion of products and services designed with environmental considerations in mind, including their production, packaging, distribution, and disposal. This approach not only positions a company as environmentally responsible but also appeals to a growing segment of eco-conscious consumers [4]. It encompasses practices such as eco-labeling,

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sustainable sourcing, and reducing carbon footprints, all of which contribute to building a competitive edge and fostering customer loyalty. Solanki and Lakhera [5] emphasize that green marketing is no longer a peripheral strategy but a central component of long-term value creation and brand resilience.

Research by Bintara, et al. [6] supports the notion that green-oriented businesses gain several advantages, such as improved brand image, increased innovation capability, and stronger stakeholder relationships. These firms tend to adopt proactive environmental policies that align with consumer expectations and regulatory requirements, ultimately enhancing business performance. In emerging markets like Indonesia, where environmental issues are gaining increasing attention, green marketing offers businesses a relevant and strategic approach to gain competitive advantage while addressing sustainability imperatives [7].

In parallel, digital marketing has become a dominant force in shaping modern marketing strategies. It leverages technology to interact with consumers through channels such as websites, search engines, social media, and mobile applications. Digital marketing enables real-time data collection, personalized engagement, and performance optimization—features that are critical in today's fast-paced, customer-driven environments [2]. As consumers increasingly rely on digital platforms to research and purchase products, businesses must develop digital competencies to remain competitive and relevant.

Digital marketing tools, including search engine optimization (SEO), content marketing, influencer collaboration, and analytics-driven campaigns, provide companies with scalable and cost-efficient means of reaching wider audiences. More importantly, digital platforms facilitate agility—allowing businesses to respond quickly to market feedback and adjust their messaging and positioning accordingly. This agility is especially important in emerging economies, where consumer preferences and behaviors can change rapidly [8].

One of the key concepts that unites both green and digital marketing strategies is market orientation. Market orientation refers to an organization's capability to gather, interpret, and act upon market intelligence to deliver superior customer value and achieve strategic alignment. Recent studies have re-emphasized market orientation as a dynamic capability that enhances competitive advantage in volatile environments [9, 10]. Rather than being a static strategy, market orientation involves continuous monitoring of consumer needs, competitor moves, and broader environmental shifts to enable timely and relevant marketing responses.

Market orientation serves as a critical mediator that enhances the effectiveness of green and digital marketing. Firms with strong market orientation are more likely to translate eco-friendly innovations and digital capabilities into strategic advantages. They do so by aligning internal resources with market demands and continuously refining their marketing strategies based on consumer feedback and industry trends [7]. Studies show that businesses with high market orientation experience improved marketing performance, customer satisfaction, and innovation capacity [3].

Despite the growing body of research on green and digital marketing, few studies have examined the integrative impact of both strategies through the lens of market orientation. This gap in the literature leaves open questions about how sustainability and digital transformation, when pursued in tandem, contribute to business outcomes. Most studies tend to explore these dimensions independently, failing to capture the potential synergies that emerge from their combination [6].

The electric vehicle (EV) industry in Indonesia presents a compelling context for investigating these dynamics. In recent years, the Indonesian government has introduced various initiatives to accelerate EV adoption, including tax incentives, infrastructure investments, and public awareness campaigns. In Makassar, specific projects such as Dottoro'Ta electric buses and public-private partnerships are driving low-carbon mobility efforts [4]. However, adoption remains limited due to high upfront costs, insufficient charging infrastructure, and low consumer awareness.

In such a scenario, green and digital marketing strategies are critical in influencing consumer behavior and market acceptance. Green marketing communicates the environmental benefits of EVs, while digital marketing allows firms to target, engage, and educate potential users efficiently. When supported by a strong market orientation, these strategies can reinforce one another to boost brand

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credibility, influence purchasing decisions, and ultimately enhance firm performance. Therefore, understanding how green and digital marketing interact through market orientation offers valuable insights for theory and practice, especially in the context of emerging economies like Indonesia.

2. Literature Review

2.1. Grand Theory

The theoretical underpinning of this study primarily draws on the Market-Based View (MBV), which highlights how external market conditions shape competitive advantage and firm performance. Traditionally, MBV emphasizes industry structure, rivalry, and market attractiveness [11] but recent scholarship has enriched this view by integrating dynamic capabilities and data-driven responsiveness. For example, Haider, et al. [12] demonstrate that firms leveraging big-data analytics and marketing ambidexterity outperform rivals, particularly under high competitive pressure—validating an MBV augmented by dynamic capabilities, competitor awareness, and adaptive market strategies [12]. Similarly, a 2023 study shows that real-time competitor monitoring combined with sustainable marketing fosters scope agility and market responsiveness, leading to superior performance outcomes [13]. Thus, contemporary MBV-based insights affirm that firms capable of aligning digital and green marketing strategies to evolving market signals are better positioned to achieve superior performance.

In addition, this research draws on the Theory of Planned Behavior (TPB) to explain consumer adoption of sustainable—and often technology-driven—products. Recent studies extend Ajzen's framework by incorporating contextual and moral dimensions relevant to pro-environmental consumption. For instance, Choi, et al. [14] integrate TPB with Value–Belief–Norm (VBN) constructs, revealing strong predictive validity for EV adoption, especially when personal norms and values align with green behavior [14]. Meanwhile, Kurniawan, et al. [15] applied an extended TPB model in Indonesia, factoring in brand awareness, environmental concern, and perceived risk—finding that attitudes, subjective norms, and perceived control significantly influence EV purchase intentions [15]. More recently, Martinez and Silva [16] enhanced TPB by adding moral norms and policy incentives, confirming that attitude, perceived control, and incentives significantly predict consumer adoption of EVs [16]. Therefore, TPB remains a robust theoretical framework for understanding how green and digital marketing stimuli shape consumer intentions through attitudinal, normative, and control beliefs.

2.2. Green Marketing

Green marketing is a strategy emphasizing environmental responsibility across all marketing stages—from product design to promotion—aimed at reducing ecological impact while satisfying growing consumer expectations for corporate responsibility [17, 18]. This approach integrates eco-friendly product development, sustainable pricing, distribution, and promotional practices [18].

The green marketing mix, encompassing green products, prices, placement, and promotion, has been supported by recent studies. A bibliometric review confirmed that these elements play a critical role in shaping consumer environmental attitudes and behavioral intentions [18]. Additionally, a study in emerging markets demonstrated that green prices significantly affect brand trust, satisfaction, loyalty, and overall equity [17].

Moreover, green marketing strategies have been shown to enhance brand awareness and consumer loyalty, particularly among environmentally conscious Millennials and Gen Z consumers. For instance, Lestari, et al. [19] reported that green campaigns significantly strengthen brand loyalty when authenticity and social media engagement are emphasized. Similarly, Ghobbe and Nohekhan [20] found that each component of the green mix (product, price, promotion, distribution) positively influences perceived brand quality and awareness.

The implementation of green marketing not only elevates brand image but also strengthens consumer loyalty and market competitiveness in a sustainability-driven environment [17, 19]. These findings underscore the strategic value of environmental fulfillment as well as its tangible impact on business performance.

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2.3. Digital Marketing

Digital marketing is a contemporary strategy that utilizes digital technologies—such as social media, search engines, websites, and mobile platforms—to engage consumers in real-time [21, 22]. Unlike traditional marketing, digital approaches allow businesses to interact directly with their target audiences, adapt messages instantly, and personalize offerings based on user behavior and preferences. This immediacy and flexibility enable firms to remain relevant in an increasingly digital consumer environment, especially in post-pandemic markets where online engagement dominates.

A major strength of digital marketing lies in its ability to harness data analytics to design targeted and cost-effective campaigns [23]. This data-driven capability supports better decision-making by allowing marketers to track user behavior, measure campaign performance, and refine strategies continuously. Furthermore, key dimensions of effective digital marketing include interactivity, informativeness, credibility, entertainment value, accessibility, and avoidance of irritation—factors that significantly improve user experience and overall marketing effectiveness [24]. By integrating these elements, businesses can enhance consumer engagement, build stronger relationships, and boost brand loyalty.

2.4. Market Orientation

Market orientation refers to an organizational culture that prioritizes understanding customer needs, competitor behavior, and effective coordination between internal functions. Its key dimensions—customer orientation, competitor orientation, and inter-functional coordination—have been reaffirmed by recent studies [9, 25]. In today's dynamic business landscape, integrating green and digital marketing strategies with a strong market orientation is essential for enhancing performance. Recent empirical evidence from Indonesian MSMEs shows that combined green marketing orientation and digital transformation significantly improve green performance when mediated by green innovation [26]. Emerging research further highlights that this integration enhances competitive advantage and sustainability outcomes [13, 27]. Consequently, the synergy between sustainable and digital marketing strategies, bolstered by a robust market-oriented culture, is believed to drive sustainable business growth and success in modern market conditions.

2.5. Hypotheses Development

The hypothesis in this study was compiled to test the direct and indirect influence of green marketing, digital marketing, market orientation, and business performance. The hypothesis is prepared based on an inferential quantitative approach, which aims to test the relationships between variables using statistical analysis techniques. Based on the background, problem formulation, research objectives, and literature review that has been studied, the hypotheses proposed are as follows:

H_1: The Influence of Green Marketing on Business Performance

Green marketing as a strategy that emphasizes the value of environmental sustainability has been proven to improve company image and consumer loyalty. Studies by Zhang and Berhe [28]; Shaukat and Ming [29] and Pepple, et al. [30] show that companies that implement green marketing strategies experience improved performance, both directly and through the effects of corporate reputation and social responsibility. H2: Allegedly, green marketing has a positive and significant effect on business performance.

H_2: The Influence of Digital Marketing on Business Performance

Digital marketing allows companies to reach consumers more broadly, efficiently, and measurably. In a business context, the use of digital media such as social media, email marketing, and SEO increases brand awareness and promotional effectiveness, which can ultimately improve business performance. Research by Deku, et al. [31] and Udayana, et al. [32] shows that digital marketing has a positive and significant influence on business performance, especially in emerging markets.

H1: Allegedly, digital marketing has a positive and significant effect on business performance.

H3: The Influence of Green Marketing on Market Orientation

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Green marketing not only focuses on sustainability but also demands an understanding of the market dynamics that support environmentally friendly products. This strategy demands that companies be more responsive to consumer values and developments in environmental trends. Research by Sampaio, et al. [33] indicates that green marketing elements such as pricing strategies and promotions can strengthen market orientation. H3: Allegedly, green marketing has a positive and significant effect on market orientation.

H_4: The Influence of Digital Marketing on Market Orientation

Digital marketing provides direct access to consumer data and behavior, which supports companies in understanding and responding to market needs. Suryadi, et al. [34] found that digital marketing encourages innovation in market orientation and increases the capacity of companies to understand consumers and competitors. Similarly, Pereira, et al. [21] emphasized that digital marketing capabilities significantly enhance an organization's responsiveness to market dynamics. Rahman and Farida [23] also support the view that data-driven digital strategies strengthen firms' abilities to detect and react to customer preferences. H4: Allegedly, digital marketing has a positive and significant effect on market orientation.

H_5: The Influence of Market Orientation on Business Performance

Market orientation is the ability of an organization to understand and respond to market needs more effectively than competitors. Research by Octavia, et al. [35] and Fikri, et al. [36] shows that market orientation has a direct impact on improving business performance in various sectors. H5: Allegedly, market orientation has a positive and significant effect on business performance.

H6: The Influence of Green Marketing on Business Performance through Market Orientation

Companies that implement green marketing are required to understand the needs and preferences of the market that supports sustainability. This strategy strengthens market orientation and indirectly impacts business performance. A study by Sampaio, et al. [33] supports the relationship between green marketing, market orientation, and business performance. H6: Allegedly, green marketing has a positive and significant effect on business performance through market orientation.

H_7: Influence of Digital Marketing on Business Performance via Market Orientation

Digital marketing equips firms with valuable real-time data and analytics, enhancing customer insight, competitive awareness, and inter-functional coordination—all key components of market orientation [21, 23]. This strengthened market orientation then contributes to improved business performance. Recent studies confirm this mediated relationship: a 2023 study in Indonesian SMEs found that digital marketing capabilities significantly enhance market orientation, which in turn boosts firm performance outcomes [34]. Therefore, it is hypothesized that: H7: Digital marketing has a positive and significant effect on business performance through the mediating role of market orientation.

3. Research Method

This study employed a quantitative research design using a survey method to examine the effects of digital marketing and green marketing on business performance, mediated by market orientation. Data were collected through a structured online questionnaire distributed to electric vehicle users in Makassar City, selected through purposive sampling based on criteria such as vehicle type and educational background. The sample size of 138 respondents was determined using the SEM-PLS approach, aligning with recommendations that the minimum sample should be 5–10 times the number of indicators used [37]. Primary data were obtained from the questionnaire, while secondary data were sourced from relevant academic literature.

Instrument testing involved evaluating validity and reliability using the Partial Least Squares (PLS) analysis technique. Convergent validity was confirmed through outer loading values exceeding 0.70, and reliability was assessed using Average Variance Extracted (AVE > 0.50), Cronbach's alpha (> 0.60), and composite reliability (> 0.70), consistent with established thresholds [38, 39]. The Structural Equation Modeling (SEM) approach was applied to analyze both direct and indirect causal relationships among variables. Hypothesis testing employed the bootstrapping method with a resampling range of

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200 to 5,000 samples, and significance levels were evaluated using t-values of 1.65 (10%), 1.96 (5%), and 2.58 (1%) [39]. All analyses were conducted using SmartPLS 4 software to ensure accuracy and robustness of results.

3.1. Samples

The population in this study includes all electric transportation users in Makassar City, both car users and electric motorcycles. The population is infinite because the exact number cannot be determined. Therefore, this study uses the purposive sampling technique, which is the deliberate selection of samples based on certain criteria that are relevant to the purpose of the research.

The respondent criteria include car or electric motorcycle users in Makassar City who have a minimum high school education level/equivalent. The basic assumption is that respondents with that level of education can understand and fill out the questionnaire well. The results of the questionnaire collection that met the purposive criteria were obtained by a sample of 119 respondents.

Table 1.
Respondent Demography.

Attributes	Item	F	%
Job Type	Civil Servant	34	29%
	Employee	39	33%
	Students	22	18%
	Self-employed	24	20%
Age	20-25 years	44	37%
	26-30 years	33	28%
	31-35 years	20	17%
	36-40 years	13	11%
	< 40 years	9	7%
Education	High School	46	39%
	Diploma	41	34%
	Bachelor	21	18%
	Postgraduate	11	9%

3.2. Measurement

The primary data for this research was collected through the direct distribution of questionnaires to 119 respondents selected based on purposive sampling criteria. The data were compiled using Microsoft Excel in CSV format and later analyzed with Smart-PLS software. To confirm the effectiveness of the questionnaire as a data collection tool, both validity and reliability tests were administered. The data analysis involved evaluating the measurement model's reliability and validity using indicators such as Average Variance Extracted (AVE), Cronbach's Alpha, and the Critical Ratio, aligned with the Partial Least Squares (PLS) method through algorithmic procedures. Furthermore, hypothesis testing was conducted through the bootstrapping method to examine the significance of variable relationships and calculate coefficient values [39].

Table 2.
Research Questionnaire Structure Guide.

Variable	Item Questionnaire		Major References
Green Marketing	Green Price		Adnan, et al. [17] and Lestari, et al. [19]
	The price of electric vehicles reflects the value of protecting the environment.	GM1	
	I'm willing to pay more for an eco-friendly electric vehicle	GM2	
	Green Place/Distribution		
	The electric vehicle distribution network is easily accessible to consumers	GM3	
	The electric vehicle distribution process supports environmental sustainability practices	GM4	
	Green Promotion		
	Electric vehicle promotions provide information about environmental benefits.	GM5	
	Electric vehicle promotion highlights the company's commitment to sustainability.	GM6	
	Electric vehicle promotion materials provide education about the importance of environmental conservation.	GM7	
Digital Marketing	Content Marketing		Purnomo [40]
	This electric vehicle marketing content is informative and relevant to my needs.	DM1	
	The content presented improved my understanding of electric vehicles.	DM2	
	Content marketing motivated me to consider buying an electric vehicle.	DM3	
	Social Media		
	The company's social media often provides the latest information about electric vehicles.	DM4	
	Promotion through social media caught my attention to know more about electric vehicles.	DM5	
	Email Marketing		
	The emails the company sends provide attractive offers.	DM6	
	The information in the company's email helped me understand the advantages of electric vehicles.	DM7	
	Marketing emails are delivered consistently and on time.	DM8	
	SEO (Search Engine Optimization)		
	Information about electric vehicles is easy to find on search engines.	DM9	
	The company utilizes search engines to provide complete information.	DM10	
	The company's website appears on the first page of search results related to electric vehicles.	DM11	
	Influencer Marketing		
	Influencers who promote electric vehicles provide honest and engaging reviews.	DM12	
	I believe more in electric vehicles after seeing promotions by trusted influencers.	DM13	
	Influencer promotions prompted me to consider buying an electric vehicle.	DM14	
Market Orientation	Customer Onboarding		Arianty [41] and Mohd Mokhtar and Yusoff [42]
	The company understands the needs of electric vehicle customers in depth.	MO1	
	The company's products and services are tailored to the customer's wishes.	MO2	
	The company focuses on building long-term relationships with customers.	MO3	
	Competitor Orientation		
	The company monitors the activities of competitors on a regular basis.	MO4	
	Information about competitors is used to improve marketing strategies.	MO5	
	The company is superior to competitors in meeting customer needs.	MO6	
	Inter-functional coordination		

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Variable	Item Questionnaire		Major References
	All departments within the company work together to meet customer needs.	MO7	
	The marketing department shares important information with other departments.	MO8	
	Inter-departmental cooperation helps companies respond quickly to market changes.	MO9	
Business Performance	Market Share Growth		
	The company's electric vehicle market share is increasing over time.	BP1	Astrama, et al. [43]
	The company managed to attract more customers than its competitors.	BP2	
	The company's marketing strategy is effective in expanding market share.	BP3	
	Growth in the number of customers		
	The number of electric vehicle customers of the company continues to grow every year.	BP4	
	Satisfied customers recommend this product to others.	BP5	
	The company's strategy successfully attracts new customers.	BP6	
	Product Innovation		
	The company regularly launches innovations in electric vehicles.	BP7	
	Product innovations offered are in accordance with the needs and desires of the market.	BP8	
	The company shows a commitment to the development of environmentally friendly technology.	BP9	

4. Results and Discussions

4.1. Statistics Test Results

In the SEM-PLS analysis, the loading factor value is considered good if it has a value above 0.7, the results of data processing using SEM-PLS software show that all lading factor values have a value of (λ)> 0.7. thus all research data can be identified as good data and meet the criteria to be continued at the next stage of analysis

A value above 0.7 in the good fit model indicated that the data was legitimate. The AVE value showed the level of data quality needed to achieve a satisfactory fit greater than 0.5. Additionally, the data's dependability was confirmed by the reliability analysis, as evidenced by the Cronbach alpha value exceeding 0.6. For every indicator, the data quality testing over 0.7 was decided by the composite reliability value. Data analysis is displayed in Table 3.

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Table 3.
The Good of Fit Model.

Variable	Items	Validity	AVE	Composite Reliability	Cronbach Alfa
Green Marketing	GM1	0.778	0.641	0.907	0.906
	GM2	0.766			
	GM3	0.84			
	GM4	0.822			
	GM5	0.809			
	GM6	0.817			
	GM7	0.767			
Digital Marketing	DM1	0.852	0.961	0.963	0.667
	DM2	0.852			
	DM3	0.844			
	DM4	0.727			
	DM5	0.747			
	DM6	0.863			
	DM7	0.836			
	DM8	0.759			
	DM9	0.783			
	DM10	0.854			
	DM11	0.793			
	DM12	0.876			
	DM13	0.826			
	DM14	0.8			
Marketing Orientation	MO1	0.888	0.962	0.963	0.770
	MO2	0.899			
	MO3	0.864			
	MO4	0.847			
	MO5	0.908			
	MO6	0.805			
	MO7	0.894			
	MO8	0.894			
	MO9	0.895			
Business Performance	BP1	0.856	0.944	0.950	0.690
	BP2	0.837			
	BP3	0.808			
	BP4	0.75			
	BP5	0.827			
	BP6	0.873			
	BP7	0.825			
	BP8	0.892			
	BP9	0.801			

4.2. Hypothesis Result

The results of data analysis of the seven hypotheses in this study show that most of the relationships between the variables tested have a significant influence, both directly and indirectly. Testing the influence of digital marketing on business performance showed significant results, with a p-value of 0.026 and a t-statistic of 2.233. This indicates that digital marketing is directly able to improve business performance. Digital technology-based marketing strategies allow companies to reach consumers more broadly, efficiently, and responsively, thus making a real contribution to achieving business goals.

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Table 4.
Hypothesis Result.

The Effect Between Variable	Sample Mean	Std. Deviation	T Statistic	P. Value
The Effect of Green Marketing on Business Performance	0.0028	0.092	0.304	0.761
The Effect of Digital Marketing on Business Performance	0.320	0.144	2.233	0.026
The Effect of Green Marketing on Marketing Orientation	0.196	0.063	3.098	0.002
The Effect of Digital Marketing on Marketing Orientation	0.706	0.055	12.914	0.000
The Effect of Marketing Orientation on Business Performance	0.495	0,154	3,223	0.001
The Effect of Green Marketing on Business Performance Through Marketing Orientation	0.097	0.043	2.244	0.025
The Effect of Digital Marketing on Business Performance Through Marketing Orientation	0.350	0.109	3.213	0.001

In contrast, the direct influence of green marketing on business performance does not show statistical significance. The p-value of 0.761 and the t-statistic of only 0.304 indicate that green marketing, although socially and environmentally important, has not had a direct impact on business performance in the context of this study. This can indicate that a green marketing strategy needs support from other factors, such as increased consumer awareness or integration with market orientation, to be able to have a stronger influence on business results.

Furthermore, the analysis of the influence of digital marketing on market orientation showed very significant results. With a p-value of 0.000 and a t-statistic of 12,914, it can be concluded that digital marketing encourages companies to better understand the needs and changes in market behavior in real-time. The use of digital technology allows companies to collect market data, analyze consumer preferences, and respond to competitive dynamics quickly and precisely. The same is true of the influence of green marketing on market orientation, which shows significance with a p-value of 0.002 and a t-statistic of 3.098. These findings indicate that an eco-friendly approach encourages companies to be more sensitive to market values and sustainability-oriented consumer preferences.

Market orientation itself has been proven to have a positive and significant effect on business performance, as shown by a p-value of 0.001 and a t-statistic of 3.223. These findings strengthen the market-oriented position as a key factor in improving the company's performance. Companies that are able to understand customer needs, anticipate competitor movements, and synergistically coordinate various internal functions tend to have superior performance. Thus, market orientation can be an important link between the marketing strategy adopted by the company and the achievement of optimal business results.

Analysis of the indirect influence of digital marketing on business performance through market orientation also showed significant results. With a p-value of 0.001 and a t-statistic of 3.213, it can be concluded that market orientation mediates the relationship between digital marketing and business performance positively. This means that the success of digital marketing in improving business performance will be more optimal if it is supported by the company's ability to understand and respond to market needs systematically.

Similarly, the indirect influence of green marketing on business performance through market orientation also showed significant results, with a p-value of 0.025 and a t-statistic of 2.244. Although green marketing is not directly significant to business performance, its role becomes important when the company has a strong market orientation. This means that the implementation of green marketing strategies can have a positive impact on business performance if the company is able to align it with a marketing strategy based on market understanding.

Overall, the results of this study confirm that market orientation is a crucial mediating variable in bridging the influence of green marketing and digital marketing on business performance. Digital and sustainability strategies not only need to be implemented technically but also must be underpinned by a company culture that is responsive to market dynamics. Therefore, the integration between

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sustainability, technology, and market orientation is a key strategy in driving superior and sustainable business performance.

4.3. Discussion

The findings of this study present an important contribution to understanding the dynamics between sustainability-oriented and technology-driven marketing strategies and their implications for business performance. A particularly notable result is the insignificant direct effect of green marketing on business performance, a finding that contrasts with several previous empirical studies and requires deeper analysis.

Although green marketing has received growing attention in both scholarly literature and practice due to rising environmental consciousness among consumers, its direct influence on business performance in this study was not statistically significant ($p = 0.761$; $t = 0.304$). This outcome diverges from prior studies such as those by Zhang and Berhe [28] and Pepple, et al. [30] which found a significant and positive direct effect of green marketing on business performance, especially when aligned with corporate social responsibility or when green products and pricing were perceived as credible by customers. These studies suggest that green marketing can create differentiation and strengthen brand equity, leading to enhanced performance.

However, the current study's context—likely influenced by market readiness, consumer awareness, and trust in green claims—may help explain the absence of a direct effect. In many emerging markets, including Indonesia where this study is situated, green marketing initiatives may still be in a nascent stage, and consumer skepticism about greenwashing can reduce the perceived authenticity of environmental claims. This aligns with Sampaio, et al. [33] who noted that certain elements of green marketing, such as low-price strategies or superficial environmental messages, may not translate into performance gains unless they are part of a credible and well-integrated business model.

Furthermore, the nature of the market segment studied—electric vehicle (EV) users in Makassar—may not yet have fully matured in terms of valuing environmental benefits over practical concerns such as infrastructure availability, product reliability, and cost-effectiveness. Green marketing messages may therefore be perceived as less relevant or less actionable, weakening their direct impact on business performance. Similar conclusions were drawn by Khaleelia, et al. [44] who found that green marketing alone did not strongly affect performance unless accompanied by internal green practices and organizational alignment.

Importantly, the indirect effect of green marketing through market orientation was significant ($p = 0.025$; $t = 2.244$), supporting the idea that green marketing only becomes effective when the company integrates environmental messages with deep market insight and customer understanding. This resonates with findings from Shaukat and Ming [29] which emphasize that green marketing yields better outcomes when part of a holistic, market-driven strategy rather than a standalone campaign. In other words, green marketing must be market-oriented—adapted to consumer values, market maturity, and cultural expectations—to produce measurable business impact.

The implication is that firms should not rely solely on environmental messaging as a competitive lever, especially in markets where consumer demand for sustainability is not yet fully developed. Instead, they must build a strong market orientation—understanding what environmental benefits matter most to consumers, communicating them clearly, and aligning them with other marketing dimensions like value, convenience, and performance. As this study suggests, market orientation acts as the engine that transforms green initiatives into actual performance gains.

In conclusion, while green marketing holds theoretical potential for improving business outcomes, its success is context-dependent. In emerging markets or sectors where environmental consciousness is still growing, the lack of direct effect may be due to low consumer responsiveness, limited market readiness, or weak integration with core business strategy. This underscores the need for companies to not only "go green" but to strategically align their green initiatives with market intelligence and

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consumer behavior, ensuring that sustainability is not just a message, but a meaningful and valued part of the customer experience.

4.4. Theoretical Implication

The theoretical implications of this research offer valuable contributions to the development of marketing strategy literature, particularly in the areas of digital marketing, green marketing, and market orientation. The study confirms that digital marketing has both direct and indirect positive effects on business performance, supporting theoretical frameworks such as the resource-based view and dynamic capabilities theory. These findings reinforce the understanding that digital technologies are not only tools for improving communication and customer interaction, but also essential enablers of market responsiveness and strategic agility. The significant mediating role of market orientation further highlights its function as a core strategic capability that enhances the effectiveness of digital initiatives in achieving superior performance.

In contrast, the non-significant direct relationship between green marketing and business performance presents a theoretical refinement to existing sustainability marketing frameworks. It challenges the assumption that environmentally friendly practices inherently lead to improved outcomes and instead suggests that their success is contingent upon alignment with market-driven strategies. This insight strengthens the theoretical relevance of market orientation as a mediating construct, linking sustainability efforts to performance outcomes through market responsiveness. As a whole, this research advances a more integrated theoretical model where digital innovation, sustainability, and strategic orientation interact dynamically, encouraging future studies to adopt holistic approaches and consider contextual factors such as culture and market maturity, particularly in emerging economies.

4.5. Practical Implication

This study offers useful insights for business practitioners, especially in emerging markets and sustainability-focused industries like electric vehicles. The strong effect of digital marketing on both market orientation and business performance suggests that companies should focus on using digital tools such as data analytics and online engagement to better understand customer behavior and respond quickly to market changes. Investing in digital capabilities is essential to stay competitive in today's technology-driven business environment.

While green marketing does not directly improve business performance, its positive impact through market orientation shows that sustainability efforts need to be aligned with market understanding. Companies should research what environmental values matter most to their customers and tailor their green strategies accordingly. Building a market-oriented culture—where teams collaborate, track market trends, and respond to customer needs—will help ensure that both digital and green marketing efforts contribute meaningfully to business success.

5. Conclusions

Based on the results of the hypothesis testing, this study concludes that both digital marketing and green marketing play important roles in influencing business performance, with market orientation serving as a critical mediating factor. Digital marketing shows a significant direct effect on business performance and a strong positive influence on market orientation. This suggests that the adoption of digital strategies enhances a firm's ability to understand market needs and convert that understanding into improved business outcomes.

In contrast, green marketing does not have a significant direct impact on business performance. However, it exerts a meaningful indirect effect through market orientation. This indicates that sustainability initiatives alone may not be sufficient to drive business success unless they are aligned with a deep understanding of market dynamics. Market orientation itself demonstrates a strong positive influence on business performance, confirming its role as a strategic bridge between marketing activities and business outcomes.

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Overall, the findings emphasize the importance of integrating sustainability and digital innovation with a market-oriented mindset. Companies that combine these approaches effectively are more likely to achieve superior and sustainable business performance, particularly in competitive and rapidly changing environments such as those found in emerging markets.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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