

Research Article

Unveiling AI Ethics in Digital Marketing: A Study on Accountability and Fairness among Social Media Users in Palestine

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Abstract

This study critically explores the ethical dimensions of Artificial Intelligence (AI) in digital marketing, with a particular emphasis on AI accountability and fairness among online consumers in Palestine. Employing a quantitative research design, the study utilizes Structural Equation Modeling (SEM) to analyze data collected from 385 participants. The primary aim is to examine how AI-driven marketing strategies shape perceptions of fairness, with accountability acting as a mediating variable. The results demonstrate that AI accountability significantly mediates the relationship between AI-generated marketing content and consumer perceptions of fairness, highlighting the critical role of accountability in promoting ethical AI practices. This research underscores the pressing need for transparency in AI systems, as well as the importance of mitigating algorithmic biases that may adversely affect consumer experiences. The findings offer actionable insights for businesses and policymakers, advocating for the development of comprehensive regulatory frameworks that ensure the ethical application of AI technologies in marketing while fostering consumer trust. By contributing to the ongoing discourse on AI ethics, this study provides a robust foundation for understanding the complex interplay between AI technologies, fairness, and accountability in digital marketing. These insights are particularly pertinent to industries leveraging AI for content creation, as they navigate the ethical challenges associated with consumer engagement in an increasingly digitalized environment.

Keywords

Artificial Intelligence, Digital Marketing, AI Accountability, AI Fairness, Ethical Marketing

1. Introduction

In today's rapidly evolving digital landscape, Artificial Intelligence (AI) has emerged as a transformative force across industries, reshaping traditional practices. From chatbots to smart devices and self-driving cars, AI applications enhance efficiency and deliver personalized experiences. In the marketing domain, AI plays a pivotal role by optimizing customer engagement, improving decision-making, and enabling tai-

lored content delivery to target audiences.

AI, defined as the simulation of human intelligence by machines, has revolutionized digital marketing strategies. Its ability to process vast amounts of data quickly and accurately empowers marketers to predict consumer behavior, personalize content, and optimize campaigns with unprecedented precision [26, 28, 34]. Tools such as machine learning algo-

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rithms, natural language processing, and predictive analytics have shifted marketing from traditional methods to dynamic, personalized strategies [4, 10, 32, 38].

However, AI adoption in marketing raises critical ethical concerns [33]. The automation of decision-making processes and AI-generated content introduces challenges related to accountability, fairness, and transparency [12]. Issues like algorithmic biases and data exploitation have become prominent, necessitating ethical frameworks to guide AI development and application.

This study examines the ethical implications of AI in digital marketing, focusing on accountability and fairness. Drawing on empirical data from 385 online shoppers in Palestine, it investigates how AI-driven marketing practices shape fairness perceptions, with accountability as a mediator. The research aims to contribute to AI ethics discourse and provide actionable insights for policymakers and businesses to regulate AI responsibly.

2. Literature Review

2.1. AI Tools in Marketing Content Creation

Artificial intelligence (AI) has become an integral tool in modern marketing, offering capabilities like predictive analytics, customer segmentation, and personalized content delivery [34]. AI-driven content creation tools provide businesses with valuable insights to analyze social media engagement patterns, enabling businesses to tailor messaging effectively into consumer preferences, enabling them to tailor their messaging effectively. These tools analyze engagement patterns on social media platforms, identifying the types of content that resonate most with target audiences [6, 28]. Automated systems generate marketing materials at scale, ensuring brand consistency [21]. However, ethical challenges arise as consumers grow more aware of data usage, demanding ethical practices in personalization [8, 24]. Future advancements, such as visual search and blockchain, promise innovation but require heightened ethical scrutiny [3, 11].

AI ethics can be understood as a specialized subfield within the broader domain of tech ethics, which itself falls under the umbrella of computing ethics. However, given AI's prominence as a contemporary research focus, the term 'AI ethics' garners significant attention, sometimes leading scholars to frame challenges that properly belong to other ethical domains as issues specific to AI ethics. While AI is a dominant concept today, its origins date back to earlier theoretical foundations, with the term 'AI' first coined in 1956 [36] and frequently linked to Turing's pioneering work [39]. The notion of autonomous technology is particularly central to defining AI ethics, as autonomy is intrinsically tied to various conceptualizations of intelligence [40].

Today, AI ethics is broadly construed to encompass a wide array of concerns, necessitating clear distinctions between issues that genuinely belong to AI ethics and those more

appropriately situated within other ethical frameworks. As Gordon and Nyholm outline [14], AI ethics addresses matters such as the design and deployment of autonomous systems (e.g., weaponized and non-weaponized applications), algorithmic bias, privacy and surveillance, governance, the moral status of intelligent machines, automation-induced unemployment, and even speculative scenarios like space colonization. Coeckelbergh expands this scope, arguing that AI ethics extends beyond technological impacts on individuals to encompass broader societal and economic transformations. His work engages with challenges such as superintelligence, the ontological divide between humans and machines, the feasibility of machine morality, and ethical dilemmas surrounding data privacy, algorithmic bias, accountability, policy, and existential risks [7]. Similarly, Müller examines AI ethics alongside robot ethics, emphasizing issues like bias, opacity, surveillance, machine morality, and the singularity [27]. Some scholars even contend that the discourse surrounding AI—including visual representations in media and scientific communication—constitutes an element of AI ethics itself [35].

This study seeks to address a gap in the literature by anchoring its conceptual model in established ethical theories—utilitarianism, deontological ethics [18], and virtue ethics [2] to provide a robust theoretical foundation for analyzing AI's ethical implications in digital marketing [15]. Utilitarianism, with its emphasis on maximizing societal welfare, offers guidance for ensuring fairness and accountability in AI-driven marketing decisions. Deontological ethics, grounded in duty and rule-based reasoning, furnishes a framework for developing transparent, rights-respecting AI systems that uphold consumer fairness. Virtue ethics, prioritizing moral character, informs the design of AI systems that embody ethical decision-making and human-centric values [22].

Furthermore, by integrating culturally specific factors—such as trust in technology, data privacy awareness, and perceptions of digital ethics within the Palestinian context [27]. This study provides novel insights into how sociopolitical dynamics shape AI's ethical dimensions in marketing. These factors mediate consumer perceptions of fairness and accountability, enriching the discourse on AI ethics in culturally distinct regions. The findings yield actionable recommendations for policymakers and businesses to regulate AI practices in alignment with ethical principles, fostering consumer trust and equitable outcomes.

2.2. AI Ethics: Accountability and Fairness

The integration of AI in marketing has sparked significant debate surrounding its ethical implications. The concepts of accountability and fairness have emerged as critical concerns, particularly in ensuring unbiased and equitable practices. AI accountability requires organizations to take ownership of the outcomes generated by AI systems, including unintended

consequences such as biased decision-making or discriminatory practices [5, 16]. Mechanisms for monitoring and addressing these issues are essential for fostering trust among stakeholders.

Fairness in AI, defined as the elimination of avoidable biases among groups, is equally important. Training data often reflects societal prejudices, which can inadvertently propagate through AI algorithms [12]. This raises the risk of discriminatory practices in marketing, where targeted content might reinforce stereotypes or exclude specific demographics. Strategies to mitigate these biases, such as algorithm audits and fairness testing, are crucial for promoting ethical AI use [21, 25].

2.3. AI-Driven Content Creation

AI's ability to emulate human intelligence has transformed the way businesses approach content creation. From automating copywriting to generating tailored visual and video content, AI enables marketers to meet the demands of diverse audiences more effectively [19]. Dynamic creative optimization, further enhances this capability, allowing for real-time customization of advertising materials based on consumer behavior and preferences [13].

However, ethical concerns persist. The “black box” nature of AI, where users cannot fully comprehend how decisions are made, presents challenges in ensuring transparency and accountability [30]. Furthermore, the risk of exploiting consumer vulnerabilities through hyper-personalized marketing raises questions about the balance between innovation and ethical responsibility [9]. To address these issues, businesses must adopt ethical guidelines that prioritize transparency, inclusivity, and consumer protection.

The literature underscores the dual-edged nature of AI in marketing—offering unparalleled opportunities for innovation while posing significant ethical challenges. As AI continues to revolutionize content creation and personalization, the principles of accountability and fairness must guide its application. Future research should focus on developing comprehensive frameworks that ensure ethical practices in AI-driven marketing strategies, balancing technological advancements with societal responsibilities.

3. Conceptual Model and Hypothesis

The integration of AI in digital marketing has the potential to reshape consumer interactions and business strategies. To investigate its ethical implications, this study focuses on two key constructs: AI accountability and AI fairness, in relation to the use of AI for creating digital marketing content on social media platforms. The conceptual framework is designed to examine the direct and indirect relationships among these constructs.

3.1. Conceptual Framework

The conceptual model (Figure 1) hypothesizes that the use of AI tools in digital marketing influences perceptions of fairness, with accountability acting as a mediating variable. This framework aligns with existing literature that emphasizes the importance of accountability and fairness in ensuring ethical AI practices [5, 12]. By examining these relationships, the study seeks to provide insights into how ethical considerations can be integrated into AI-driven marketing strategies.

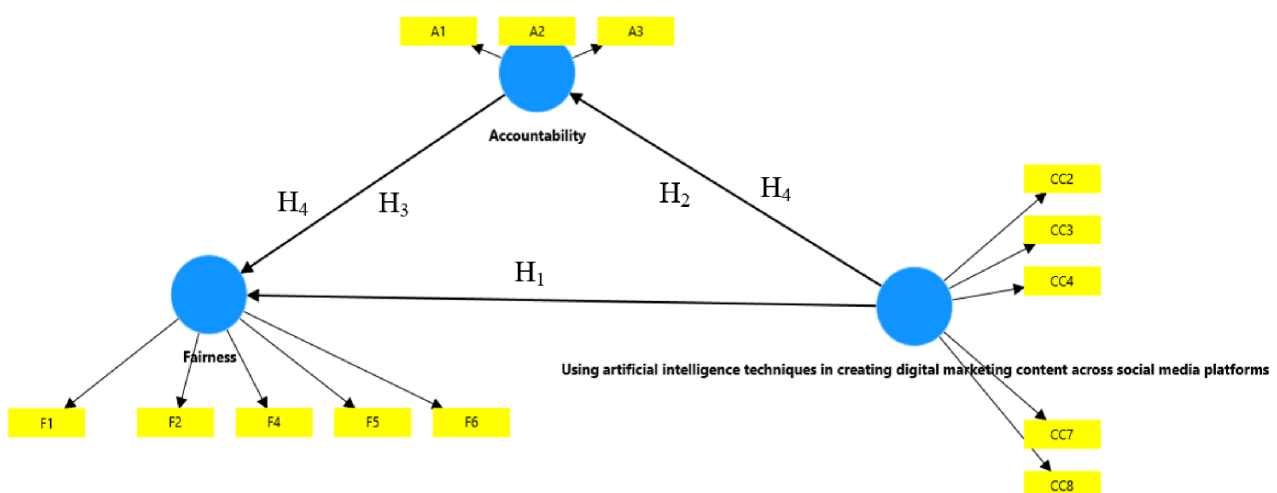


Figure 1. Conceptual research model. source: Authors.

3.2. Hypotheses Development

The following hypotheses are proposed to test the conceptual model:

H1: The use of AI in creating digital marketing content across social media has a significant positive effect on AI fairness.

H2: The use of AI in creating digital marketing content across social media has a significant positive effect on AI accountability.

H3: AI accountability has a significant positive effect on AI fairness.

H4: AI accountability mediates the relationship between the use of AI in creating digital marketing content across social media and AI fairness.

These hypotheses are grounded in the understanding that accountability mechanisms enhance trust and mitigate ethical risks, thereby fostering perceptions of fairness in AI applications. Testing these hypotheses provides a deeper understanding of the interplay between technological innovation and ethical considerations in digital marketing.

4. Research Methodology

This study employed a quantitative research design to investigate the relationships between AI accountability, AI fairness, and the use of AI tools in creating digital marketing content on social media platforms. By focusing on these variables, the research aims to establish both direct and mediated effects, offering empirical evidence for ethical AI practices in marketing.

4.1. Data Collection

The data for this study was collected through an online survey administered to 385 online shoppers in Palestine. Respondents were selected using a convenience sampling method, ensuring a diverse representation of individuals familiar with AI-driven digital marketing. To enhance clarity, the survey included a brief explanation of key concepts, such as AI tools, accountability, and fairness.

4.2. Materials and Methods

The survey instrument included three main sections:

- 1) Demographics: Questions about respondents' age, gender, education, and familiarity with AI tools.
- 2) AI Constructs: Items measuring AI accountability, fairness, and the use of AI in digital marketing content creation.
- 3) Ethical Perceptions: Open-ended questions allowing respondents to provide qualitative insights into their perceptions of AI ethics in marketing.

4.3. Measurement

The survey instrument was developed based on established scales from prior studies, ensuring reliability and validity:

- 1) AI Accountability: Items were adapted from previous research (ISO/IEC TR 24368:2022) to measure perceptions of organizational responsibility in AI applications [17].
- 2) AI Fairness: This construct was assessed using items derived from [12], focusing on biases and equitable practices in AI systems.
- 3) AI in Digital Marketing: Items measuring the use of AI tools for content creation were adapted from Rabbi study [33].

Each construct was measured using a five-point Likert scale (1 = "Strongly Disagree" to 5 = "Strongly Agree"). To ensure linguistic and cultural appropriateness, the survey was translated into Arabic and back-translated to English by independent bilingual experts.

4.4. Study Sample

The study sample is considered a part of the complete study population, which carries the characteristics and attributes of this population and represents it in relation to the study topic. A probability sample was chosen, and a simple random sample was selected.

The sample size was calculated by determining a confidence level of 95% and a margin of error of 5%. Using the following formula and the website Sample Size Calculator, the sample size was calculated to be 385 questionnaires.

$$\text{sample size} = \frac{(z\text{-score})^2 \times \text{StdDev} \times (1 - \text{stdDev})}{\text{confidence interval}^2}$$

The questionnaire was distributed to a sample of 385 social media shoppers in Palestine, and all of them were valid for statistical analysis.

First: Descriptive Statistics Results

The results of descriptive statistics for the demographic characteristics of the sample members. Using the questionnaire as a tool to collect initial information from the study sample members, represented by a sample of shoppers on social media platforms in Palestine, the following shows the frequency and percentage of the following variables: gender, age group, and educational qualification.

Table 1. Distribution of the Study Sample by Gender.

Variable	Classification	Frequency	Percentage %
Gender	Male	178	46
	Female	207	57

It is clear from Table 1 that the percentage of male sample members is 57%, while the percentage of female sample members is 46%.

Table 2. *Distribution of the Study Sample by Age Group.*

Variable	Classification	Frequency	Percentage %
Age Group	Less than 25 years	303	75.2
	25 years to less than 35 years	59	14.6
	35 years to less than 45 years	23	5.7
	45 years to less than 55 years	15	3.7
	55 years or older	3	0.7

It is evident from Table 2 that the largest percentage of sample members, which is 75.2%, are aged less than 25 years. The next largest percentage, 14.6%, is for those aged between 25 and less than 35 years. Following that, 5.7% of the sample are aged between 35 and less than 45 years. The percentage of sample members aged between 45 and less than 55 years is 3.7%, and the smallest percentage, 0.7%, is for those aged 55 years or older.

Table 3. *Distribution of the Study Sample by Educational Qualification.*

Variable	Classification	Frequency	Percentage %
Educational Qualification	Diploma or less	112	27.8
	Bachelor's degree	276	68.5
	Master's degree	8	2
	Doctorate degree	7	1.7

Table 3 shows that 68.5% of the sample members hold a bachelor's degree, while 27.8% have a diploma or less. 2% of the sample members have a master's degree, and 1.7% hold a doctorate degree.

In the following tables, clarification regarding inquiries about certain questions aimed at understanding the extent to

which the sample members engage in online shopping, their preference for using social media platforms for shopping, the most preferred social media platforms, the most known AI technologies to them, their knowledge of AI ethics, and their awareness of the existence of legislation related to the use of AI applications:

Table 4. *Distribution of the Study Sample by Frequency of Online Shopping.*

Variable	Classification	Frequency	Percentage %
Frequency of Online Shopping	Often	118	29.3
	Sometimes	251	62.3
	Rarely	34	8.4

Table 4 shows that the highest percentage of the sample, which is 62.3%, sometimes use social media platforms for shopping. 29.3% of the sample members often use social media for shopping, while the least percentage, 8.4%, reported rarely using social media for shopping.

Table 5. *Distribution of the Study Sample by Preference for Using Social Media Platforms for Shopping.*

Variable	Classification	Frequency	Percentage %
Preference for Using Social Media for Shopping	Often	126	31.3
	Sometimes	243	60.3
	Rarely	34	8.4

Table 5 shows that the highest percentage of the sample, which is 60.3%, prefer to use social media platforms for shopping often. 31.3% of the sample members sometimes prefer using social media for shopping, while 8.4% prefer to do so rarely.

Table 6. *Distribution of the Study Sample by Most Preferred Platforms for Shopping.*

Variable	Classification	Frequency	Percentage %
Most Preferred Platforms for Shopping	Facebook	174	43.2
	Instagram	197	48.9
	TikTok	26	6.5
	Other	119	29.5

Table 6 shows that Instagram is the most preferred platform among the sample with a percentage of 48.9%, followed by Facebook with 43.2%. TikTok comes in third with a percentage of 6.5%, and 29.5% prefer other platforms.

Table 7. *Distribution of the Study Sample by Knowledge of AI Ethics.*

Variable	Classification	Frequency	Percentage %
Knowledge of AI Ethics	Yes	133	33
	No	99	24.6
	To some extent	171	42.4

Table 7 shows that 33% of the sample members are aware of AI ethics, while 24.6% are not familiar with them, and 42.4% have some knowledge about AI ethics.

Table 8. *Distribution of the Study Sample by Awareness of Legislation for Using AI Applications.*

Variable	Classification	Frequency	Percentage %
Awareness of Legislation for AI Applications	Yes	122	30.3
	No	36	8.9
	No knowledge	245	60.8

Table 8 shows that the largest percentage of the sample, 60.8%, are not aware of any legislation related to the use of AI applications. 30.3% believe that there is specific legislation for this, while 8.9% think there is no legislation related to the

use of AI applications.

4.5. Validity and Reliability

The reliability of the measurement items was confirmed using Cronbach's alpha, with all constructs exceeding the 0.7 threshold. Composite reliability (CR) values were above 0.7, and average variance extracted (AVE) values exceeded 0.5, indicating adequate convergent validity [20]. Discriminant validity was established using the Heterotrait-Monotrait (HTMT) ratio and the Fornell-Larcker criterion.

5. Statistical Analysis

Structural equation modeling (SEM) was used to analyze the data. The SmartPLS 4 software was employed to test the hypothesized relationships and mediation effects. Bootstrapping with 5,000 subsamples was applied to assess the significance of direct and indirect effects. Model fit was evaluated using standard indices, including the goodness-of-fit index

(GFI) and standardized root mean square residual (SRMR).

By employing these methods, this study provides robust empirical evidence for understanding the ethical implications of AI in digital marketing and offers actionable insights for policymakers and practitioners.

6. Results

6.1. Validity and Reliability Analysis

The reliability and validity of the constructs were evaluated using Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE). Table I shows that all constructs exceeded the threshold values of 0.7 for Cronbach's alpha and CR, and 0.5 for AVE [20]. These results confirm that the measurement model demonstrates strong reliability and convergent validity.

Table 9. Reliability and validity of the constructs.

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
AI in Digital Marketing Tools	0.774	0.847	0.525
AI Accountability	0.773	0.868	0.687
AI Fairness	0.792	0.856	0.544

Discriminant validity was assessed using the Heterotrait-Monotrait (HTMT) ratio and the Fornell-Larcker criterion. All HTMT values were below the threshold of 0.85, indicating no significant issues with discriminant validity.

Table 10. Test outer model result: Composite Reliability (C.R.), Average Variance Extracted (AVE) and Cronbach's Alpha.

Item of research	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)	Factor loading
Using artificial intelligence techniques in creating digital marketing content across social media platforms	0.774	0.847	0.525	
CC2 Using artificial intelligence in content analysis can increase the efficiency of analyzing data and understanding prevailing trends				0.720
CC3 Artificial intelligence analyzes content more deeply and accurately than traditional methods				0.709
CC4 Artificial intelligence helps discover new trends in content and marketing				0.755
CC7 The use of artificial intelligence technologies helps in analyzing the behavior of the target audience and better determine what they need				0.714
CC8 Artificial Intelligence improves digital marketing strategies and reaching target audiences				0.724

Item of research	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)	Factor loading
Fairness	0.792	0.856	0.544	
F1 A strategy or set of actions is put in place to avoid the presence or re-inforcement of unfair bias in the AI system				0.715
F2 There is a possibility that an AI system could inadvertently produce false results, make inaccurate predictions, or feed into societal biases during the social media marketing process.				0.708
F4 Specific mechanisms are available to ensure fairness and justice in AI systems				0.792
F5 Governments establish legislation and policies regulating the use of artificial intelligence technologies in marketing to ensure respect for privacy and fairness				0.714
F6 AI systems are tested to ensure they have no built-in biases				0.756
Accountability	0.773	0.868	0.687	
A1 Companies should be held accountable for any unintended consequences of using AI in social media marketing, such as biased decision-making or discriminatory practices.				0.765
A2 Channels for complaints and investigations should be provided in the event of AI-related problems or violations				0.882
A3 Applying accountability is a necessity in digital marketing that uses artificial intelligence techniques				0.836

Discriminant validity

Furthermore, the Heteromonotrait (HTMT) correlation ratio as a novel approach for analyzing the discriminant validity of structures in measurement models [37]. An HTMT score

larger than 0.35, on average, suggests a possible problem with discriminant validity [31]. As seen in [table 10](#), the HTMT values in this sample were all barely below the 0.85 criteria, indicating that discriminant validity was not an issue.

Table 11. Heterotrait-monotrait ratio (HTMT) – list.

	Heterotrait-monotrait ratio (HTMT)
Fairness <->Using artificial intelligence techniques in creating digital marketing content across social media platforms	0.460
Accountability <->Using artificial intelligence techniques in creating digital marketing content across social media platforms	0.354
Accountability <->fairness	0.521

The reliability was tested utilizing the internal consistency technique by evaluating the composite reliability values. All variables demonstrated composite reliability (values better than 0.7). The Fornell-Larcker test was used to assess discriminant validity, whereas the AVE (average variance ex-

plained) was used to examine convergent validity. According to the requirements for discriminant validity, the square root of AVE should be greater than the correlation between latent variables for each latent variable.

Table 12. Fornell-Larcker criterion analysis to check discriminant validity.

	Using artificial intelligence techniques in creating digital marketing content across social media platforms	Fairness	Accountability
Using artificial intelligence techniques in creating digital marketing content across social media platforms	0.725		
Fairness	0.368	0.738	
Accountability	0.284	0.424	0.829

Hypothesis testing

Structural Model Analysis The analysis method is converted into SmartPLS 4 graphics. [Figure 1](#) shows the diagram; in addition, the arrows that link the constructs of this study are decided by the direction of the hypotheses suggested in the framework. The single-headed arrows are used to verify the causal effect of the study construct.

Mean, STDEV, T values, p values

[Table 13](#) summarized the study's effects using the SmartPLS Structural Equation Model (SmartPLS SEM). It demonstrates the relationship between the path coefficients, standard deviation (STDEV), probability value (P-value), and each research construct's outcome. The analysis revealed that Using artificial intelligence techniques in creating digital marketing content across social media platforms had a positive and statistically significant direct effect on AI fairness with a path coefficient (Beta value = 0.269; t value = 4.843; p= 0.000). This result indicated that hypothesis 1 is supportive.

Hypothesis 2 reported positive relationship between Using artificial intelligence techniques in creating digital marketing content across social media platforms and AI Accountability (Beta value = 0.248; t value = 5.469; p= 0.000). Hypothesis 3 supported the proposed relationship between Accountability effect and fairness (Beta value =0.347; t value =6.000; p =0.000).

Mediation Effect [Table 13](#) showed the significant of indirect effect and total effect path coefficients from the bootstrapping procedure (with 450 tests, 5000 subsamples, and no sign changes). The results showed that Using artificial intelligence techniques in creating digital marketing content across social media platforms has a significant role in AI Fairness the relationship between Using artificial intelligence techniques in creating digital marketing content across social media platforms and AI Accountability a path coefficient (Beta value = 0.099; t value = 4.791; p= 0.000).

Table 13. Summary of Path coefficients/

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ((O/STDEV))	P values
Using artificial intelligence techniques in creating digital marketing content across social media platforms <- Fairness	0.269	0.276	0.056	4.843	0.000
Using artificial intelligence techniques in creating digital marketing content across social media platforms <- Accountability	0.284	0.290	0.052	5.469	0.000
Accountability <- Fairness	0.347	0.347	0.058	6.000	0.000
Using artificial intelligence techniques in creating digital marketing content across social media platforms -> Accountability -> Fairness	0.099	0.100	0.021	4.791	0.000

All the hypotheses were supported based on the results in [Table 13](#). the first hypothesis using AI in creating digital marketing content across social media has a significant effect on AI Fairness has a t-statistics value of 4.843 (>1.96), the use

of AI in creating digital marketing content across social media has a significant positively effects on AI Fairness by 0.269.

The second hypothesis states that using AI in creating digital marketing content across social media has a significant

effect on AI Accountability is supported by a t-statistics value of 5.469 (>1.96). the use of AI in creating digital marketing content across social media has a significant positively effects on AI Accountability by 0.284.

The third hypothesis that the AI Accountability has a significant effect AI Fairness was supported by a t-statistics value of 6.000 (>1.96). the AI Accountability positively affect the AI Fairness by 0.347.

The forth hypothesis about the specific indirect mediate role of AI accountability between using AI in creating digital marketing content across social media was supported t-statistics value of 4.791 (>1.96), the mediation role of AI

Accountability has a positive significant effect on AI fairness and the using of AI techniques in creating digital marketing content by 0.099.

6.2. Structural Model Analysis

The structural model was tested using SmartPLS 4. The results supported all four hypotheses, indicating significant relationships between the constructs. Table 14 summarizes the path coefficients, t-values, and p-values for the hypothesized relationships.

Table 14. Path coefficients, t-values, and p-values for the hypothesized relationships.

Hypothesis	Path Coefficient (Beta)	t-Value	p-Value	Supported
H1: AI tools $\rightarrow$ Fairness	0.269	4.843	0.000	Yes
H2: AI tools $\rightarrow$ Accountability	0.284	5.469	0.000	Yes
H3: Accountability $\rightarrow$ Fairness	0.347	6.000	0.000	Yes
H4: AI tools $\rightarrow$ Accountability $\rightarrow$ Fairness	0.099	4.791	0.000	Yes

The mediation analysis revealed that AI accountability significantly mediates the relationship between the use of AI tools in creating digital marketing content and perceptions of fairness. This finding underscores the critical role of accountability in fostering trust and ethical practices in AI-driven marketing.

6.3. Bootstrapping Results

Bootstrapping with 5,000 subsamples confirmed the significance of the direct and indirect effects. The indirect effect of AI tools on fairness through accountability was significant ($\beta = 0.099$, $t = 4.791$, $p < 0.001$). This supports the mediating role of accountability in ethical AI practices.

6.4. Model Fit

The structural model achieved acceptable fit indices, with an SRMR value below 0.08, indicating a good fit between the data and the hypothesized model. These results validate the proposed framework and provide robust evidence for the ethical implications of AI in digital marketing.

7. Discussion

What would be considered ethical is unclear and depends on the researcher's opinion. Making ethical decisions entails assessing moral awareness and issues by acknowledging their existence and determining their specific circumstances. When

used ethically, artificial intelligence (AI) has significant advantages and reduces technology abuse and underutilization. Benefits include the ability for organizations to leverage social values in order to determine what is considered morally acceptable by society. On the other hand, it assists businesses in anticipating and potentially avoiding expensive errors resulting from acts that could be viewed as immoral or inappropriate. According to a group of researchers, the so-called "dual advantage" of ethics can only function in a setting where there is transparency and mutual trust. When the advantages of a technology outweigh any potential risks, people are more likely to accept it. Customers think that their motivation and drive come from within, rather than from the culmination of all the stimuli they are exposed to [13, 23].

Artificial intelligence (AI) has become an integral part of the marketing industry, especially in the area of content recommendation. While AI enables more effective content recommendation in many ways, its integration into marketing also poses important challenges and ethical considerations. Accountability: Ethical failures in AI systems can have serious consequences. Companies must assign responsibility for monitoring AI risks, conducting impact assessments, and implementing training on responsible AI practices [1].

This study examined the mediating effect of AI Accountability on using artificial intelligence techniques in creating digital marketing content across social media platforms and the AI Fairness from the point of view of the Palestinian people using social media for online shopping. The findings showed that the online customers how faced AI marketing

content has been significantly and positively influenced by the AI ethical issues such as fairness while the AI accountability as an emerged AI ethical issue mediate the relation significantly and positively between the using of AI techniques in creating digital marketing content and the AI Fairness. As Using AI-powered social media automation to increase audience engagement is a crucial component of contemporary marketing strategies.

7.1. Ethical Implications of AI in Marketing

The study highlights the transformative impact of AI on digital marketing practices. The results confirm that AI tools significantly influence perceptions of fairness, mediated by accountability. These findings align with previous studies [5, 12], which emphasize the ethical challenges associated with AI systems, such as bias and transparency. The results underscore the need for marketers to implement robust accountability frameworks to address these concerns effectively.

7.2. Role of Accountability

AI accountability emerged as a critical mediator in the relationship between AI tools and fairness. This finding suggests that accountability mechanisms can foster trust and mitigate ethical risks associated with AI-driven content creation. As supported by [29], accountability ensures that organizations take ownership of the outcomes generated by AI systems, thereby enhancing public confidence in these technologies.

7.3. Perceptions of Fairness

The study's findings also reveal that fairness is a key consideration for consumers when interacting with AI-generated marketing content. This is consistent with the work of [12], which highlights the importance of eliminating biases in AI algorithms. Ensuring fairness not only promotes ethical AI practices but also enhances consumer trust and satisfaction.

8. Practical Implications

For practitioners, the results emphasize the importance of integrating accountability and fairness into AI-driven marketing strategies. Businesses should prioritize transparency in AI processes and establish mechanisms for addressing ethical concerns, such as bias and data privacy. Policymakers, particularly in regions like Palestine, can use these findings to develop regulatory frameworks that safeguard consumer rights while fostering innovation in digital marketing.

8.1. Theoretical Contributions

This study bridges two previously under-explored research

domains: the creation of marketing content and the ethical implications of AI, particularly within the context of online shopping. By doing so, it advances the literature on AI marketing by introducing a novel conceptualization of AI accountability as a mediating factor. The study makes a significant theoretical contribution by establishing a foundational connection between the ethical considerations involved in using AI tools for content creation in digital marketing. Specifically, it explores two critical components of AI ethics—accountability and fairness—highlighting their complex interrelationships and reciprocal effects.

The findings offer valuable insights into the growing intersection of AI ethics and digital marketing, an area that is becoming increasingly relevant in today's highly competitive marketing landscape. The research demonstrates how the creation of digital marketing content, in conjunction with ethical considerations surrounding AI—specifically fairness and accountability—directly and indirectly influences online shopping behaviors via social media platforms. Furthermore, this study provides a deeper understanding of the pivotal role of AI accountability in the application of AI techniques for digital content creation, as well as the ethical dimension of AI fairness in shaping consumer perceptions and engagement.

Managerial Implications

The findings of this study offer significant practical implications, particularly in shaping strategic directions for understanding online shoppers' perceptions of AI's potential impact on customer privacy. This involves providing a thorough understanding of customer rights, focusing on both accountability and fairness. As the regulatory landscape for content marketing continues to evolve annually, the growing importance of digital marketing strategies, such as targeted advertising, web pages, and long-form blogs, is evident. With the introduction of advanced machine learning algorithms by platforms like Google, marketers now have the ability to process larger volumes of data and optimize digital campaigns with the assistance of AI. The central aim of these developments is to better understand users' online behavior and tailor content that aligns more closely with their preferences and expectations.

Moreover, AI enables marketers to automatically generate content for routine updates, such as stock reports or sports news, enhancing efficiency and relevance. Despite these advancements, it is essential to recognize the paradox that machines, through AI-generated content, can influence consumer perceptions and behaviors [4]. This underscores the need for marketers to carefully consider the ethical implications of AI in content creation, particularly with regard to privacy and consumer rights.

Furthermore, the study's findings hold relevance for policymakers, particularly in Palestine, by highlighting the critical role of AI ethics in digital marketing. There is a pressing need for regulatory frameworks that ensure consumer protection while fostering technological innovation. Policymakers must consider the structure and content of accountability mecha-

nisms in AI applications, as these factors should guide the regulation of AI in ways that promote fairness and transparency. This research emphasizes the inevitable trade-offs that policymakers must navigate when formulating and implementing AI accountability policies, a process that requires ongoing ethical, legal, and political deliberation [29].

8.2. Limitations and Future Research

While the findings are robust, this study has limitations that warrant further exploration. The sample was limited to online shoppers in Palestine, which may restrict the generalizability of the results. Future research could expand the geographic scope and examine additional mediating or moderating variables, such as cultural differences or organizational policies. Furthermore, qualitative studies could provide deeper insights into consumer perceptions of AI ethics in marketing.

In conclusion, this study advances our understanding of the ethical dimensions of AI in digital marketing and provides actionable recommendations for both practitioners and policymakers. By addressing issues of accountability and fairness, businesses can harness the potential of AI technologies while maintaining ethical integrity.

Abbreviations

AI Artificial Intelligence

Conflicts of Interest

The author declares no conflicts of interest.

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