

Research Article

Navigating the Digital Marketing Field: The Role of AI and Emotional Storytelling in Consumer Engagement

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Abstract

This study explores the intersection of Artificial Intelligence (AI) and digital storytelling in marketing. By focusing on how AI-driven techniques can enhance emotional attachment and influence consumer behavior. With the rapid advancement of AI, its integration into marketing strategies has become crucial. Particularly for personalizing consumer experiences and enhancing brand narratives. This study investigated the role of AI in creating emotionally engaging narratives, a largely unexplored area in marketing and advertising. The study is motivated by the need to understand the dynamics between AI-driven techniques and emotional attachment in digital marketing. The paper hypothesizes a significant relationship between consumers' emotional attachment to brands and purchasing behavior. A mixed-methods research approach was employed by combining a survey with interviews to test this hypothesis. This study assesses how emotional attachment, influenced by AI and storytelling, affects consumer purchasing decisions and brand loyalty in online shopping. It also evaluates the effectiveness of AI-driven storytelling techniques in digital marketing campaigns from the perspective of online consumers. Preliminary findings suggest more than 98% recall of story-based branding. More than 67% believe storytelling and emotional attachment may impact purchasing decisions. More than 89% of people recall a brand based on a particular story. While emotional attachment significantly influences consumer purchasing behavior, other factors also play a crucial role. This study reveals that AI's role in marketing is valued, but the essence of storytelling should remain grounded in human experiences.

Keywords

AI in Marketing, Digital Storytelling, Consumer Engagement, Personalization, Emotional Branding, Purchase Behavior, Predictive Modeling

1. Introduction

The rapid advancement of AI in digital marketing represents a transformative shift in how businesses engage with their audiences [1]. As AI technologies evolve, they bring new capabilities to marketing strategies, particularly in personalizing consumer experiences and enhancing narratives [2]. This evolution is due to an increasingly competitive digital marketplace, where consumer attention is an essential com-

modity [3]. In this context, traditional marketing approaches are undergoing reevaluation, with a growing emphasis on creating genuine connections with consumers [4-6]. It has become evident that storytelling is essential to selling a product, as is the quality, brand value, pricing, placement, and other significant factors [7]. As AI covers many aspects of digital automation [8], integrating it into digital storytelling

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may be a pivotal strategy. It promises to redefine the boundaries of consumer engagement. Moreover, offering a unique understanding of consumer behavior and preferences. However, this integration also raises critical questions about the balance between technology and the human essence of storytelling—and AI's role in maintaining or enhancing the emotional impact of brand narratives.

The motivation emerges from the need to explore the dynamics between AI-driven techniques and emotional attachment. Although AI's capabilities in data analytics and predictive modeling offer unprecedented opportunities for targeted and efficient marketing [8], there is an ongoing debate regarding the effectiveness of AI in capturing the subtleties of human emotions and experiences that are central to compelling storytelling [9-11]. AI has been widely studied in marketing and advertising, but its ability to create emotionally engaging narratives remains largely unexplored. This intersection offers a promising area for improving online selling tactics. AI's sophisticated understanding of human emotions could lead to more compelling brand stories and increase audience interaction. This could boost online sales by improving customer engagement, loyalty, and trust. Investigating AI's role in emotionally driven storytelling and consumer-brand dynamics could provide insights for enhancing online sales and repeat purchases.

Much research has been conducted on using AI in digital marketing [12]. However, the lack of models that combine AI with emotional storytelling to strengthen relationships with consumers suggests a need for. Developing these frameworks could offer critical insights for online sellers, enabling more effective use of AI storytelling. Empirical studies on the impact of AI-driven, emotionally resonant storytelling on online sales are scarce, especially across different industries, cultures, and demographics. Such studies could deepen our understanding of inform-tailored strategies for diverse markets. To the best of our knowledge, this is the first study to explore the viability of AI-based storytelling. Exploring AI in emotionally charged storytelling presents significant opportunities to optimize online sales and strengthen consumer-brand connections. This study aims to explore these complexities, assessing how emotional attachment is influenced by AI.

Moreover, it impacts consumer purchase behavior and brand loyalty. It addresses the crucial task of evaluating the perceived effectiveness of AI-enhanced storytelling from the consumer's perspective and investigates the potential of AI in augmenting emotional attachment-driven branding. To achieve this, the following research objectives were established:

1. Assess how emotional attachment, influenced by storytelling and AI-driven techniques, influences consumer purchase decisions and brand loyalty in online shopping.
2. Evaluate the perceived effectiveness of storytelling and AI-driven storytelling techniques in digital marketing campaigns from the perspective of online consumers.
3. Investigate consumer perceptions' role in enhancing

emotional attachment-driven branding and online selling performance.

This study seeks to contribute valuable insights to the discourse on digital marketing strategies by achieving these objectives. It offers a unique understanding of how AI and storytelling can be utilized to foster deeper, more meaningful connections with consumers. To achieve these objectives, the following research questions were posed:

1. To what extent does emotional attachment, influenced by storytelling and AI-driven techniques, affect consumer purchase behavior and brand loyalty in online shopping?
2. What is the perceived effectiveness of storytelling and AI-driven storytelling in marketing campaigns, as observed by online consumers?
3. How do consumers perceive the role of AI in enhancing emotional attachment-driven branding and online selling performance?

Hypothesis: There is a significant relationship between consumers' emotional attachment to brands (influenced by storytelling and AI-driven marketing techniques) and their purchasing behavior (frequency of impulsive purchases and inclination towards brands to which they are emotionally attached).

The rest of the paper is organized as follows: Section 2 provides a literature review, Section 3 explains the research methodology, and Section 4 explains the qualitative and quantitative analysis results. Section 5 discusses and analyzes the proposed research questions. Finally, Section 6 concludes the paper and discusses future work.

2. Literature Review

Advertising has drastically shifted from traditional methods to digital platforms in the internet era. Grover and Teng [13] first noted this transformation, driven by the rapid rise of e-commerce and increased investment in digital advertising, reshaping the business environment. Router [14] further emphasizes the significant impact of digital marketing, accentuated by the ubiquity of mobile devices and the Internet, revolutionizing consumer-brand interactions and purchasing behaviors. Wirtz et al. [15] highlight that businesses must adapt to these changes by establishing a robust online presence and employing effective digital marketing strategies to engage consumers. This shift has led to a considerable upswing in online selling, as evidenced by Radda et al. [16], underscoring the profound changes in business operations and consumer engagement caused by digital advancements.

The financial implications of this digital shift are substantial. Hollebeek and Macky [17] report that worldwide online retail transactions reached approximately five trillion US dollars in 2019, with expectations to surge beyond seven trillion by 2025, reflecting evolving consumer behaviors and the digitization of economic activities. As Wang [18] indicated, academic focus has also shifted, with the United States

experiencing record-breaking growth in digital advertising, surpassing traditional methods. Hasan and Kamalanabhan [19] further projected that global digital advertising expenditure will continue to increase, reaching approximately 836 billion dollars by 2026. Lasrado et al. [20] attribute this transition to the evolution of business-client interactions and the economics of communication, where digital media offers cost-efficiency and broader reach. The future of online selling appears promising, with advancements in AI, machine learning, and big data analytics expected to enhance customer experiences and streamline processes, indicating the ongoing importance of innovation in digital marketing [21].

The influence of AI on various aspects of life is becoming evident. Its transformative impact on society, including enhancing efficiencies for individuals and organizations, is unparalleled [1]. In marketing, AI subsets such as machine learning, deep learning, and neural networks have become crucial in solving complex challenges [22]. Popkova and Gulzat [23] predicted that these profound societal transformations due to AI and related technologies will only intensify. AI algorithms enable machines to mimic human intelligence in decision-making and pattern recognition, which are crucial in sectors such as advertising [22]. Campbell et al. [24] highlight the role of AI in optimizing advertising strategies by understanding consumer behavior. This necessitates a thorough analysis of the consumer journey to gain insight into digital advertising experiences.

Campbell et al. [24] discuss the acknowledgment by industry experts and academicians of AI's pivotal role in various advertising aspects, including process, operation, design, production, and execution. AI also influences every digital marketing stage, including programmatic advertising. Marketers and advertisers use AI and machine learning to analyze consumer data for targeted engagement, aggregating information from various sources [25]. The rise of intelligent advertising, such as interactive and programmatic advertising, is credited with advancements in big data, cloud computing, and algorithms.

Storytelling during branding is significant. Stories have been central to human experience and offer a framework for understanding the world [6]. Korzh and Estima [26] discussed storytelling's power to inspire loyalty and reshape neural pathways. Storytelling in branding involves creating emotional connections as consumers relate to brands, like their relationships with people. Teraiya et al. [4] posit that solid brand-consumer relationships are built when consumers connect to a brand personally. Hasan and Kamalanabhan [19] suggested using archetypes in storytelling to resonate with consumers, tapping into their collective unconscious. Compelling brand storytelling is more than history or features; it is about evoking emotions, building relationships, and enhancing brand equity [4]. The core principles of brand narratives include authenticity, emotional stimulation, relatability, and simplicity for audience engagement and brand alignment [26].

The integration of storytelling into the AI-driven retail field offers a significant opportunity for brands. Sung et al. [27] discussed how personalized narratives around products and services can foster deeper customer engagement and emotional connections. The capability of AI to process vast data sets provides deep insights into consumer behavior, preferences, and emotional responses, which is essential for effective brand communication [24]. Haleem et al. [7] suggested that AI can create narratives tailored to individual consumers, enhancing brand engagement and connection. Roggeveen and Rosengren [28] explained how AI can generate personalized stories that echo individual experiences and emotions by understanding linguistic variations and emotional uniqueness, drawing on insights from past interactions, social media engagement, and online behavior.

Despite significant advancements in AI and its growing application in digital marketing, there remains a notable gap in the existing research regarding the specific use of AI for generating personalized brand stories tailored to individual consumer preferences. Current literature predominantly focuses on the broader aspects of AI in marketing, such as customer data analysis, predictive modeling, and automation of marketing processes. However, the potential of AI in crafting unique, personalized brand narratives that directly engage individual consumers has not been extensively explored.

This gap is particularly evident in the context of AI storytelling. While traditional storytelling in marketing has been well-documented, the innovative use of AI to enhance storytelling by creating deeply personalized and emotionally resonant narratives for each customer is relatively uncharted territory. Existing studies have not thoroughly examined how AI algorithms can be leveraged to interpret individual consumer behaviors and preferences and subsequently use this information to construct compelling, individualized brand stories. This presents a significant research opportunity to explore how AI-driven storytelling can impact consumer engagement and brand loyalty in a more nuanced and individualized manner. Such an investigation is crucial, especially as brands seek to differentiate themselves in a highly competitive digital marketplace by establishing a more personal and emotional connection with their customers.

3. Materials and Methods

The methodology employed in this study embraces both quantitative and qualitative techniques, which offers a comprehensive understanding of the integration of AI in digital marketing and storytelling. This section elucidates the methods adopted to ensure the robustness and credibility of research outcomes. Combining a survey of 146 respondents and detailed interviews with five industry leaders presents a multifaceted perspective.

3.1. Research Approach and Design

This study adopted a mixed-methods approach that integrates quantitative and qualitative methodologies. The quantitative component is realized through a structured survey. It aims to gather comprehensive data from a broad demographic to understand general trends and perceptions in AI and digital marketing. Complementarily, the qualitative aspect, conducted via in-depth interviews with industry experts, sought to extract detailed insights and experiential knowledge, providing depth to the study. This approach facilitates a multifaceted examination of the role of AI in digital marketing, allowing an expansive and unique understanding of the subject.

The research design encompassed both descriptive and exploratory elements. The descriptive aspect focuses on delineating the existing field of AI in digital marketing. This approach captures empirical evidence of prevailing industry practices and perceptions. The exploratory dimension, embodied in the interviews, investigated complex issues related to integrating AI and storytelling in marketing. This design seeks to uncover the domain's challenges, strategies, and potential future directions. The construction of the survey instrument was informed by an exhaustive review of pertinent literature, ensuring the relevance and neutrality of the questions. The interview protocol encouraged open-ended responses, enabling participants to provide comprehensive insights.

3.2. Research Context, Sampling, and Data Collection

This research is contextualized within organizations actively engaged in digital marketing and pioneering AI integration. A stratified random sampling technique ensured a representative and diverse sample of the target population. The survey was administered online, using digital platforms for broad accessibility. By contrast, the interviews were conducted face-to-face, which was conducive to obtaining in-depth qualitative data. Quantitative data from the survey were processed and analyzed using SPSS, applying statistical techniques such as descriptive statistics, correlation analysis, and regression to identify significant patterns and relationships. Qualitative data from the interviews were subjected to a comprehensive thematic analysis involving a systematic coding process to identify key themes and insights.

3.3. Regression and Co-Correlation Analysis

A structured survey was conducted with 200 individuals, yielding a response rate of 73%. This questionnaire was designed to understand the depths of participants' emotional connections with brands, their interactions with AI-driven content, and their understanding of storytelling within the digital marketing space. In our regression analysis of the

survey data, we explored the relationship between consumers' emotional attachment to brands and their impulsive online purchasing behavior. To achieve this, we carefully selected the relevant columns from the dataset that directly corresponded to the research objective. Specifically, we utilized the column "To what extent do you feel emotionally attached to certain brands?" as an independent variable. This column, representing the degree of emotional attachment, was chosen for its potential influence on consumer's purchasing decisions. Responses in this column were quantified on a scale from 0 (not at all attached) to 4 (highly attached), providing a unique measure of emotional attachment. We selected "Have you made impulsive online purchases because of an emotional connection to a brand/product?" for the dependent variable. This binary response column (Yes or No) directly addresses the outcome of interest – whether an emotional connection to a brand leads to impulsive purchasing behavior. By mapping 'Yes' to 1 and 'No' to 0, we transformed these responses into a format suitable for regression analysis.

This regression analysis aimed to test the hypothesis that a higher emotional attachment to a brand is associated with an increased likelihood of making impulsive online purchases. This hypothesis aligns with prevailing marketing theories that suggest a strong emotional bond with a brand can significantly influence consumer behavior. By employing a logistic regression model, we sought to quantify this relationship and provide empirical evidence to support or refute our hypothesis. The results of this analysis are intended to offer deeper insights into the dynamics of emotional attachment in consumer-brand relationships within the digital marketplace.

3.4. Semi-Structured Interview

This study conducted semi-structured interviews with five seasoned professionals at the forefront of integrating AI in digital marketing. These experts, affiliated with leading organizations in the industry, were selected to provide in-depth, practical insights into AI's challenges, successful strategies, and future outlook in digital storytelling. The interviews were transcribed and subjected to a comprehensive thematic analysis, enabling the extraction of recurring themes and patterns. Key areas of focus included:

1. Integrating AI with digital storytelling, identifying best practices, and harmonizing technological capabilities with narrative effectiveness.
2. Operational challenges in embedding AI into marketing narratives, including strategic and technical hurdles.
3. Case studies highlight successes and failures in applying AI in marketing, providing valuable lessons and identifying areas for further exploration.

Data from both the quantitative (analyzed using SPSS) and qualitative (derived from interviews) segments were triangulated to ensure the robustness and credibility of the research findings. This triangulation approach validates the findings from multiple perspectives, enhancing the reliability and

depth of the conclusions and recommendations drawn. Ethical considerations were rigorously observed throughout the study, with ethical clearance obtained from the university's ethics committee, affirming the commitment to maintaining high research integrity standards.

3.5. Ethical Considerations

Participants in the survey and interviews were thoroughly informed about the research objectives, ensuring informed and voluntary participation. Confidentiality and anonymity were strictly upheld, guaranteeing no personally identifiable information would be disclosed. All data was securely stored and accessible only to authorized personnel. Furthermore, the survey and interview instruments were transparently presented to all participants, ensuring clarity and eliminating any potential for misunderstanding or deception.

This methodological framework, encompassing empirical data from surveys and experiential insights from interviews, aims to provide a detailed and nuanced understanding of the interplay between AI, storytelling, and emotional attachment in digital marketing. Preliminary data examination was undertaken to identify and address any inconsistencies, ensuring a solid foundation for further analysis. Reliability was a key focus, with Cronbach's alpha coefficient used to ascertain the internal consistency of the survey and inter-coder reliability

employed for qualitative data to ensure consistency across different coders. Additionally, convergent validity was evaluated to confirm the theoretical correlations between related constructs, further validating the measures used in the research.

4. Analysis of Results

4.1. Quantitative Analysis

The chart elucidates the demographic breakdown of the survey respondents concerning gender and annual household income. In the gender distribution, 70.55% of the respondents are male, while 29.45% are female. This proportion presents a comprehensive view of the gender representation within the survey sample. Regarding the annual household income of the respondents, the distribution is as follows: 38.36% prefer not to disclose their income, 35.62% have an income below \$10,000, 15.75% fall within the \$10,000-\$50,000 range, 8.22% are in the \$50,000-\$100,000 bracket and a minority of 2.05% report an income above \$100,000. This data provides an insightful perspective into the economic diversity of the survey participants, an important aspect to consider when interpreting their responses about AI and emotional attachment in digital marketing.

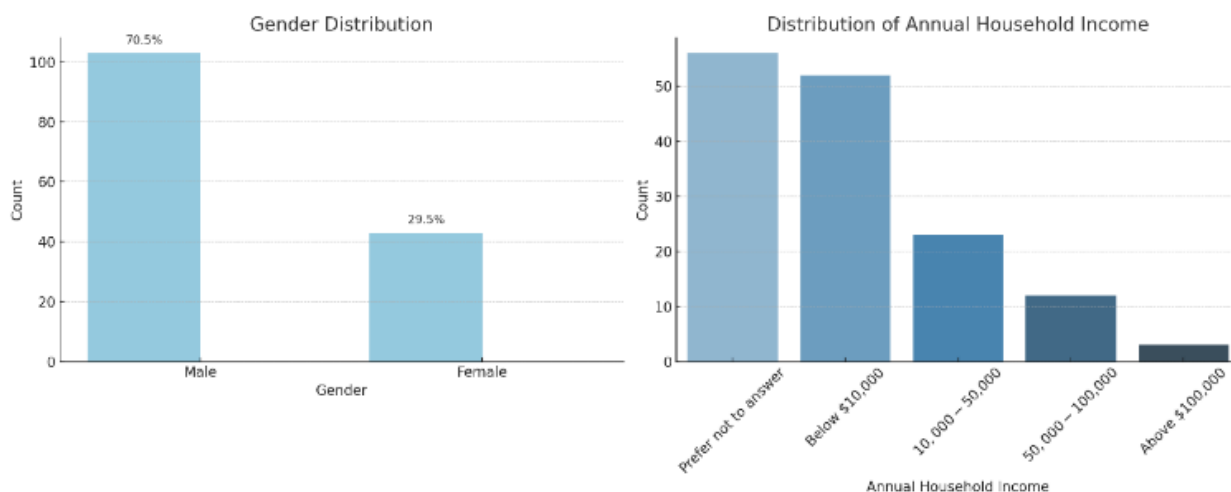


Figure 1. Domestic information analysis using SPSS.

The frequency of online shopping among survey respondents is delineated into five distinct categories, each represented by a specific percentage of the participant group. The largest segment, encompassing 63.01% of respondents, indicates a 'Rarely' frequency, suggesting infrequent engagement with online shopping platforms. In contrast, 30.14% of participants engage in online shopping monthly, highlighting a consistent but not frequent interaction with e-commerce. A

smaller proportion of the survey population, 3.42%, shops online weekly, reflecting a more regular usage of online shopping services. Interestingly, a minimal 0.68% of respondents report daily online shopping activities, indicating a persistent engagement with digital retail platforms. Finally, 2.74% of participants fall into the 'Never' category, suggesting no participation in online shopping.

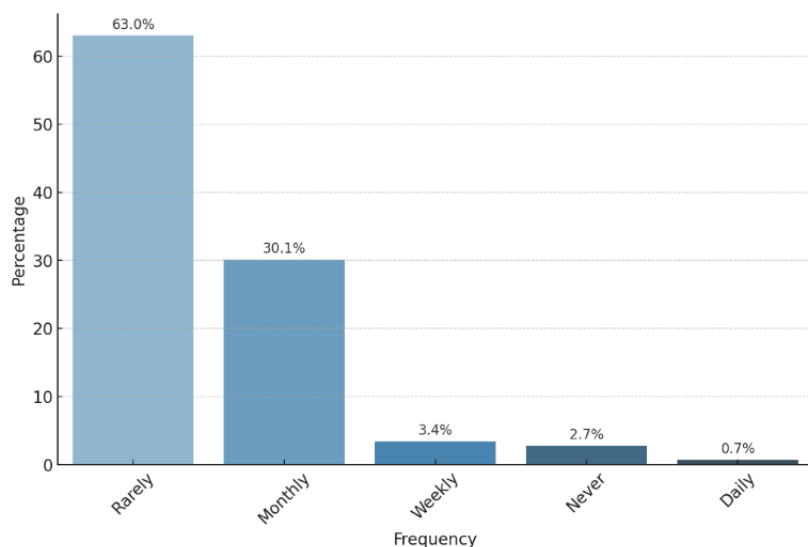


Figure 2. The frequency of online shopping.

The bar chart delineating preferred online shopping platforms among survey respondents reveals a distinct distribution of platform preferences. The platform 'Daraz' is the most favored, chosen by 62.33% of respondents, underscoring its dominant position in online shopping. 'Instagram' follows with a significant preference rate of 26.71%, indicating its substantial role in e-commerce. 'Facebook' and 'Amazon' are preferred by smaller

population segments, accounting for 3.42% and 1.37%, respectively, reflecting their more niche roles in digital shopping. Notably, 'Official Website' consolidates various brand and company-specific online platforms, which is preferred by 4.11% of participants, highlighting a preference for direct brand engagement. Additionally, a minor 0.68% of respondents indicated they did not use any online shopping platform.

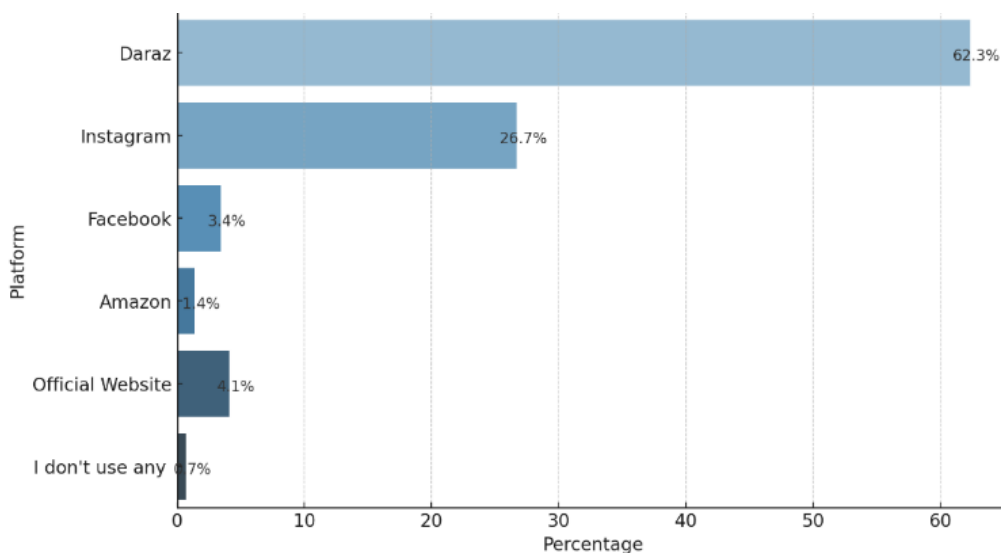


Figure 3. Preferred online shopping platforms.

The data highlights the diversified nature of online shopping preferences. While direct brand or retail websites overwhelmingly dominate, social media platforms like Instagram and Facebook also hold significant sway, emphasizing the importance of engaging visual content and narratives. The presence of platform combinations (e.g., Amazon, Alibaba,

Daraz) underscores that a segment of online shoppers is platform-agnostic and probably driven more by product, price, or brand narrative than platform loyalty. Brands leveraging AI and storytelling must recognize these diverse shopping habits and tailor their strategies across platforms for maximum reach and impact.

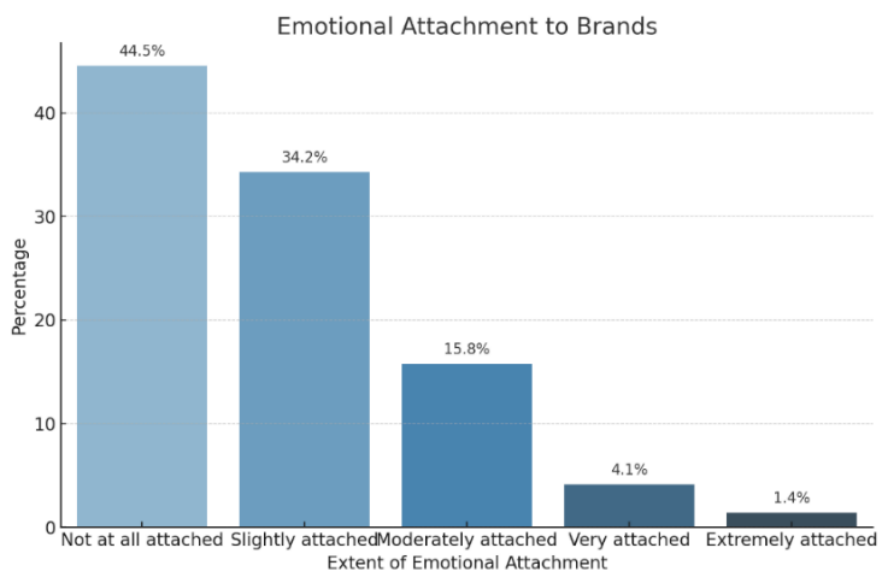


Figure 4. Emotional attachment with brands.

The data indicates a continuum of emotional attachment levels to brands among respondents. The majority oscillate between slight to moderate attachment, suggesting room for improvement in branding strategies. The lack of respondents in the “extremely attached” category underscores the challenge brands face in creating profound emotional bonds. Im-

plementing AI can help personalize experiences while compelling storytelling can resonate deeper with consumers’ emotions. These tools, when used effectively, have the potential to shift more individuals from the “slightly attached” to “moderately” or even “very attached” categories.

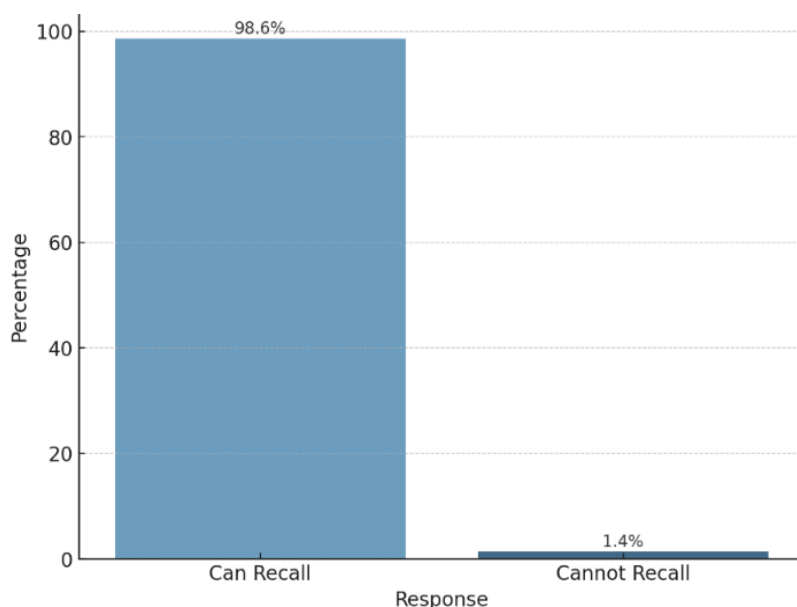


Figure 5. A brand never invoked an emotional response.

The bar chart illustrates respondents’ ability to recall a specific brand or product that evokes a strong emotional response. Most survey participants (98.63%) indicate they can recall such a brand or product, signifying a notable emotional

connection with specific brands. In contrast, only 1.37% of respondents report an inability to recall a brand or product that elicits a strong emotional response.



Figure 6. Word cloud of brands that invoked an emotional response.

Two key themes emerge in analyzing the emotional responses to specific brands or products: personal resonance and experiential satisfaction. Personal resonance encompasses individuals' deep connections with brands or products that align with their identity, values, or lifestyle. This attachment often stems from long-term loyalty, sentimentality, or a brand's integral role in an individual's life. For instance, respondents might recall a cherished family heirloom from a particular brand, a product that aligns with their environmental values, or a brand that represents a crucial aspect of their hobbies or interests. Such emotional attachments are not just about the product itself but the personal stories, values, and identities they represent.

Experiential satisfaction, on the other hand, highlights the role of quality, innovation, and customer experience in forging emotional bonds. Brands that consistently deliver high-quality products or services exhibit groundbreaking innovation or exceptional customer service, which evoke strong positive emotions among consumers. This aspect of attachment is rooted in the satisfaction and trust developed through reliable product performance, memorable customer service experiences, or the brand's significant impact on the consumer's lifestyle or the broader industry. In essence, these emotional attachments reflect the appreciation for the tangible benefits these brands bring into their lives, whether through enhancing daily convenience, providing unique solutions, or enriching experiences.

The analysis of consumer responses regarding the notice of personalized content while shopping online reveals that a majority, 81.51%, have observed personalized elements like product recommendations and customized ads. A smaller segment of 13.70% remains uncertain ('Maybe'), indicating ambiguity in recognizing such content. Only 4.79% of respondents report not noticing personalized content, suggesting a lack of exposure or awareness. This data underscores the prevalent and noticeable impact of customized marketing strategies on the digital shopping experience for most consumers.

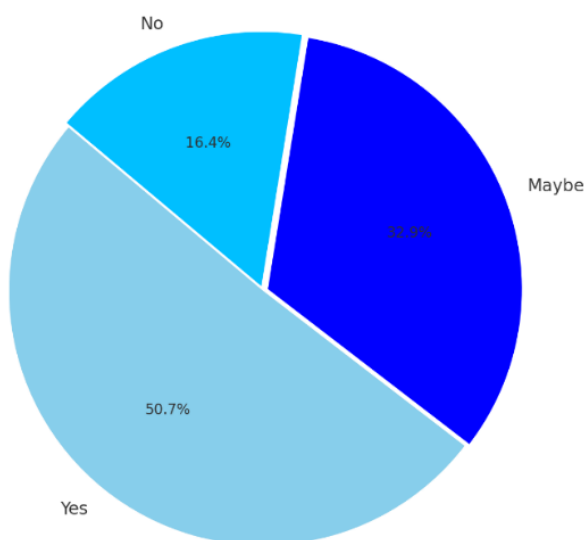


Figure 7. Information regarding brand loyalties.

In the survey, 50.68% of respondents believe that the combination of AI and storytelling can enhance emotional attachment-driven branding and online selling performance, indicating a majority view that these technologies can positively impact marketing strategies. However, a substantial 32.88% remain unsure ('Maybe'), reflecting some uncertainty or lack of

familiarity with these concepts in the context of online shopping. Meanwhile, 16.44% do not see a significant role for AI and storytelling in enhancing branding and selling performance. This spread of opinions highlights a general optimism about the potential of AI and storytelling in marketing, tempered by a notable degree of skepticism and uncertainty.

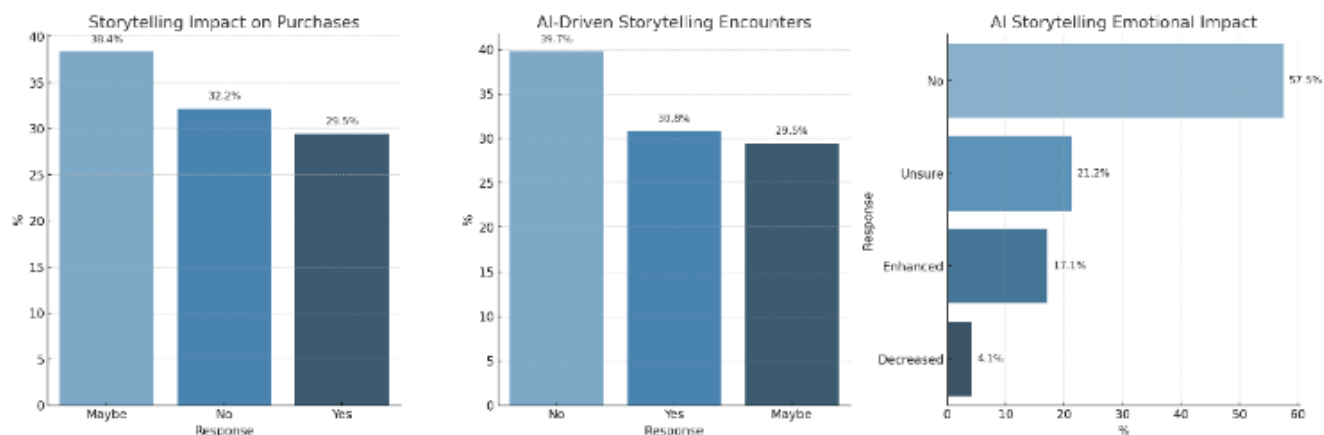


Figure 8. Domestic Information of the survey participants.

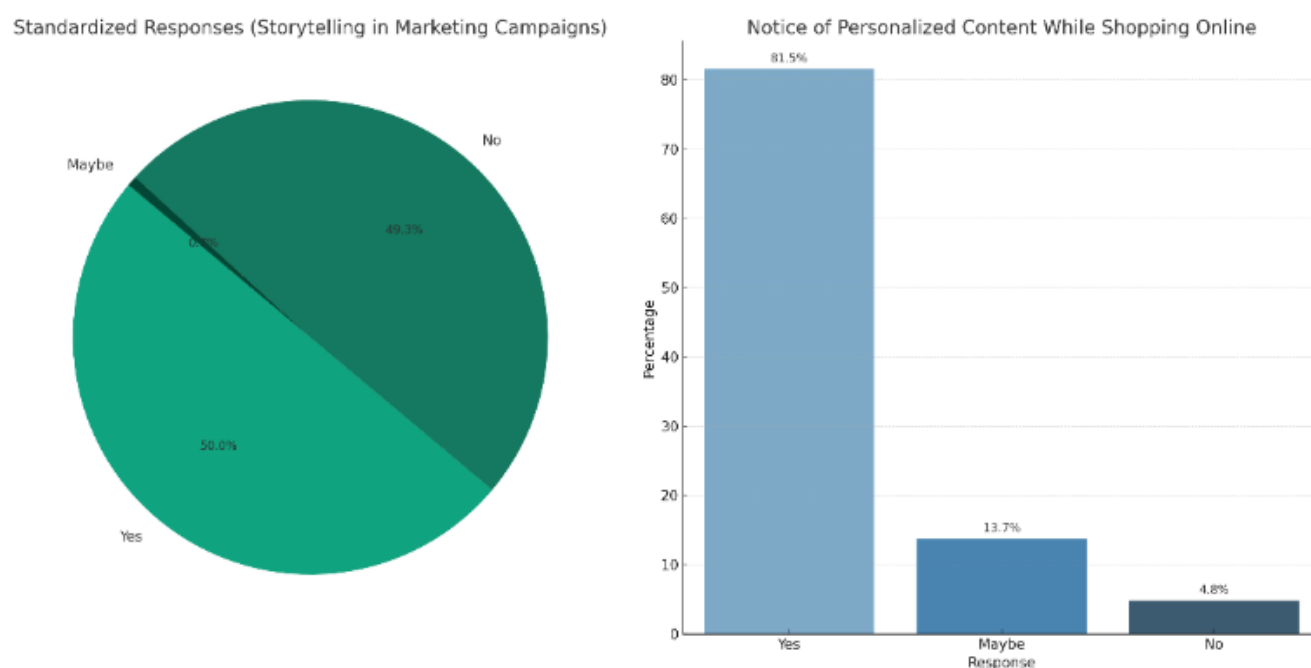


Figure 9. Storytelling impact on purchases.

In the survey analysis, 38.36% of respondents are undecided ('Maybe') on the impact of storytelling in ads/marketing on purchase behavior, while 32.19% negate and 29.45% affirm its influence. Regarding AI-driven storytelling encounters in marketing, 39.73% have not encountered it, 30.82% have, and 29.45% are unsure. As for its emotional impact, a majority (57.53%) report no noticeable effect, 21.23% are uncertain, 17.12% experience an enhanced connection, and a minimal 4.11% feel a decreased connection. These findings reflect a diverse consumer perception of storytelling and AI's role in shaping purchasing decisions and emotional brand engagement.

In the survey, 47.95% of respondents believe that brand storytelling can establish an emotional connection with consumers, yet 37.67% remain undecided, and 14.38% disagree.

Regarding impulsive purchases influenced by emotional connections, 56.85% deny such behavior, 26.03% acknowledge it, and 17.12% are uncertain. Regarding brand loyalty, 44.52% are more inclined to purchase from brands they are emotionally attached to, 27.40% feel this way, but 28.08% do not share the same inclination. These results highlight the diverse impacts of emotional connections on consumer purchasing behavior, reflecting varying degrees of influence from skepticism to strong brand loyalty.

4.2. Qualitative Analysis

Regression Analysis

Ordinary Least Squares (OLS) regression analysis reveals insightful relationships between emotional attachment to

brands and impulsive online purchasing behaviors. The model's R-squared value of 0.197 indicates that about 19.7% of the variability in impulsive purchasing behavior is explained by the degree of emotional attachment. While this shows a notable influence, it also suggests that other factors not captured in the model might play a role in such purchasing decisions. The constant coefficient of 0.1399 indicates a

baseline probability of impulsive purchasing when emotional attachment is absent. More significantly, the coefficient for emotional attachment, at 0.2219, is positive and statistically significant ($p < 0.001$). This finding implies a direct and positive correlation between emotional attachment and impulsive purchase behavior; as emotional attachment increases, so does the likelihood of impulsive purchases.

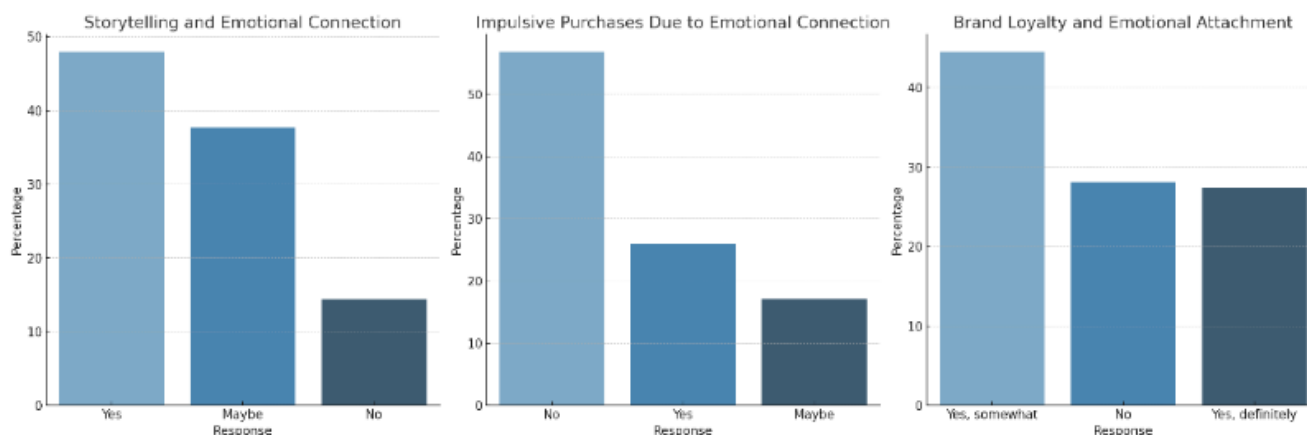


Figure 10. The impact of AI storytelling on emotional attachment, purchases, and encounters.

OLS Regression Results						
=====						
Dep. Variable:	Impulsive Purchase	R-squared:	0.197			
Model:	OLS	Adj. R-squared:	0.190			
Method:	Least Squares	F-statistic:	29.23			
Date:	Thu, 21 Dec 2023	Prob (F-statistic):	3.37e-07			
Time:	12:27:55	Log-Likelihood:	-65.528			
No. Observations:	121	AIC:	135.1			
Df Residuals:	119	BIC:	140.6			
Df Model:	1					
Covariance Type:	nonrobust					
=====						
	coef	std err	t	P> t	[0.025	0.975]

const	0.1399	0.050	2.802	0.006	0.041	0.239
Emotional Attachment	0.2219	0.041	5.406	0.000	0.141	0.303
=====						
Omnibus:	13.236	Durbin-Watson:	2.108			
Prob(Omnibus):	0.001	Jarque-Bera (JB):	13.920			
Skew:	0.786	Prob(JB):	0.000949			
Kurtosis:	2.461	Cond. No.	2.22			
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Figure 11. Regression analysis results for the proposed hypothesis.

The F-statistic of 29.23, with a very low probability (Prob (F-statistic) = 3.37e-07), strongly supports the model's overall significance. This indicates that the relationship between emotional attachment and impulsive purchasing is not due to random chance. Other diagnostic values, such as the Durbin-Watson statistic of 2.108, suggest no significant autocor-

relation in the residuals, indicating that the model's error terms are independent. The Omnibus and Jarque-Bera tests and Skew and Kurtosis values provide information on the normality of residuals. This analysis suggests a deviation from normality, a common occurrence in real-world data that should be considered when interpreting the results.

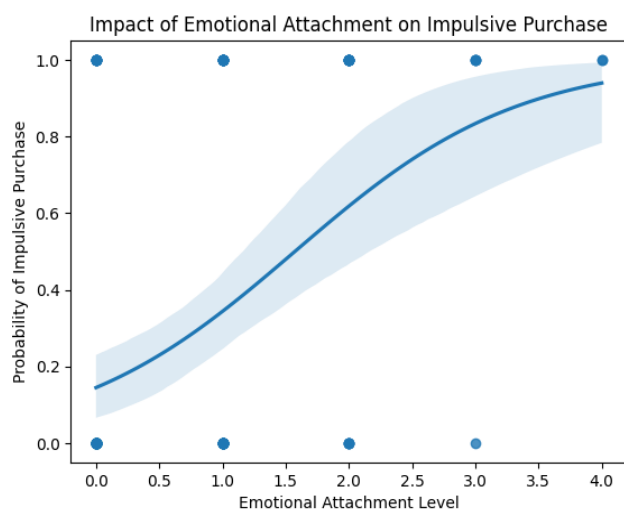


Figure 12. Results of Regression analysis.

The regression analysis points to a meaningful relationship between emotional attachment and impulsive purchasing behavior, with emotional attachment significantly predicting the likelihood of such behavior among consumers. This relationship is crucial for understanding how emotional factors drive consumer purchasing decisions in the digital marketplace. However, other unaccounted variables and the deviation from residual normality underline the complexity of consumer behavior and the need for a comprehensive ap-

proach to analyzing it.

The graph depicts a positive and curvilinear relationship between the level of emotional attachment and the probability of making an impulsive purchase. The likelihood of impulsive purchases increases with a higher emotional attachment to a brand. The shaded area represents the 95% confidence interval, indicating the range within which we can be confident that the true relationship lies. Notably, the slope of the curve becomes steeper as the level of emotional attachment grows, suggesting that the effect on impulsive purchasing behavior is more pronounced at higher levels of emotional attachment. This visualization effectively supports the regression analysis findings, where emotional attachment significantly predicts impulsive purchasing behavior. It affirms the hypothesis that stronger emotional bonds with brands can lead to more impulsive buying decisions online.

Correlation Analysis

The correlation analysis between the variables 'Emotional Attachment' and 'AI-based Storytelling Impact' yields a Pearson correlation coefficient of approximately 0.20. This positive correlation indicates a slight linear relationship between the two variables; as one increases, there is a tendency for the other to increase. The heatmap visualization confirms this relationship, with the color intensity representing the strength of the correlation. A coefficient of 0.20, while positive, is relatively weak, suggesting that other factors may also significantly influence these variables.

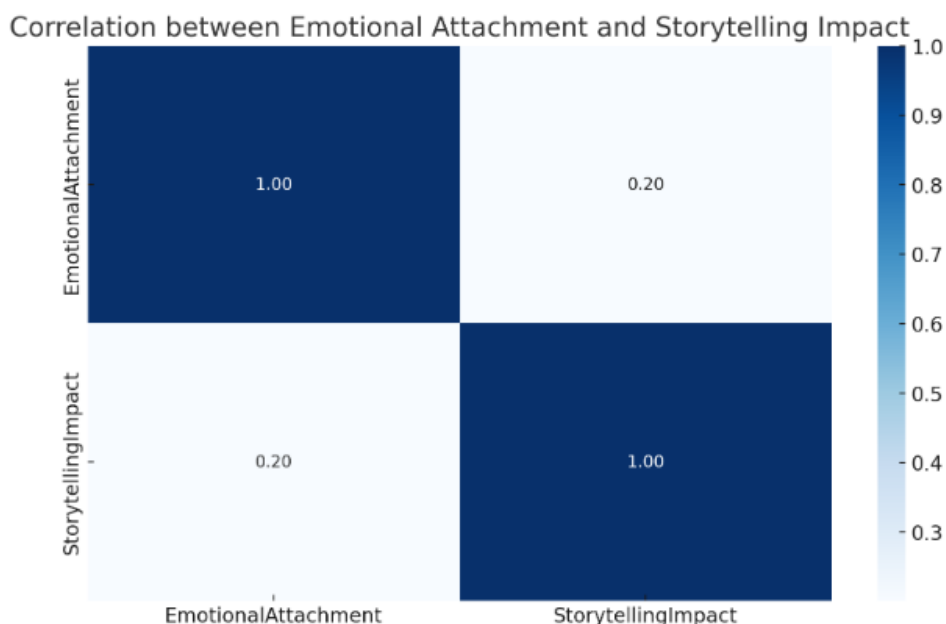


Figure 13. Correlation analysis of Storytelling emotional attachment.

Thematic Analysis of Semi-Structured Interviews

Diverse experts from the industry were handpicked for the interviews, providing a rich spectrum of perspectives that represent various schools of thought regarding the role of AI

in digital storytelling. The selection intentionally encompassed professionals enthusiastic about AI, skeptics rooted in traditionalism, and those in the middle who are curious but have yet to understand AI's potential fully.

The thematic analysis sheds light on the nuanced interplay between AI and digital storytelling within modern marketing. It reveals a distinct trend towards customizing narratives, leveraging AI to tailor content to individual consumer preferences, thereby challenging the traditional one-size-fits-all approach. A prevailing view among industry professionals is the enduring value of AI-based storytelling that resonates with human experiences and emotions, which technological advancements should not compromise. While the analytical capabilities of AI are recognized for offering valuable consumer insights, there is a consensus that the core of storytelling should remain inherently human-centric.

Operational challenges in integrating AI into marketing narratives extend beyond technological implementation. They encompass the need for a shift in organizational mindset, structure, and processes. Concerns have been articulated regarding the potential for branding to lose its human essence to mechanistic algorithms, reflecting a broader industry skepticism towards AI as a disruptive force rather than a strategic tool. This skepticism often stems from a gap between general awareness of AI and a deep understanding of its practical applications, which can lead to implementation missteps.



Figure 14. Word cloud of used words in the interviews from marketing executives.

Real-world case studies have demonstrated that brands combining AI analytics with creative storytelling can achieve heightened consumer engagement, retention, and sales. However, overreliance on AI has led to instances of brand narratives losing their authenticity, resulting in dissonant and ineffective campaigns. The industry appears intrigued by AI's potential yet is still navigating towards an optimal balance. Success stories often feature brands that take measured risks in harmonizing

traditional storytelling with technological innovation, yielding substantial benefits. The digital marketing field is currently characterized by flux, with AI increasingly influencing how brand narratives are constructed and conveyed. The industry faces the challenge of maintaining the soulful essence of brand stories amidst the burgeoning influence of AI. As synthesized from expert insights, the path forward lies not in choosing between tradition and technology but in striking a delicate balance between the two. This balance promises crafting more resonant stories, creating impactful campaigns, and fostering more robust brand consumers.

5. Discussion

The paper's discussion section addresses the research questions and hypothesis, considering the insights from the data analysis. The first research objective sought to assess the impact of emotional attachment, influenced by storytelling and AI-driven techniques, on consumer purchasing decisions and brand loyalty. The regression analysis revealed a positive correlation between emotional attachment and impulsive purchasing behavior. This finding suggests that consumers will likely exhibit increased impulsive buying behavior as they become more emotionally attached to a brand. This outcome aligns with the hypothesis, supporting that emotional attachment, potentially augmented by storytelling and AI, significantly influences purchasing behavior. However, the R-squared value from the regression analysis indicates that emotional attachment accounts for approximately 19.7% of the variance in impulsive purchasing behavior, suggesting that other factors also play a crucial role in this dynamic.

The second research objective focused on evaluating the effectiveness of storytelling and AI-driven techniques in digital marketing from the consumer perspective. Survey results showed a general recognition of the importance of blending AI with storytelling, particularly emphasizing the human essence in storytelling. While AI was acknowledged for its role in enhancing customization and providing insights, there was a consensus on the need for storytelling to remain grounded in human experiences. This finding addresses the second research question, indicating that while AI's role in marketing is valued, the core of storytelling, resonating with human emotions, is still considered paramount.

The third research objective investigated consumer perceptions of AI in enhancing branding and online selling performance. The survey responses indicated a mixed reaction, with some participants considering AI a valuable tool in crafting emotionally resonant narratives. In contrast, others expressed concerns about losing the human touch in brand storytelling. The thematic analysis further supported this, highlighting both the potential and the challenges of integrating AI into marketing narratives. This provides insight into the third research question, suggesting that while AI is a promising digital marketing tool, its integration must be balanced carefully with human-centric storytelling approaches.

The findings of this study offer a comprehensive understanding of the interplay between emotional attachment, storytelling, and AI in influencing consumer behavior and brand loyalty. While emotional attachment emerges as a significant factor in impulsive purchasing decisions, the role of AI and storytelling in marketing requires a delicate balance between technological capabilities and maintaining the human essence of narratives. The hypothesis is partially supported, underscoring consumer behavior's complex and multifaceted nature in digital marketing.

6. Conclusion

The conclusion is integrative, combining the many threads discussed throughout the research. This study aimed to examine the interface between AI and storytelling in digital marketing, teasing apart their collaborations, challenges, and the transformative potential they collectively can achieve. At the core of effective digital marketing lies the human touch. Even in the age of data and algorithms, the emotional connection remains the driving force. This study reaffirmed the pivotal role of emotional attachment in steering consumer behavior, influencing brand perception, and tangible metrics like online selling performance. AI, while immensely powerful, is not a magic bullet. Its integration into storytelling augments the process, offering data-driven insights and the possibility of hyper-personalized narratives. However, it also introduces complexity. Issues of transparency, ethics, over-personalization, and cultural sensitivity must be deftly navigated. Storytelling, an age-old craft, meets the cutting-edge realm of AI. The future of digital marketing does not lie in choosing one over the other but in orchestrating a harmonious blend. Traditional storytelling grounds narratives in authenticity, while AI facilitates relevance and personal resonance. While the current research has unearthed numerous insights regarding AI and storytelling within the digital marketing field, the symbiosis of these domains has just begun. In the future, we aim to develop an AI-based tool to generate customized product-based stories to engage customers and drive sales.

Abbreviations

AI Artificial Intelligence

Author Contributions

Jayakumar Manoharan is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] L. Steinhoff, D. Arli, S. Weaven, and I. V. Kozlenkova, "Online relationship marketing," *J. of the Acad. Mark. Sci.*, vol. 47, no. 3, pp. 369–393, May 2019, <https://doi.org/10.1007/s11747-018-0621-6>
- [2] M.-W. Li, H.-Y. Teng, and C.-Y. Chen, "Unlocking the customer engagement-brand loyalty relationship in tourism social media: The roles of brand attachment and customer trust," *Journal of Hospitality and Tourism Management*, vol. 44, pp. 184–192, 2020.
- [3] D. R. Piranda, D. Z. Sinaga, and E. E. Putri, "Online Marketing Strategy In Facebook Marketplace As A Digital Marketing Tool," *JOURNAL OF HUMANITIES, SOCIAL SCIENCES AND BUSINESS*, vol. 1, no. 3, pp. 1–8, 2022.
- [4] V. Teraiya, S. Namboodiri, and R. Jayswal, "The Impact of Storytelling Advertising on Consumer Advertising Experiences and Brand Equity," 2023.
- [5] C.-C. Yin, Y.-C. Tang, H.-C. Chiu, Y.-C. Hsieh, and Y.-T. Lai, "Telling an authentic story by aligning with your product type and price," *Journal of Business Research*, vol. 161, p. 113799, 2023.
- [6] J. R. D. O. Júnior, R. Limongi, W. M. Lim, J. K. Eastman, and S. Kumar, "A story to sell: The influence of storytelling on consumers' purchasing behavior," *Psychology and Marketing*, vol. 40, no. 2, pp. 239–261, Feb. 2023, <https://doi.org/10.1002/mar.21758>
- [7] A. Haleem, M. Javaid, M. A. Qadri, R. P. Singh, and R. Suman, "AI applications for marketing: A literature-based study," *International Journal of Intelligent Networks*, 2022, Accessed: Dec. 22, 2023. [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S2666603022000136>
- [8] M. Kamal and A. S. Himel, "Redefining Modern Marketing: An Analysis of AI and NLP's Influence on Consumer Engagement, Strategy, and Beyond," *Eigenpub Review of Science and Technology*, vol. 7, no. 1, pp. 203–223, 2023.
- [9] Y. Liu-Thompkins, S. Okazaki, and H. Li, "Artificial empathy in marketing interactions: Bridging the human-AI gap in affective and social customer experience," *J. of the Acad. Mark. Sci.*, vol. 50, no. 6, pp. 1198–1218, Nov. 2022, <https://doi.org/10.1007/s11747-022-00892-5>
- [10] A. Kaklauskas et al., "A review of AI cloud and edge sensors, methods, and applications for the recognition of emotional, affective and physiological states," *Sensors*, vol. 22, no. 20, p. 7824, 2022.
- [11] S. Järvelä, A. Nguyen, and A. Hadwin, "Human and artificial intelligence collaboration for socially shared regulation in learning," *Brit J Educational Tech*, vol. 54, no. 5, pp. 1057–1076, Sep. 2023, <https://doi.org/10.1111/bjet.13325>
- [12] A. M. Amiri, B. P. Kushwaha, and R. Singh, "Visualisation of global research trends and future research directions of digital marketing in small and medium enterprises using bibliometric analysis," *Journal of Small Business and Enterprise Development*, vol. 30, no. 3, pp. 621–641, 2023.

- [13] V. Grover and J. T. C. Teng, "E-commerce and the information market," *Commun. ACM*, vol. 44, no. 4, pp. 79–86, Apr. 2001, <https://doi.org/10.1145/367211.367272>
- [14] R. Roeter and C. NBC-HWC, "THE IMPACT," 2005, Accessed: Dec. 22, 2023. [Online]. Available: <https://www.obesityaction.org/wp-content/uploads/The-Impact-of-Technology-on-Our-Health.pdf>
- [15] B. W. Wirtz, O. Schilke, and S. Ullrich, "Strategic development of business models: implications of the Web 2.0 for creating value on the internet," *Long range planning*, vol. 43, no. 2–3, pp. 272–290, 2010.
- [16] A. A. Radda, M. Majidadi, and S. Akanno, "Employee engagement: The new model of leadership," *Indian Journal of Management Science*, 2015, Accessed: Dec. 22, 2023. [Online]. Available: <https://www.researchgate.net/profile/Abubakar-Radda/amp>
- [17] Agomuo, O. C., Jnr, O. W. B., & Muzamal, J. H. (2024, July). Energy-Aware AI-based Optimal Cloud Infra Allocation for Provisioning of Resources. In *2024 IEEE/ACIS 27th International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD)* (pp. 269-274). IEEE Computer Society.
- [18] C. L. Wang, "New frontiers and future directions in interactive marketing: inaugural Editorial," *Journal of Research in Interactive Marketing*, vol. 15, no. 1, pp. 1–9, 2021.
- [19] D. Hasan and T. J. Kamalanabhan, "Perceived Organizational Support-Effectuating Digital Marketing Communication and Facilitating Sustainable Development Goals 3, 8 and 16: An Integrative Literature Review," *Effective Digital Marketing for Improving Society Behavior Toward DEI and SDGs*, pp. 154–179, 2024.
- [20] Jnr, O. W. B., Agomuo, O. C., & Muzamal, J. H. (2024, July). Adaptive Multi-Layered Non-Terrestrial Network with Integrated FSO and RF Communications for Enhanced Global Connectivity. In *2024 IEEE/ACIS 27th International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD)* (pp. 263-268). IEEE Computer Society.
- [21] A. Guha et al., "How artificial intelligence will affect the future of retailing," *Journal of Retailing*, vol. 97, no. 1, pp. 28–41, 2021.
- [22] L. Ma and B. Sun, "Machine learning and AI in marketing—Connecting computing power to human insights," *International Journal of Research in Marketing*, vol. 37, no. 3, pp. 481–504, 2020.
- [23] E. G. Popkova and K. Gulzat, "Technological Revolution in the 21st Century: Digital Society vs. Artificial Intelligence," in *The 21st Century from the Positions of Modern Science: Intellectual, Digital and Innovative Aspects*, vol. 91, E. G. Popkova and B. S. Sergi, Eds., in *Lecture Notes in Networks and Systems*, vol. 91., Cham: Springer International Publishing, 2020, pp. 339–345. https://doi.org/10.1007/978-3-030-32015-7_38
- [24] C. Campbell, S. Sands, C. Ferraro, H.-Y. J. Tsao, and A. Mavrommatis, "From data to action: How marketers can leverage AI," *Business horizons*, vol. 63, no. 2, pp. 227–243, 2020.
- [25] К. Калюта, "UTILIZING MACHINE LEARNING FOR DATA ANALYSIS IN SALESFORCE," *Наука і техніка сьогодні*, no. 10 (24), 2023, Accessed: Dec. 22, 2023. [Online]. Available: <http://perspectives.pp.ua/index.php/nts/article/download/6023/6056>
- [26] A. Korzh and A. Estima, "The Power of Storytelling as a marketing tool in personal branding," *International Journal of Business Innovation*, pp. e28957–e28957, 2022.
- [27] E. C. Sung, D.-I. D. Han, S. Bae, and O. Kwon, "What drives technology-enhanced storytelling immersion? The role of digital humans," *Computers in Human Behavior*, vol. 132, p. 107246, 2022.
- [28] A. L. Roggeveen and S. Rosengren, "From customer experience to human experience: Uses of systematized and non-systematized knowledge," *Journal of Retailing and Consumer Services*, vol. 67, p. 102967, 2022.

Biography



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