

THE IMPACT OF GENERATIVE ARTIFICIAL INTELLIGENCE APPLICATIONS ON DIGITAL MARKETING DECISIONS IN SAUDI INSTITUTIONS

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Abstract:

This study aimed to investigate the impact of generative artificial intelligence (GI) applications on digital marketing decisions within Saudi organizations. The study employed a quantitative approach, utilizing an online questionnaire administered to a sample of 120 digital marketing professionals. The results revealed a high level of generative AI usage among employees ($M = 4.03$) with a relative weight of 80.6%. Furthermore, the results indicated a high level of marketing decision-making across all dimensions, with content management exhibiting the highest average ($M = 4.20$). Correlation analysis revealed strong and statistically significant relationships between generative AI and all dimensions of marketing decisions, with performance evaluation showing the strongest correlation ($r = 0.88$). Linear regression analysis demonstrated that generative AI explains 57% of the variance in marketing decisions ($R^2 = 0.57$), demonstrating a statistically significant effect between generative AI techniques and all dimensions of digital marketing decisions, with content management exhibiting the strongest effect ($\beta = 0.69$). The study concluded that generative intelligence is a pivotal element in enhancing the quality of marketing decisions and supports the ability of Saudi institutions to enhance planning, improve content, and evaluate performance, thereby enhancing their competitive efficiency.

Keywords: Generative Artificial Intelligence, Digital Marketing, Content Management, Quality of Decisions, Kingdom of Saudi Arabia.

1. INTRODUCTION

The last two decades have been characterized by radical changes in the digital marketing practice because of the swift development of information and communication technologies which has dramatically changed the nature of relations between the organizations and consumers. The mass use of the internet and smartphones has transformed how the two parties communicate, with the digital platforms being the main source of getting information, carrying out transactions, and interacting with the brands (Mukherjee, 2020). With the advent of social media tools, including Facebook, Instagram and twitter, organizations have increased their chances of direct communication with their target groups in a more personalized and efficient way. Such platforms have also helped in building real-time engagement and creation of digital communities around brands (Smith and Hutson, 2024).

Simultaneously, companies have embraced the concept of digital marketing in the form of search engine marketing (SEM), search engine optimization (SEO), and email marketing as a tool that is necessary in terms of reaching the consumers and influencing their behavioral beliefs towards making a purchase. The literature has covered a broad scope of these practices and has discussed their effectiveness, their influence on visibility rise, and their ability to give rise to loyalty and purchase (Krishen et al., 2021). Another research theme has been the problem of privacy, false advertising and the growing sense of encroachment on the users (Kshetri and Voas, 2019).

Nevertheless, the world of global marketing has experienced an unprecedented change since 2022 as the new generation of AI-based tools that are generative launched. These tools have transformed the way digital contents are created and have created a wide range of opportunities and especially to the small and medium-sized enterprises (SMEs). Chat GPT, generative image and image-to-video models are some of the tools that have helped organizations produce high-quality content within relatively short and efficient durations, and with relatively less human effort than conventional content creation that required advanced skills in photography, editing, and design, and data processing (Gentsch, 2018; Swerzenski, 2021). This manner has enabled the reduction of the technical barriers that have disadvantaged small businesses over larger corporations.

Although AI use in marketing is not new and its applications have been prevalent over the last 20 years, generative AI is an advancement in quality that is not just a logical extension of predictive analytics and automation, but the creation of full marketing communications in writing, audio, and video. This enables organizations to transform their strategies and come up with more responsive and agile processes. The existing literature has emphasized on the even fewer scientific frameworks that can be used by the organization to build its own generative models to achieve their

marketing goals (Yang, 2023; Kshetri et al., 2024). This exposes a research gap in the context of the absence of efficient and practical systems of incorporating the generative AI into the digital marketing process, especially in Arab and Gulf regions.

Meanwhile, the research on the application of Chat GPT and linguistic models in customer experience and the quality of interaction through digital channels has surfaced. Nevertheless, the majority of such studies have been on the technicalities of the same, without examining their effects on strategic marketing decisions (Rospigliosi, 2023). The literature notes that more reliance on the models necessitates a more profound comprehension of the impacts such models have on consumer behavior, satisfaction, and purchase trends, as well as the analysis of the connection between them and privacy/security, which are key considerations in Saudi organizations (Abdelkader, 2021).

The subject is essential especially in the context of the Saudi institution that is undergoing a massive digital change under the Vision 2030 that aims at advancing the marketing industry, increasing organizational efficiency, and customer experience through the implementation of innovative technologies. As competition among the companies in the Kingdom grows, and so do customer expectations in terms of quality of the digital engagement, the necessity to comprehend the role of generative artificial intelligence (GI) in improving the marketing decision-making in the organization has become a significant priority. Thus, the purpose of the research is to examine how applied AI generative applications affect the digital marketing decisions of Saudi institutions.

2. LITERATURE REVIEW

Digital marketing nowadays is a part and parcel of the modern business environment, and its evolution is directly connected with the progress of the digital platform and the increase in the rates of the internet use. That is why, in addition to social media, companies have turned towards such effective methods as the sale of search engines optimization (SEO), email marketing, and recommendation, as the means of reaching their intended target audience (Sahni et al., 2018; Desai and Vidyapeeth, 2019). Research has been devoted to the examination of the efficacy of these approaches, which proves that digital marketing helps to promote the level of visibility, brand awareness, and triggering online buying behavior (Alalwan et al., 2017). And personalization is crucial in influencing the consumer trends; the closer the messages are to the user, the more they are positively attracted to the advertisement and the more they are willing to click or buy it (De Keyser et al., 2015; Lin and Kim, 2016). The literature, however, suggests that personalization is not necessarily a beneficial factor, as Excessive SEO may also cause users to feel intruded or violated, which leads to the decrease in the rates of clicks and the efficiency of the campaign, a phenomenon that is referred to as the personalization paradox (Aguirre et al., 2015). The relevance of the recommendation systems which are based on the collaborative, content-based, or knowledge-based techniques of filtering is also brought out in studies. Such systems have demonstrated that they can enhance customers experience and boost their interaction through recommending the products that will suit the customers (Lu et al., 2015).

Although search engine marketing forms a major part of digital marketing, research findings have verified that the real behavior of users prefer organic links to a large extent than paid links. It becomes a long-term investment choice even though investing in SEO is not an easy task because it involves alternating ranking algorithms, and the cost of optimizing content continues to increase (Sharma et al., 2019). Moreover, research gives an in-depth discussion of the constraints presented by the user experience. It has been demonstrated that intrusion marketing has a negative effect on the rating of the usefulness of ads and their ease of use among users, and increased privacy concerns directly influence future purchasing behavior (Aguirre et al., 2015; Lin and Kim, 2016). The research showed that 72 percent of users are ready to cancel their relationship with the company in case they believe that their privacy is compromised, which proves the importance of data transparency to the success of digital marketing (Graham, 2020).

Chatbots have become an essential element in increasing the customer experience in online marketing with the evolution of digital tools. They are quick and individualized in communication, which adds to the added engagement and lessening response time (Liu et al., 2020). In the introduction of Chat GPT, these systems have become much more powerful as the current language models use large amounts of data, which allows them to provide more natural and contextually appropriate responses (Gordijn and Have, 2023). Nevertheless, the studies in this field are immature. The WOS database revealed that 13 studies in the past three years contained the word Chat GPT in their titles (Chornenki et al., 2021), which is a significant knowledge gap that requires a deeper investigation of the marketing effects of these models on consumers and organizations. According to the literature, customer experience measurement involves prioritizing four such dimensions as perception of personalization (PP), relevance (PR), accuracy (PA), and ease of use (PC), as well as overall satisfaction (OS), which is a crucial indicator in the assessment of marketing performance (Yoo & Kim, 2020).

These technologies are significant because they have eliminated most of the technical challenges that would have made small-scale businesses unable to create professional content. Until recently, creating high-quality marketing content required advanced expertise in photography, video editing, visual processing and Adobe Suite, which disadvantaged small businesses with specialized teams in comparison to larger businesses (Petr et al., 2015; Swerzenski, 2021). Nevertheless, the development of generative technology like Chat GPT and image/video converting models has democratized content, whereby any organization or content creator can create professional

visual material, without making major investments or extensive technical backgrounds (Gentsch, 2018). These technologies do not only speed up the production process, but offer more opportunities to the business to innovate, customize, and analyze consumer behavior in real-time and become more flexible in marketing responses (Milan et al., 2023; Chen et al., 2023).

Regardless of this development, there is apparent gap in the literature on the incorporation of generative AI in the marketing landscape of organizations. The vast majority of the literature related to this technology has concentrated on the application of the technology in supporting the high-level management decision-making without paying much attention to the practical applications that serve to enhance marketing campaigns, content personalization, or the management of daily marketing data (Dwivedi et al., 2021; Yang, 2023; Kshetri et al., 2024). Moreover, no research has examined how the models are able to improve marketing decisions concerning budgetary allocation, performance measurement, choice of the right digital channels, or optimization of content basing on the nature of local markets. These gaps are especially important in terms of the Saudi context, in which organizations are rapidly being digitalized as part of the context of the Vision 2030 and requiring a more universal insight into how best to utilize generative AI to aid marketing efforts.

According to the previous research, generative AI is a new step in the digital marketing evolution. Nevertheless, the scientific knowledge about its essence and its influence in the Saudi context is rather scarce, and detailed research to relate its technical capabilities with the decision-making approaches in marketing is urgently needed. This relationship is critical to Saudi institutions which seek to become more competitive and increase their communication with the population with sophisticated tools that can be more customized, analyzed and produce content in ways never seen.

3. METHODOLOGY

3.1. Research Design

The current study adopted a quantitative approach to measure the impact of generative artificial intelligence (GAI) applications on digital marketing decisions in Saudi Arabian organizations. This approach is considered the most suitable for the nature of the research.

3.2. Study Population and Sample

The study population consisted of all digital marketing specialists in marketing organizations in the Kingdom of Saudi Arabia. They represent the largest group specializing in e-marketing and are the most frequent users of generative AI technologies

The study sample consisted of 120 digital marketing specialists working in various organizations within the Kingdom of Saudi Arabia. These specialists were randomly selected to represent the original population. **Table 1** illustrates the characteristics of the study sample.

Table (1) shows the characteristics of the study sample, which consisted of (120) participants, all digital marketing specialists in Saudi institutions. The results indicate that males comprised (56.7%) compared to (43.3%) females. The data also shows that the largest age group was (25–34) years (40.8%), followed by (35–44) years (32.5%), indicating that the majority of the workforce is young. Regarding experience, the results show that (38.3%) of the participants have (3–6) years of experience, while (26.7%) have (7–10) years of experience. As for sectors, the private sector accounted for the largest share of the sample (65%), followed by the government sector (23.3%). The percentage of digital marketing specialists in the sample was (45.8%), followed by team leaders (25.8%), and marketing managers (18.3%).

Table 1. Demographic Characteristics of the Sample Participants

Characteristics		n (120)	%
Gender	<i>Male</i>	68	56.7
	<i>Female</i>	52	43.3
Age	<i>Less than 25 years</i>	14	11.7
	<i>25 – 34 years</i>	49	40.8
	<i>35 – 45 years</i>	39	32.5
	<i>Over 45 years</i>	18	15
Experience	<i>Less than 3 years</i>	22	18.3
	<i>3 – 6 years</i>	46	38.3
	<i>7 – 10 years</i>	32	26.7
	<i>More than 10 years</i>	20	16.7
Sector	<i>Government</i>	28	23.3
	<i>Private</i>	78	65
	<i>Non-profit</i>	14	11.7
Job Role	<i>Digital Marketing Specialist</i>	55	45.8

	<i>Team Leader</i>	31	25.8
	<i>Marketing Manager</i>	22	18.3
	<i>Department Manager</i>	12	10
Total		120	100%

3.3. Study Instrument

A questionnaire was used as the research instrument. It was designed by the researcher based on a review of relevant literature and previous studies. The questionnaire consisted of 26 items, answered using a five-point Likert scale. It comprised three main sections:

- Demographic Data (Age, Gender, Sector, Years of Experience).
- The generative AI variable consists of six items:
- The digital marketing decision variable comprises four key dimensions:
 1. Campaign planning decisions, consists of 5 items.
 2. Budget allocation consists of 5 items.
 3. Content management consists of 5 items.
 4. Performance evaluation consists of 5 items.

To ensure the validity and reliability of the instrument, it was reviewed by three experts at the College of Media to confirm its suitability for measurement and its appropriateness for the Saudi context. The experts achieved a good 82% agreement rate. All necessary modifications were made to the wording to enhance the instrument's validity. Internal consistency was also assessed by using Pearson's correlation coefficient between each item and the overall score for its respective axis or dimension. The correlation coefficient values for all items ranged from 0.73 to 0.82, all of which were significant at the 0.01 level. Cronbach's alpha coefficient was used to verify the instrument's reliability, and all values were high. The first axis achieved a value of 0.78, followed by Campaign Planning Decisions (0.81), Budget Allocation (0.80), Content Management (0.82), and Performance Measurement (0.80). The second axis achieved a value of 0.83, and the overall Cronbach's alpha coefficient for the questionnaire was 0.84, indicating a high reliability coefficient.

3.4. Data Collection and Analysis

An electronic survey was adopted, and it was administered through the social media platform like WhatsApp, or through the professional communication platform through the participating organizations as well. The questionnaire was sent out by the digital marketing managers in these firms. The participants were made to understand the confidentiality of the data, that this was voluntary, and that they could leave anytime. The data collection exercise was conducted according to all the ethical principles of scientific research. The total data collection time was four weeks in order to have the target number of participants.

4. RESULTS

Descriptive analysis showed that the rate of generative AI applications utilization among digital marketing specialists in Saudi organizations is high with the average score ($M = 3.03$, $SD = 0.784$) and the relative weight (80.6%). This shows that marketers in the Kingdom use generative AI to a high degree. Item (3), which stated "Generative models assist in writing promotional messages," received the highest mean and standard deviation ($M = 4.15$, $SD = 0.701$) at 83.0%. This was followed by item (1), which stated "The organization uses generative AI to produce marketing texts," with a mean and standard deviation ($M = 4.11$, $SD = 0.731$) at 82.2%. Item (6), which stated "Generative AI tools save time and effort in performing marketing tasks," came in last with a mean and standard deviation ($M = 3.89$, $SD = 0.812$) at 77.8%, **Table 2**.

The results also confirmed that digital marketing decisions, across all four dimensions, were at a high level. Content management ranked first ($M = 4.20$, $SD = 0.671$), followed by campaign planning ($M = 4.14$, $SD = 0.722$). Performance measurement came in third ($M = 4.06$, $SD = 0.744$), while budget allocation ranked last ($M = 3.89$, $SD = 0.803$), **Table 3, 4, 5, 6**.

Pearson correlation analysis revealed statistically significant positive correlations between generative AI applications and the dimensions of digital marketing decisions in Saudi organizations. The study showed that reliance on generative AI is strongly associated with organizations' ability to plan marketing campaigns ($r = 0.77$, $\text{Sig} = 0.001$). Furthermore, a statistically significant correlation was found between generative AI and marketing budget allocation ($r = 0.78$, $\text{Sig} = 0.05$), indicating a positive relationship between the use of these technologies and organizations' ability to make more accurate financial decisions. The results also demonstrated a strong and significant correlation between generative AI techniques and the Content Management dimension ($r = 0.72$, $\text{Sig} = 0.03$), confirming the central role of generative AI in content creation and optimization. The fourth dimension of digital marketing decisions had the highest correlation coefficient, revealing a strong correlation between generative intelligence and the Performance Evaluation dimension ($r = 0.88$, $\text{Sig} = 0.04$), **Table 7**.

Regarding measuring the impact of generative AI applications on digital marketing decisions, the linear regression results showed a strong and statistically significant effect, with an R-squared value of 0.57. This indicates that generative intelligence explains 57% of the variance in marketing decisions. The correlation coefficient ($R = 0.78$) also indicates a strong relationship between the two variables ($F = 4.019$, $Sig = 0.000$), confirming that generative intelligence significantly influences the quality of marketing decisions within Saudi organizations.

With regards to the dimensions of the digital marketing decisions, the regression findings revealed that there was a significant effect that was statistically significant in all the dimensions. The findings indicated that generative intelligence has a significant influence on campaign planning ($\beta = 0.42$, $t = 8.42$, $p = 0.03$), which means that the discussed methods help to improve advertising campaigns and make decisions related to them. As far as the budget allocation was concerned, the effect was the least significant compared to other dimensions ($\beta = 0.31$, $t = 5.91$, $p = 0.05$), which demonstrates the role of generative intelligence in financial decisions applied to the marketing budgets. The findings further indicated that the generative intelligence has the highest impact on the content management dimension ($\beta = 0.69$, $t = 10.51$), which proves that the content production and optimization are the most affected by these techniques. Moreover, the findings that were obtained supported the presence of a high correlation between the methods of generative intelligence and the performance assessment dimension ($\beta = 0.56$, $t = 7.33$), indicating that generative intelligence positively impacts the assessment of marketing campaigns and the decision-making process based on such analytical findings, **Table 8**.

Table 2. Descriptive Results of Generative AI Applications

Dimension	Mean	S. D	Level	Relative Weight (%)	Rank
1. The organization uses generative AI to produce marketing texts.	4.11	0.731	High	82.2	2
2. Generative AI is used to create images or visual designs.	4.07	0.766	High	81.4	3
3. Generative models assist in writing promotional messages.	4.15	0.701	High	83	1
4. Generative AI is used to analyze marketing data.	3.98	0.792	High	79.6	4
5. The organization relies on generative AI to support marketing decision-making.	3.96	0.781	High	79.2	5
6. Generative AI tools save time and effort in performing marketing tasks.	3.89	0.812	High	77.8	6
Overall Axis	4.03	0.754	High	80.6	

Table 3. Descriptive Results of Campaign Planning

Dimension	Mean	S. D	Level	Relative Weight (%)	Rank
1. Generative AI helps identify the target audience.	4.18	0.698	High	83.6	1
2. The organization uses generative AI to formulate campaign messages.	4.12	0.732	Very High	82.4	2
3. Generative tools provide insights into market trends before launching campaigns.	4.09	0.766	High	81.8	3
4. Generative AI helps determine the optimal campaign timing.	4.06	0.741	High	81.2	4
5. Generative AI assists in testing campaign effectiveness before launch.	4.04	0.772	High	80.8	5
Overall Axis	4.14	0.722	High	82.8	

Table 4. Descriptive Results of Budget Allocation

Dimension	Mean	S. D	Level	Relative Weight (%)	Rank
1. Generative AI helps identify the most cost-effective channels.	3.94	0.801	High	83.6	1
2. Generative AI is used to allocate the budget across marketing channels.	3.87	0.846	High	82.4	3
3. Generative tools help predict the expected return on each channel.	3.91	0.819	High	81.8	2

4. Generative AI contributes to reducing financial waste in campaigns.	3.84	0.822	High	81.2	4
5. Generative AI is used to adjust the budget during campaign execution.	3.78	0.828	High	80.8	5
Overall Axis	3.89	0.803	High	77.8	

Table 5. Descriptive Results of Content Management

Dimension	Mean	S. D	Level	Relative Weight (%)	Rank
1. Generative models help produce marketing content.	4.24	0.648	Very High	84.8	1
2. Generative tools are used to improve content quality before publishing.	4.18	0.661	High	83.6	2
3. Generative AI helps tailor content to different platforms.	4.17	0.672	High	83.4	3
4. The organization uses generative AI to schedule content.	4.14	0.689	High	82.8	4
5. Generative AI contributes to maintaining a unified visual identity.	4.09	0.685	High	81.8	5
Overall Axis	4.20	0.671	Very High	84	

Table 6. Descriptive Results of Performance Evaluation

Dimension	Mean	S. D	Level	Relative Weight (%)	Rank
1. Generative AI helps analyze digital campaign results.	4.12	0.721	High	82.4	1
2. Generative tools are used to track key performance indicators (KPIs).	4.06	0.745	High	81.2	2
3. Generative models provide accurate insights into customer behavior.	4.03	0.762	High	80.6	3
4. Generative AI helps identify weaknesses in campaigns.	4.01	0.781	High	80.2	4
5. Marketing teams rely on generative AI to improve campaigns based on evaluation results.	4.00	0.711	High	80.1	5
Overall Axis	4.06	0.744	High	81.2	

Table 7. Pearson's Correlation Coefficient Results

Dimension	r	Sig
Campaign Planning	0.77	0.001
Budget Allocation	0.78	0.05
Content Management	0.72	0.03
Performance Evaluation	0.88	0.04

Table 8. Effect of The Independent Variable on The Dependent Variable:

R	R Square	Adjusted R Square	F	Sig
0.78	0.57	0.64	4.019	0.000

Variables	Generative AI Applications				
	B	SE	β	t	Sig
Campaign Planning	0.42	0.050	0.61	8.42	0.03
Budget Allocation	0.31	0.052	0.47	5.91	0.05
Content Management	0.55	0.052	0.69	10.51	0.004
Performance Evaluation	0.39	0.053	0.56	7.33	0.02

5. DISCUSSION

The results of the study obtained allow seeing a complete picture of the expanding role of generative AI applications in facilitating marketing decisions in Saudi organizations. The descriptive outcomes revealed that the application usage level was high, and the total mean ($M = 4.03$, $SD = 0.784$) is 80.6, which demonstrates a high level of use of generative technologies compared to the traditional ones. This usage is in line with the literature that shows that the role of smart tools in minimizing technical barriers and allowing small and medium-sized enterprises (SMEs) to create professional content without having complex technical skills is growing (Gentsch, 2018; Swerzenski, 2021).

The findings also indicated that content production was the most benefitted area of the generative AI, with the content management scoring the first ($M = 4.20$), content, plan ($M = 4.14$), measure performance ($M = 4.06$), and lastly, allocate budget ($M = 3.89$). This ranking represents a tendency that is also shared by recent literature which has highlighted that the influence of generative intelligence (GI) is most significant in the creative and analytical areas rather than the financial and organizational choices (Yang, 2023; Chen et al., 2023). The increase in average content also represents the worldwide trend that started in 2022, when generative models were able to generate high-quality text, pictures, and designs in a few seconds, without requiring the in-depth knowledge of professional software such as Adobe Suite, which is no longer necessary (Petr et al., 2015).

The results of the correlation also reinforce the importance of the intelligence of generation. There also developed a very robust and influential combination between the generative intelligence and campaign planning ($r = 0.77$, $\text{Sig} = 0.001$), which demonstrates that Saudi organizations are starting to use generative models to analyze audiences, write messages, and presentation angles at their disposal, previously that had to be undertaken by specialized staff. The correlation between generative intelligence and budget allocation ($r = 0.78$, $\text{Sig} = 0.05$) stipulates that organizations already have started applying generative intelligence to cost forecasting and feasibility analysis but to a smaller degree in comparison with other dimensions. This result is consistent with the literature, which has also proven that financial aspects usually embrace innovations more slowly (Dwivedi et al., 2021).

However, the best correlation was found in the performance measurement dimension, and the correlation ($r = 0.88$, $\text{Sig} = 0.04$) was the highest. The fact that the correlation was exceptional further reinforces the fact that generative intelligence is capable of processing marketing data rapidly and giving precise information on the effectiveness of the campaigns. This conforms to the studies that have pointed out how artificial intelligence has evolved to an interpretive and predictive tool, rather than an analytical tool that supports the decision-maker (Krishen et al., 2021).

In respect of the influence of generative intelligence, on marketing decisions, the results of the linear regression revealed that the effect of generative intelligence on marketing decision was very high with a linear regression ($R^2 = 0.57$) of 57 which is very high in the social sciences. The R-value of the model was also 0.78 indicating that there was a strong relationship between the two variables not only was the model statistically significant ($F = 4.019$, $\text{Sig} = 0.000$) but the relationship between generative intelligence and marketing choices in Saudi organizations is also direct.

Within the four dimensions, the outcome of the analysis on the detailed effects showed that the highest effect was in the content management dimension with a standardized weight ($\beta = 0.69$; $t = 10.51$). This is in line with the way the marketing practices are carried out in the world today, whereby the content is currently being generated using generative intelligence in a faster and more efficient manner compared to the way it was generated in the past by human beings (Milan et al., 2023). The campaign planning ($\beta = 0.61$, $t = 8.42$) and performance measurement ($\beta = 0.56$, $t = 7.33$) were also found to have strong effect and thus generative intelligence is turning out to be a powerful collaborator in analysis and decision-making. The least significant influence was in budget allocation ($\beta = 0.47$, $t = 5.91$) that might be due to the immaturity of the generative intelligence applications in the financial areas of Saudi organizations relative to their application in the creative and analytical areas.

In general, the findings indicate that Saudi organizations in compliance with the vision 2030 are heading to the extensive use of generative intelligence not only as an instrument, but also as an essential part of the contemporary marketing infrastructure. The results also verify that there is a definite overlap between the trends of this work and the reports in the world literature, such as the transition to data-driven marketing, the development of intelligent content, the personalization of messages, and the enhancement of customer experience.

According to the numerical analysis and theoretical evidence, the research suggests the improvement of the capacity of Saudi institutions to use generative intelligence applications through investments in employee training on these advanced tools to plan content and marketing campaigns, which showed the most significant effect in the research. Internal data management systems are also suggested in the study to guarantee customer privacy since past literature shows that 72 percent of customers can drop a brand in case, they think there is a threat to their privacy and data management is one of the major pillars of trust. Moreover, the research suggests the inclusion of generative intelligence in the marketing performance analysis as it has a strong statistical influence and a high potential to forecast trends and more accurate decisions, as well as to interpret market signs. Lastly, the study highlights the importance of endorsing the incorporation of these technologies in the marketing budgetary allocation, which will allow creating predictive models that will allow estimating costs and returns closer to the actual ones.

5. CONCLUSION

This study confirms that generative AI application is a qualitative change in digital marketing in the future of Saudi organizations. These applications, as shown by the findings, are an effective factor in different phases of the marketing decision-making process, such as campaign design and content development, as well as, performance measurement, which accounts up to 57 percent of the variation in marketing decisions. The findings also suggest that Saudi organizations are turning out to be more open to the use of data-driven and intelligent analytics-based marketing strategies under the banner of Vision 2030, competitiveness, and better engagement with the audience. According to the literature and the online discoveries, generative intelligence is not just a technological resource, but it has become a strategic ally in terms of accuracy, efficiency, and creativity of decisions, so integrating it into the marketing context is not the choice, but the must.

REFERENCES

1. Abdelkader, O. (2021). Impacts of perceived-value and key features of distance education on marketing-students' overall-satisfaction. *Elementary education online*, 20(4), 3232-3244.
2. Aguirre, E., Mahr, D., Grewal, D., De Ruyter, K., & Wetzels, M. (2015). Unraveling the personalization paradox: The effect of information collection and trust-building strategies on online advertisement effectiveness. *Journal of retailing*, 91(1), 34-49.
3. Alalwan, A. A., Rana, N. P., Dwivedi, Y. K., & Algharabat, R. (2017). Social media in marketing: A review and analysis of the existing literature. *Telematics and informatics*, 34(7), 1177-1190.
4. Chen, W., Milosevic, Z., Rabhi, F. A., & Berry, A. (2023). Real-time analytics: Concepts, architectures, and ML/AI considerations. *IEEE Access*, 11, 71634-71657.
5. Chornenki, N. L., Poorzargar, K., Shanjer, M., Mbuagbaw, L., Delluc, A., Crowther, M., & Siegal, D. M. (2021). Detection of right ventricular dysfunction in acute pulmonary embolism by computed tomography or echocardiography: A systematic review and meta-analysis. *Journal of Thrombosis and Haemostasis*, 19(10), 2504-2513.
6. De Keyser, F., Dens, N., & De Pelsmacker, P. (2015). Is this for me? How consumers respond to personalized advertising on social network sites. *Journal of Interactive Advertising*, 15(2), 124-134.
7. Desai, V., & Vidyapeeth, B. (2019). Digital marketing: A review. *International Journal of Trend in Scientific Research and Development*, 5(5), 196-200.
8. Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., ... & Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International journal of information management*, 57, 101994.
9. Gentsch, P. (2018). *AI in marketing, sales and service: How marketers without a data science degree can use AI, big data and bots*. springer.
10. Gordijn, B., & Have, H. T. (2023). ChatGPT: evolution or revolution?. *Medicine, health care and philosophy*, 26(1), 1-2.
11. Graham, S (2020). How to Balance Consumer Privacy and Personalization in Marketing, <https://www.g2.com/articles/how-to-balance-consumer-privacy-and-personalization>
12. Krishen, A. S., Dwivedi, Y. K., Bindu, N., & Kumar, K. S. (2021). A broad overview of interactive digital marketing: A bibliometric network analysis. *Journal of Business Research*, 131, 183-195.
13. Kshetri, N., & Voas, J. (2019). Online advertising fraud. *Computer*, 52(1), 58-61.
14. Kshetri, N., Dwivedi, Y. K., Davenport, T. H., & Panteli, N. (2024). Generative artificial intelligence in marketing: Applications, opportunities, challenges, and research agenda. *International Journal of Information Management*, 75, 102716.
15. Lin, C. A., & Kim, T. (2016). Predicting user response to sponsored advertising on social media via the technology acceptance model. *Computers in human behavior*, 64, 710-718.
16. Liu, Y., He, H., & Zhu, W. (2020). Motivational analyses of the relationship between negative affectivity and workplace helping behaviors: A Conservation of Resources perspective. *Journal of Business Research*, 108, 362-374.
17. Lu, J., Wu, D., Mao, M., Wang, W., & Zhang, G. (2015). Recommender system application developments: a survey. *Decision support systems*, 74, 12-32.
18. Milan, A., Sahu, R., & Sandhu, J. K. (2023). Impact of AI on social marketing and its usage in social media: A review analysis. In *2023 International Conference on Circuit Power and Computing Technologies (ICCPCT)* (pp. 1749-1754). IEEE.
19. Mukherjee, K. (2020). Social media marketing and customers' passion for brands. *Marketing intelligence & planning*, 38(4), 509-522.
20. Petr, C., Belk, R., & Decrop, A. (2015). Videography in marketing research: Mixing art and science. *Arts and the Market*, 5(1), 73-102.
21. Rospigliosi, P. A. (2023). Artificial intelligence in teaching and learning: what questions should we ask of ChatGPT?. *Interactive Learning Environments*, 31(1), 1-3.

-
22. Sahni, N. S., Wheeler, S. C., & Chintagunta, P. (2018). Personalization in email marketing: The role of noninformative advertising content. *Marketing Science*, 37(2), 236-258.
23. Sharma, D., Shukla, R., Giri, A. K., & Kumar, S. (2019). A brief review on search engine optimization. In *2019 9th international conference on cloud computing, data science & engineering (confluence)* (pp. 687-692). IEEE.
24. Smith, A., & Hutson, J. (2024). From concept to creation: The role of generative artificial intelligence in the new age of digital marketing. *Design*, 1(1).
25. Swerzenski, J. D. (2021). Producing professionalization: analyzing the discourse of Adobe Premiere's Learn More tools in shaping student practices. *Media Practice and Education*, 22(4), 325-341.
26. Yang, X. (2023). The effects of AI service quality and AI function-customer ability fit on customer's overall co-creation experience. *Industrial Management & Data Systems*, 123(6), 1717-1735.
27. Yoo, Y., & Kim, Y. (2020). Understanding the influence of chatbots on customer experience: an empirical study. *J. Interact. Market.*, 51, 27-41.