

Editorial

Generative artificial intelligence in marketing: Applications, opportunities, challenges, and research agenda

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ABSTRACT

While all functional areas in organizations are benefiting from the recent development in generative artificial intelligence (GAI), marketing has been particularly affected positively by this breakthrough innovation. However, scholars have not paid attention to the transformative impacts GAI has on marketing activities. This editorial article aims to fill this void. It outlines the current state of generative artificial intelligence in marketing. The article discusses the facilitators and barriers for the use of generative artificial intelligence in marketing. It highlights the effectiveness of insights generated by GAI in personalizing content and offerings and argues that marketing content generated by GAI is likely to be more personally relevant than that produced by earlier generations of digital technologies. The article explains how higher efficiency and productivity of marketing activities can be achieved by using GAI to create marketing content. It also describes the roles of insights and marketing content generated by GAI to improve the sales lead generation process. Implications for research, practice and policy are also discussed.

1. Introduction

Generative artificial intelligence (GAI) has been emerging as a major force to trigger a truly enterprise-wide adoption of AI (Dwivedi et al., 2023a,b; Kshetri, 2023a). GAI denotes a category of AI systems capable of creating apparently new content through text, images, or other forms of media (Susarla et al., 2023). While all functional areas in organizations are benefitting from this breakthrough innovation (Dwivedi et al., 2023b; MIT Technology Review Insights, 2023), marketing has been an area that has been particularly affected positively by the recent developments in GAI (Kshetri, 2023a). Indeed, GAI's usefulness is especially clear in industries such as marketing and advertising where high-quality written materials are essential for communicating and interacting with customers and other stakeholders (Fintechnews Switzerland, 2023).

Unsurprisingly the use of GAI, and AI in general, in marketing is growing exponentially. As of March 2023, 73 % of U.S. organizations had used GAI tools, including chatbots, in marketing activities (Dencheva, 2023a). Another survey of chief data and AI officers found that 32% of organizations are prioritizing marketing and sales applications of GAI, and 44 % are prioritizing customer operations use cases, including chatbots (Davenport, Wang, & Bean, 2023). The market for AI in marketing was estimated at \$15.84 billion in 2021, which is predicted to reach \$107.5 billion by 2028 (Dencheva, 2023b).

In general, utilization of digital technologies helps organizations deliver personalized, timely and relevant communications via the chosen platform, thus contributing to an enhanced customer experience (Buttle & Stan, 2015). A better customer experience drives engagement

with products and brands (Grewal et al., 2017), which in turn positively impacts customer loyalty, and firm performance (Barari et al., 2021). Preliminary evidence indicates that GAI has a more powerful impact than previous generations of digital technologies on marketing processes and outcomes (Kshetri, 2023a). Primarily, this is due to GAI's ability to generate human-like and easily customized text, images and videos, offering marketing professionals a wide range of powerful tools for optimizing content creation processes (Anisin, 2023).

Marketers view GAI as a major productivity booster. For instance, in a survey conducted by the non-profit business membership and research group organization Conference Board (Table 2), more than four-fifths (82 %) of respondents expected that productivity will improve with the further adoption of GAI, compared to just 4 % who expected the productivity to decline (The Conference Board, 2023). The benefits of GAI in marketing, however, go far beyond their roles as just cost-cutting or time-saving tools. GAI can be used to do things that are not otherwise possible to do. For instance, GAI enables brands to take marketing and sales to the next level and deliver truly one-to-one personalized experiences in a way that is not possible by humans alone. GAI brings benefits such as dynamic messaging capabilities by leveraging personalization to send the right message at the right time to customers based on detailed and valuable data. For instance, relevant real-time imagery, customized text, and predictive recommendations can help scale personalization across key moments in a cost-effective way (Bernard, 2023).

While some studies have been conducted to examine the use of GAI tools in marketing (e.g., Huh et al., 2023; Kunz & Wirtz, 2023; Paul et al., 2023; Peres et al., 2023; Polonsky & Rotman, 2023), there is little

research on how these tools are being used and the effects they have on marketing activities and outcomes and a firm's financial performance. The purpose of this editorial article is to fill this void. A central question addressed in this article is: What are the mechanisms by which GAI impacts marketing activities and outcomes? While GAI plays a critical role in numerous areas of marketing, we specifically focus on the top three marketing applications of GAI as identified by Boston Consulting Group's April 2023 survey: personalization, insight generation and content creation.

This editorial article is structured as follows. We proceed by first discussing some generative AI examples and their marketing applications. In the section following these examples, we provide an overview of the current state of GAI uses in marketing. Next, we discuss the facilitators for the use of GAI in marketing. Then, we highlight key barriers hindering the use of GAI in marketing. It is followed by a section that develops some propositions related to the effect of GAI on marketing processes and marketing outcomes and discusses implications for research and practice. The final section provides conclusions.

2. Generative AI examples and their marketing applications

A wide variety of GAI tools have been built to facilitate marketing activities (Table 1 and Fig. 1). It is worth noting that the U.S. start-up OpenAI's ChatGPT has been the most popular GAI tool with the general public as well as marketing professionals. In a June 2023 survey conducted by Bank of America among a group of 1100 US Internet users aged 18–55, ChatGPT emerged as the favored AI chatbot among respondents, with 59% utilizing the tool. Bank of America also reported that 51 % of those surveyed were using Microsoft's Bing, while Google's Bard was being used by 31 % (Quarles, 2023). Likewise, according to a survey conducted by Botco.ai, a provider of AI-powered marketing chat solutions, ChatGPT was the predominant choice among marketing professionals for their GAI-based tools (Butler, 2023).

Some of these tools are foundational GAI models (e.g., GPT-4, DALL-E2, Midjourney) and others are versions of these models tuned specifically for marketing purposes (e.g., Jasper.ai, Copy.ai). While ChatGPT responds only to text prompts, OpenAI's more advanced GAI tool GPT-4, which is available to paid users of ChatGPT+, accepts image as well as text inputs.

GPT-4's enhanced language generation capabilities would allow marketers to create higher-quality content than is possible with ChatGPT (currently based on GPT-3.5). Thus, GPT-4-created content is likely to be more engaging and more relevant to audiences. GPT-4's enhanced fine-tuning capabilities are expected to assist digital marketers in customizing content and messaging for individual users, thereby fostering a more personalized customer experience.

While many GAI systems used by marketing professionals such as Copy.ai, Jasper.ai, Peppertype.ai mainly help to create text-based marketing content, others such as DALL-E2 are capable of generating realistic visuals and artworks based on text-to-image prompts. In addition, digital advertising giants such as Meta have made GAI tools available to their clients. For instance, in May 2023, Meta announced a GAI Sandbox that offered advertisers access to three tools. The first tool would help advertisers create different variations of a copy of an ad in the company's Facebook or Instagram platform. When advertisers enter an ad copy, GAI will suggest several variations of the copy to test. The second tool would help generate background through text prompts. An advertiser can use text prompts to describe the background appearance or style. The GAI tool offers various images and advertisers can test their impact on performance. The third tool involves an image cropping feature to create visuals in different aspect ratios for various media such as social posts, stories, or short videos (IBL News, 2023).

3. The current state of GAI use in marketing

Recent surveys have shown that there is widespread use of GAI

Table 1

Some examples of GAI tools and their marketing applications.

GAI example	How can it help with marketing?	Url of GAI	Example of its application
OpenAI's ChatGPT and GPT-4	Brainstorming and stimulating the creativity process, creating, marketing content, developing personalized solutions	https://chat.openai.com/	The provider of AI-powered storytelling tool Tome: helps customers create presentations using online documents, videos, and other digital content (Cromwell et al., 2023). Khan Academy's GPT-4-based Khanmigo provides personalized and interactive learning experiences for students and teachers (Kshetri, 2023c) (Personalization of offerings).
OpenAI's DALL-E2	Creating custom images and art based on a prompt	https://chat.openai.com/	Toy company Mattel: came up with a new Hot Wheels model car. GAI advertising platform Omneky: created visuals for ads for social platforms (Mehta, 2023) (Efficiency and productivity of marketing activities)
Meta's AI Sandbox	Creating different variations of a copy, generating background through text prompts, image cropping	https://www.facebook.com/business/news/introducing-ai-sandbox-and-expanding-meta-advantage-suite	Jones Road Beauty used the solution to generate more versions of ads faster. (Adams, 2023). This can lead to faster creative cycle by shortening the time required to develop, refine, and revise ideas, designs, or concepts to achieve the desired outcome (Efficiency and productivity of marketing activities).
Midjourney	Creating images based on text prompts.	https://www.midjourney.com/	Elder care management service platform PrimeCare uses Midjourney-generated art for blog posts.
Jasper.ai	Generating marketing content such as blog posts, product descriptions, company bios and ad copy	https://www.jasper.ai/	Goosehead Insurance: creates and disseminates a marketing content such as blog articles for the company's online learning center, email campaigns for potential and existing clients. It also repurposed social media content to maximize reach and engagement (Personalization of content, Efficiency and productivity of marketing activities)

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Table 1 (continued)

GAI example	How can it help with marketing?	Url of GAI	Example of its application
Peppertype.ai	Creating short-form, contextual copies and generating product descriptions	https://www.peppertype.io/peppertype-ai/	As of October 2021, over 800 businesses, including Meta Adobe, and Amazon used it for content creation.
Copy.ai	Crafting ad copy and other marketing content.	https://www.copy.ai/	Cloud-based collaborative platform and database service provider Airtable (https://www.youtube.com/watch?v=kWrFKhszmQ)

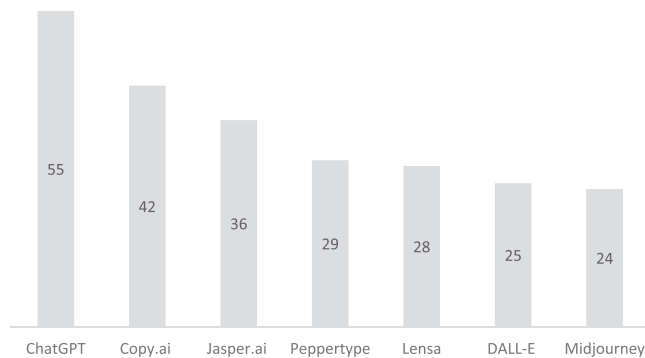


Fig. 1. Percentage of marketing professionals using different GAI tools. Data Source: Butler (2023), Botco.ai's survey.

among marketers and a growing demand of this innovation (Table 2). Especially mid-level and junior marketers are reported to have higher GAI adoption rates compared to senior marketers (The Conference Board, 2023). The characteristics of marketing professionals using GAI are consistent with the broader population. For instance, a new Pew Research Center survey conducted in July 2023 found that a significantly higher proportion of younger adults used ChatGPT compared to older adults.

Recent surveys have revealed that personalization is among the most frequent GAI use cases in marketing (Table 2). Chief marketing officers (CMOs) are already taking advantage of GAI to better personalize products and services. For instance, banks use GAI to analyze customer data and offer personalized investment advice based on their risk profile. Likewise, some retailers use GAI to create personalized recommendations that would influence customers to buy more. The goals of these personalization efforts include better engagement, improved conversion rates and increased customer loyalty (Ratajczak et al., 2023). However, personalization at scale will require close integration of a GAI system with customer relationship management (CRM) or marketing automation systems.

As Table 2 makes it clear, insight generation has been another key use of GAI in marketing. Companies are using GAI to conduct market and consumer research in a reliable manner to gain insights, which can be used to improve products and services (Ratajczak et al., 2023). In general, AI has reduced the time taken to generate insights from raw data and respond in (near) real-time (Dwivedi et al., 2021). AI solutions can produce insights in seconds that often take human teams days or even weeks. However, a large proportion of data in the past was illegible for the existing AI solutions. This means that organizations could not make use of such data. The recent developments in GAI have changed this dramatically. Leading software vendors such as Microsoft and Salesforce have incorporated GAI capabilities in their products,

Table 2

GAI use among marketers: Some representative surveys.

Survey conducted by	Conducted/ released in (respondents)	Key findings	Additional findings
Salesforce in partnership with YouGov (Salesforce, 2022)	Conducted from May 18 – 25, 2023 (1029 marketers)	51 % using GAI. An additional 22 % had plans to use the tools “very soon”.	GAI saves marketers over five hours of work per week
Boston Consulting Group (Ratajczak et al., 2023)	Conducted in April 2023 (>200 CMOs from several sectors in 8 countries in North America, Europe, and Asia).	70 % using GAI and 19 % were testing. Only 3 % had no plans to use the technology	Top 3 uses: personalization (67 %), insight generation (51 %) and content creation (49 %).
AI-powered marketing chat solution provider Botco.ai (StreetInsider.com, 2023)	Conducted in March 2023 (1000 marketing professionals)	73 % used GAI tools to create marketing content	Most common benefits expected from GAI: increased performance (58 %), increased creative variety (50 %) cost efficiencies (50 %), faster creative cycles (47 %), ability to learn and improve (39 %), augmentation of human creativity (34 %)
The Conference Board, in collaboration with Ragan Communications (The Conference Board, 2023)	August 2023 (287 marketers and communicators)	87% of marketers had used/ experimented with AI tools	Top applications: summarizing content (44 %), doing the legwork/ stimulating creative thinking (41 %), personalizing of customer/user content (33 %), research (30 %), generating content faster (30 %), enhancing customer service (17 %).
Software company Sitecore (“AI & Composable Marketing Software Survey”) (Sitecore, 2023)	March 2023 (over 400 marketing professionals in the U.S.)	> 80 % experimented with AI. 78 % believed GAI can help get “closer” to “desired customer experience” (7 % worried it might make more “distant”).	Mechanisms by which GAI can help closer to customers: more personalized content (75 %), a better understanding of customer needs (74 %), ability to provide a stream of relevant content (67 %) (Bennett, 2023a).
Management consulting company Chief Outsiders	2023 (80 CMOs with Fortune 500 experience) (Chief Outsiders, 2023)	Areas in which GAI tools are likely to provide most value (score out of 8): content creation and management (7.37), market research and competitive insights (6.1),	Improving the customer experience (5.08)

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Table 2 (continued)

Survey conducted by	Conducted/ released in (respondents)	Key findings	Additional findings
		digital marketing (5.6)	Marketing technology strategy, adoption and use (4.41)

which can be used to gain customer insight. Note that customer insight is knowledge about the customer that is valuable for a company (Smith et al., 2006). For instance, Copilot feature in Microsoft’s Dynamics 365 Customer Insights has added GPT-4 to popular Office products such as Word, Excel, Teams, PowerPoint and Outlook. Marketers can use Copilot’s GAI capabilities to gain insights from their customer data platform (Reines, 2023). ChatGPT Plus’ Advanced Data Analysis GAI offering can, with only a short prompt, address missing data issues, analyze data with machine learning models, create visualizations of data, and interpret results (Horsey, 2023).

GAI is also being used to improve content marketing. The Content Marketing Institute defines content marketing as “a strategic marketing approach focused on creating and distributing valuable, relevant, and consistent content to attract and retain a clearly defined audience — and, ultimately, to drive profitable customer action” (The Content Marketing Institute, 2015). Content marketing focuses on creating and distributing marketing content such as videos, photos/imageries, presentations, flyers, blogs, infographics, social media posts, and tweets to enhance customer engagement and increase sales (The Content Marketing Institute, 2015). GAI is a valuable way to come up with new ideas and work more quickly, and thus create an effective marketing content faster and at a low cost.

4. Facilitators for the use of GAI in marketing

Several factors have facilitated the use of GAI in marketing. A thorough understanding of these facilitators may explain why such tools are being successfully adopted in some settings and by some firms but not others.

First, many popular GAI tools such as ChatGPT perform well in terms of perceived ease of use, which is a major factor in a technology adoption decision (Davis, 1989). Marketing practitioners have noted that ChatGPT, the most popular GAI tool used in marketing (Fig. 1), has an extremely friendly interface that makes it easy to perform a number of marketing tasks (Pay, 2023). Most marketing professionals are also reported to view GAI tools to generate images such as Midjourney, DALLE-2 and Stable Diffusion as simple and accessible that almost anyone can use to develop sophisticated graphics. Potential users do not need specific skills (Chen, 2023).

Second, GAI performs well in terms of trialability, which describes potential adopters’ ability to experiment or try (on a limited basis) a product before formally adopting. The free availability of GAI tools such as ChatGPT has facilitated trialability and driven a rapid early growth rate in its user base. As of September 2023, ChatGPT was in OpenAI’s feedback period, which means anyone can create a ChatGPT account and use it. Likewise, Midjourney was reported to offer free trial for new users from time to time (Chen, 2023). Stable Diffusion is open source and free to use (Chen, 2023).

Third, while not all GAI tools used in marketing are freely available, the costs to use most of them are not prohibitive. Most do not need costly software (Chen, 2023). Likewise, until April 2023, OpenAI provided new users of DALL-E with 50 complimentary credits during their initial month of use. Following that period, they would receive only 15 free credits for subsequent months. Despite OpenAI’s decision to discontinue the free trial feature, the costs associated with using DALL-E remain

reasonably affordable. With a pricing structure of \$15 for 115 prompts, each generating four image variations, the cost equates to approximately \$0.13 per prompt or roughly \$0.035 per generated image (Broadway, 2023). Stable Diffusion also offers monthly subscription plans for developers and businesses that need more advanced uses. As of May 2023, the basic plan cost \$9/month, the standard plan \$49/month and the premium plan \$149/month (Chen, 2023). Consequently, GAI tools are diffusing rapidly not only among large companies but also among small and medium enterprises (SMEs). For instance, accounting software company FreshBooks’ May 2023 survey of more than 1000 North American small-business owners regarding the usefulness and impact of GAI found that 25% of small-business owners had already tested GAI tools such as ChatGPT, Google Bard, and Microsoft Bing in their business and two-thirds had plans to test them in their business within the next year (Grothaus, 2023).

A fourth facilitating factor is the availability of a large variety of GAI tools for marketing purposes. While ChatGPT has been the most commonly used GAI tool for marketing, a number of similar tools are being used for such purpose (Fig. 1). For instance, Jasper.ai, which provides an AI writing tool to generate marketing copy (e.g., blog posts, product descriptions, company bios, ad copy), offers a wide range of GAI models to its customers that are tailored to their needs. It works with GAI providers such as OpenAI, Google, Meta and AI safety startup Anthropic to satisfy the needs of various types of clients (O’Brien, 2023). For instance, Jasper uses Anthropic’s Claude, which helps marketing teams to scale their content strategies more quickly. Jasper noted that Anthropic’s model is especially appropriate for clients concerned about accuracy. Anthropic release Claude 2 in July 2023. Anthropic noted that Claude 2 significantly improves performance on some metrics such as coding, math and logic problems. The improved reasoning ability is reported to give more accurate answers to user queries (Nuñez, 2023). For marketers that are concerned with the security of their proprietary source data, a different model is provided (O’Brien, 2023).

The final facilitating factor in the adoption of GAI models is the ability to customize or fine-tune GAI models for specific content domains, including marketing content. There are at least three methods of training models on an organization’s own content (Davenport & Alavi, 2023). Most organizations train GAI models with the use of prompts, but incorporating large volumes on content into models through prompts requires specific techniques, including embeddings, vector databases, and similarity algorithms. Such fine-tuning could be used, for example, to train GAI models on a company’s specific products and services, marketing policies, and particularly effective ad or marketing copy from the past.

5. Challenges and barriers to the use of GAI in marketing

There are several barriers and challenges to the widespread use of GAI in marketing. For the same reason as mentioned above for the facilitators, it is essential to understand these barriers and challenges.

The most important barrier, especially for SMEs, centers on costs. For instance, in order to get access to Copilot, Microsoft 365 businesses need to pay additional \$30 per user per month (Warren, 2023). Likewise, as of September 2023, GPT-4 cost \$20 with monthly subscription to ChatGPT Plus. While ChatGPT can be used for free, its training data goes up until 2021 only. This means that, as of September 2023, it could not access real-time content and it did not search the internet for answers. Companies thus cannot rely on the app to get timely insights such as consumers’ current perception about a brand and current trends impacting a market. However, on September 27, 2023, OpenAI made the Internet browsing feature available to its Plus and Enterprise users and announced that the br feature will be expand to “all users soon” (<https://twitter.com/OpenAI/status/1707077713490854127>).

Second, marketers are worried about data security and privacy in GAI tools (The Conference Board, 2023). There are privacy concerns if marketers enter sensitive customer data as a part of their prompts. The

ability of these tools to collect and store data from consumers' online interactions also raises privacy concerns (Eliot, 2023). Surveys have reported many instances of companies' employees putting confidential client data into GAI tools such as ChatGPT (Kshetri, 2023b). Newer offerings such as ChatGPT Enterprise provide companies with protection against revealing confidential data through prompts.

Further, there are significant trust issues, with surveys showing that consumers are increasingly concerned about organizations' data protection measures, and they are less likely to do business with a company that fails to protect their sensitive data (Kshetri, 2021). For these reasons, several companies have banned ChatGPT to prevent a worst-case scenario of an employee uploading sensitive data into the chatbot while seeking help at work (Telford & Verma, 2023).

Third, perceived risks and costs associated with transitioning to a new way of performing marketing tasks may lead to businesses' and employees' unwillingness to use GAI for such tasks. There are often substantial immediate costs involved in learning new ways of doing things such as writing effective prompts (Kshetri, 2023d) to get the results they want, the time and frustration costs, and the cost of correcting any mistakes produced by unfamiliarity (Margetts & Dunleavy, 2002). There are also concerns about how GAI would fit in the corporate culture. In general, organizations are still trying to figure out how to adapt team culture and processes around GAI (Kang, 2023). Marketers maintain a gloomy view regarding the impact of GAI on organizational culture. For instance, in the Conference Board survey (Table 2), only 16 % expected improvements in team culture while 22 % expected negative effects on such culture (The Conference Board, 2023).

Finally, there are concerns about GAI-led job losses. According to the consulting organization Challenger, Gray & Christmas, GAI use in organizations resulted in about 4000 job losses in May 2023 alone (Challenger et al., 2023). In the Conference Board survey (Table 2), only 4 % of respondents expected that GAI's use would lead to an increase in the number of marketing jobs whereas 40 % expected a decline in such jobs (The Conference Board, 2023).

6. Implications for research and practice

6.1. Research questions and propositions

As noted earlier, in this editorial article, we seek to address the following broad research question: What are the mechanisms by which GAI impacts marketing activities and outcomes? As a visual aid, Fig. 2 schematically represents the propositions and how they relate to companies' broader marketing efforts. Specifically, solid arrows represent the propositions presented in this editorial article. The dashed arrows indicate how the dependent variables of this article are related to overall marketing and organizational goals.

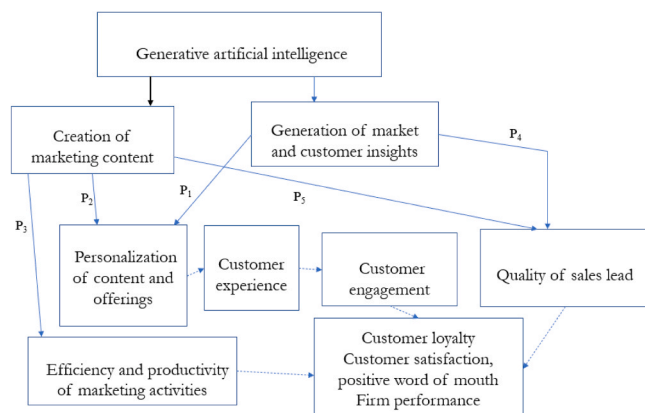


Fig. 2. The effect of GAI on marketing processes and outcomes.

6.1.1. Impact on personalization of content and offerings

Prior researchers have suggested that in order to deliver an excellent experience, it is important to have a deep understanding of customer needs and design organizational activities and processes to satisfy those needs (Kohli & Jaworski, 1990; Lemke et al., 2011). The key is to leverage customer data to personalize marketing efforts such as marketing content and offerings (Guni et al., 2021). Nonetheless, the process involved in personalization is challenging and hard to apply (Vesanen, 2007). For instance, firms need to gather and analyze information about the customer and their interactions from internal and external sources. Then, key marketing activities such as advertising, product design, packaging, pricing, and distribution need to be customized based on a customer profile (Vesanen & Raulas, 2006). Personalized response is thus often too time-consuming for marketing teams.

Although personalization has been discussed for many years, most traditional marketing tools fail to effectively personalize marketing efforts (Davenport, 2022). For instance, content recommendation systems rely on generic algorithms such as collaborative filtering, which predicts a user's preference and filters out items based on reactions by similar users. This technique involves searching a large group of people and identifying a smaller set of users with preferences similar to a particular user. Such algorithms, however, often fail to capture an individual's preferences (AI & Insights, 2023). Prior research has also noted that AI such as natural language processing chatbots can help make decisions related to products and brands that can lead to increase personalization. Such tools can recognize patterns from data using techniques such as text mining, speech recognition, and facial recognition to provide personalized contents and offerings to diverse groups of customers. Marketers also benefit from personalized outcomes such as personalized recommendation systems (Huang & Rust, 2021).

Marketers can utilize GAI tools to generate sophisticated responses at the individual level, which can be used to develop and automate an effective personalized marketing strategy at scale (Bennett, 2023b). These tools can help deliver hyper-personalized content, and product recommendations, experience and offers at just the right time. As Section 3 makes clear, unsurprisingly, one of the foremost applications of GAI is personalization (Table 2). We illustrate this with an example of a lawnmower shopper. GAI such as ChatGPT can analyze a user's language patterns, behavior, and other data points to make recommendations that are highly tailored to a potential shopper (AI & Insights, 2023). For instance, when the shopper starts to search for a lawnmower, ads can be personalized and delivered based on their profile. A trend that has been evident in marketers' interaction with customers across all stages is that the personalization of content and offerings is key to deliver a good consumer experience (Gupta et al., 2020). Personalization involves using data collected from customers to deliver customized content and offers to meet their unique needs (Adomavicius & Tuzhilin, 2005; Lemke et al., 2011). New digital technologies can help collect and analyze relevant data to create personalized offerings (Gupta et al., 2020). GAI tools perform better than previous generations of digital technologies to achieve these goals.

A notable example of GAI tool being used in generating customer insight and making effective use of such insight is Salesforce's Einstein GPT. Einstein GPT combines Salesforce's proprietary AI models with OpenAI's GPT model. The goal is to have layers on top of OpenAI's GPT model and use content stored in the Salesforce cloud to fine-tune the model (Kerner, 2023). Einstein GPT is available across the company's entire Customer 360 customer relationship management (CRM) platform (Salesforce's portfolio of products). It is integrated into Salesforce cloud, Tableau (visual analytics platform), Slack (messaging app) and Mulesoft (integration platforms to help businesses to connect their data, devices, and applications) (Kerner, 2023). While employing widely-available vendor offerings such as this may not confer competitive advantage, the integration of GAI with transactional systems greatly facilitates enterprise adoption.

Salesforce's Customer 360 can conduct research on a prospective

new customer and provide an overview about the customer. A new side panel—Einstein Assistant—opens on the screen. The overview of the prospect company appears in the form of a text. The assistant can also find news articles about the company (e.g., plans to move into a new market or launch of a new product) (Sullivan, 2023). It can access Tableau to learn more about specific products that the prospective customer had purchased in the past (Sullivan, 2023). These insights are invaluable in helping to create personalized recommendations.

It is also important to note that consumer needs differ at different stages of the relationship lifecycle (Frow & Payne, 2007). GAI tools such as ChatGPT learn and adapt over time. As users interact with the recommended content, the system can refine its recommendations based on more data. This ensures that future recommendations are even more tailored to the shopper's preferences. All these can create a virtuous cycle of feedback and improvement that can lead to more accurate suggestions (AI & Insights, 2023). In sum, we argue that:

Proposition 1. *Compared to previous generations of digital technologies, market and customer insights generated by GAI are more effective in personalizing content and offerings.*

As emphasized above, personalization of content is key for delivering good consumer experience (Gupta et al., 2020). From a personalization perspective, GAI is not only a market research tool to generate insights into customers' attitudes and behavior but also an effective content-creation tool. By making use of a huge amount of data about human language and esthetic styles, GAI tools can generate personalized marketing content. Depending on target customers' interest, it is possible to create an ad for a product in the style of famous artists such as Salvador Dali, Pablo Picasso and Vincent Van Gogh (Graham, 2023). If a company is planning to launch a new product, GAI tools can write effective social media copy that can be used on sites such as Facebook, Twitter, and LinkedIn (Graham, 2023).

As noted above, marketers' use of GAI in the creation of personalized content is also facilitated by digital advertising giants such as Meta, which have made such tools available. In May 2023, Meta made three GAI-based tools—to create different variations of a copy of an ad, generate background through text prompts and crop image to create visuals in different aspect ratios (IBL News, 2023)—available to a small number of advertisers with a plan to roll out in the future. For instance, the makeup brand Jones Road Beauty is one of the early testers of the Sandbox (Adams, 2023).

Contextualizing the experience is an important way to improve personalization. GAI tools can generate contextually relevant marketing content. For instance, marketing efforts and recommendations can be specifically tailored towards local conditions (Bernard, 2023). A key use of GAI could be in image and video generation. For instance, GAI can help automate image generation processes using deep learning algorithms and generative adversarial networks (GANs). Images generated through these tools can be used in marketing in for different purposes. For instance, marketers can create highly realistic images of products that can be used in online stores, social media channels and other outlets. They can also create engaging and visually appealing advertising. GAI-based video tools can be used to create high-quality marketing videos and product demo videos (Gill, 2023), which can be personalized to enhance engagement and facilitate conversions. GAI thus can be used to create images and videos and show products in real-time in locations and situations that are relevant for potential customer. Going back to the lawnmower shopper example above, GAI can create backyard pictures, which can be uploaded on the product page. The vendor can show how the lawnmower could work there or show a product that has been designed to the shopper's use case (Bernard, 2023). This means that a user shopping for a lawnmower in Denver, Colorado in the U.S. is delivered a different experience compared to one in Dusseldorf, Germany.

The information-processing perspective of customer experience, also referred to as the cognition, affect and behavior (CAB) approach,

suggests that customers are often engaged in goal-directed activities such as searching for relevant information, evaluating available alternatives and making decisions about purchasing a particular product or service (Frow & Payne, 2007). The above examples make it clear that GAI tools can help deliver relevant content and customer experience. It is thus proposed that:

Proposition 2. *Marketing content generated by GAI is likely to be more personally relevant than that produced by earlier generations of digital technologies.*

6.1.2. Efficiency and productivity of marketing activities

Prior researchers have noted that the use of digital technologies can help reduce costs and enhance marketing efficiency and productivity in marketing activities (Buttle & Stan, 2015). For instance, Parveen 's et al. (2015) study of Malaysian organizations found that social media helped reduce the costs of marketing and customer service.

Compared to previous generations of digital technologies, GAI can help organizations achieve even more dramatic impacts on efficiency and productivity in marketing activities. Management consulting firm McKinsey & Company's estimate suggests that GAI could increase the productivity of the marketing function, potentially saving between 5 % and 15 % of total marketing spending (McKinsey & Company, 2023). In Salesforce's May 2023 survey, a part of its Generative AI Snapshot Series, it was found that GAI can enable a marketing professional to save roughly 32.5 days per year, equating to more than a month's worth of time annually (5 h*52 weeks in one year) / 8-hour working day = 32.5 days) (Salesforce, 2023, Table 2). For instance, GAI can be used for tasks such as analyzing customer reviews, social media comments, or any other text data and provide a summary of positive and negative comments (Graham, 2023). GAI can even easily detect and classify sarcasm in customer sentiment, which previous versions of sentiment analysis were unable to do with accuracy (IEEE Spectrum, 2021). This accurate sentiment analysis allows marketing professionals to shift their attention to more strategic tasks.

More importantly, GAI can drastically reduce the costs and time to create marketing content. As noted, GAI tools can generate personalized, contextually relevant and sophisticated content quickly and thus drastically cut the time to produce marketing content. With appropriate prompts, it is possible to create different 10 ad angles for a product based on customer reviews or other factors (Graham, 2023). This has been suggested by anecdotal evidence from companies. For instance, the British advertising company WPP is reported to be working with consumer goods companies such as Nestle and Mondelez to use GAI in advertising campaigns. Shooting a commercial with GAI is estimated to cost only one-twentieth to one-tenth of what it normally costs. For instance, since everything can be created virtually, the company does not have to fly a film crew to Africa. In India, WPP worked with Mondelez on a GAI-driven Cadbury campaign with Bollywood actor Shah Rukh Khan. Ads were produced that 'featured' the actor asking customers to shop at 2000 local stores during the Hindu festival of lights, Diwali. Small businesses selling Cadbury generate versions of the ads that featured their own store, which could be posted on social media and other platforms. About 130,000 ads were reported to be created that featured 2000 stores. As of mid-August 2023, the ads had been viewed 94 million times on YouTube and Facebook (NDTV, 2023). Thus, we propose that:

Proposition 3. *Compared to previous generations of digital technologies, GAI's use in the creation of marketing content leads to higher efficiency and productivity of marketing activities.*

6.1.3. Impact on the sales lead generation process

Prior researchers have suggested that marketing automation can help generate high-quality sales leads through behavioral targeting (Järvinen & Taiminen, 2016). In this regard, Section 3 and Table 2 emphasize the vital role of GAI in marketing, particularly in generating

high-quality sales leads through insight generation. Compared to previous generations of digital technologies, GAI tools can offer higher quality insights into customers and thus enables better behavioral targeting. For instance, using Microsoft’s Dynamics 365 Customer Insights, which has added GPT-4 to popular Office products, companies can learn about new customer groups to target (Reines, 2023). The case of Salesforce’s Einstein GPT discussed above makes it clear that GAI tools can also use the insights gained from various data sources to facilitate the cold outreach process, which involves reaching out to potential customers that have not yet expressed interest in the company’s products. A company can target a large number of potential customers at the same time. GAI tools can be used to automate cold outreach campaigns (Moulton, 2023). Large language model (LLMs) such as ChatGPT can also help in the process of lead qualification, which is a key step in the lead generation process. Lead qualification involves checking out the quality of leads to assess the probability that they convert into customers. This process helps to identify the leads that have the highest probability of making a purchase. The sales team can focus their efforts on promising leads (Moulton, 2023). It is thus proposed that:

Proposition 4. *Compared to previous generations of digital technologies, GAI can help generate better market and customer insights to improve the sales lead generation process.*

Prior researchers have suggested that content marketing plays a key role in lead generation (Järvinen & Taiminen, 2016). Drawing from insights in the Chief Outsiders’ survey, it is evident from Section 3 and Table 2 that content creation and management represent areas where GAI tools are well-positioned to provide exceptional value. Especially, digital tools are effective in content personalization, which can help generate high-quality sales leads (Järvinen & Taiminen, 2016). Compared to previous generations of digital technologies GAI tools can create more effective and engaging content. GAI tools can be used to craft personalized and well-researched messages that resonates with the target audience (Moulton, 2023). For instance, Salesforce’s Einstein GPT can write a letter to the prospective customer acknowledging a new sales plan. It can be asked to rewrite the letter in a different tone. Einstein Assistant can also create a message for another salesperson in Slack who had dealt with the prospect company in the past (Sullivan, 2023). Based on above discussion, the following proposition is presented:

Proposition 5. *Compared to previous generations of digital technologies, GAI can help create more effective marketing content, which can improve the sales lead generation process.*

6.2. Future research directions

The framework we have presented in this editorial article provides numerous opportunities for future investigation. Some potential future research avenues are presented in Table 3 and are explored in this section.

In this editorial article, we mainly focused on top applications of GAI in marketing. Future research might also explore other applications we could not deal with in depth in this article. For instance, one of the current popular applications of GAI is in enhancing customer service (The Conference Board, 2023). In this regard, a comparison of LLMs with traditional chatbots in terms of their roles in enhancing customer service could be a future research avenue. Similarly, LLMs such as ChatGPT and Google Bard are viewed as valuable tools for jumpstarting exploratory digital marketing tasks, encompassing activities like keyword research and content ideation, areas that numerous marketers are presently delving into (DeBois, 2023). Likewise, the emergence of GAI tools like ChatGPT is set to bring about substantial shifts in the landscape of the internet search sector (Stahl & Eke, 2024). Future research thus needs to be conducted on the use of GAI in facilitating these marketing tasks. In the context of customer service, some of the key benefits of traditional chatbots identified by prior researchers

Table 3
Some potential future research directions.

	Future research direction	Research questions
1	GAI applications in marketing not covered in detail in this editorial article (e.g., customer service)	How do LLMs perform compared to traditional chatbots in the delivery of customer service?
2	Developing value propositions	What are the various mechanisms by which GAI can help firms develop value propositions?
3	Emotional and cognitive customer experience	How do the effects of GAI-led personalization efforts on emotional customer experience compare with cognitive customer experience?
4	Response of different units of adoption to GAI	How do psychographic and perceptual factors affect the use of GAI in marketing? How are organizational characteristics related to the adoption of GAI in marketing?
5	Fostering creativity in GAI era	How can GAI enable marketing professionals to become more creative? How can marketing professionals work alongside GAI in order to promote creativity?
6	Comparison of the effects of GAI on marketing with other organizational functions	How are the effects of GAI on marketing similar to and different from the effects on other organizational functions?

include increasing convenience and efficiency of interactions, providing a timely and effective response to customers’ informational needs and enabling firms to provide a fast response (André et al., 2018; Fotheringham & Wiles, 2023; Iles, 2020). Thus, in future research scholars should attempt to compare the performance of LLMs with traditional chatbots in terms of these measures.

Previous researchers have noted that LLMs such as ChatGPT can expand a company’s value proposition by helping them develop personalized solutions that can potentially help customers solve new problems in a way that complements the current offering (Cromwell et al., 2023). Researchers could thus examine various other mechanisms by which GAI can help firms develop value propositions. Prior researchers have suggested that personalization has a positive effect on emotional (e.g., moods, feelings, and emotions) as well as on cognitive (e.g., enjoyment, involvement, and concentration) customer experience (Tyrväinen et al., 2020). In this regard, a third area of future research might be to compare the effects of GAI-led personalization efforts on emotional and cognitive customer experience.

Fourth, different units of adoption differ in their times of adoption of an innovation (Rogers, 1963). As noted above, in the case of the adoption of GAI tools in marketing, mid-level and junior marketers have a higher propensity to use such tools compared to senior marketers (The Conference Board, 2023). In addition to factors such as job title and level of seniority, future researchers also need to consider how psychographic and perceptual factors such as comfort with technology can affect the use of GAI in marketing. In addition, research in this area should also be extended from individual level to organizational level. Prior researchers have suggested that firm specific factors such as firm’s characteristics such as size, type of business and past experience with and attitude towards technology impact the adoption decision of ICTs (Dholakia & Kshetri, 2004). Another intriguing avenue for future research is thus to examine how organizational characteristics are related to the adoption of GAI in marketing. In relation to this, researchers may also want to compare the impact of GAI across different organizations especially those with established marketing departments, and examine the impact on marketing professionals, their roles in the department and effect on marketing skills. In this area, there is a need for deeper understanding on issues related to deskilling, reskilling and new skillset that may be needed when working with GAI.

Fifth, given that marketing as a function is expected to generate creative outcomes, there is a need to examine the role of GAI in fostering creativity within this context. A related theme is to examine how marketing professionals can work alongside GAI in order to promote creativity. Understanding these issues has implications on organizations and specifically in how they manage their marketing function and in how they train and develop marketing professionals. There are also implications on marketing educators and how they teach creativity formally within the marketing curriculum in the era of GAI. Future studies therefore should also take an interest in marketing management and marketing pedagogy and consider GAI-driven transformation in these areas.

Finally, as noted above, GAI has been transforming multiple organizational functions, not only marketing (Dwivedi et al., 2023a,b; Kshetri, 2023a). However, these effects are likely to vary across different organizational functions. While some of effects discussed above (e.g., personalization of marketing contents and offerings) are unique to marketing, others (e.g., enhancing efficiency and productivity) (Fig. 1) might be more general and also applicable to other functional areas. A comparison of the effects of GAI on marketing with other organizational functions thus might be worthwhile target of study.

6.3. Implications for practice and policy

The above discussion makes it clear that GAI offers great opportunities to marketers and is likely to have a positive effect on marketing's bottom line. As noted above, GAI's benefits have been especially apparent in functions and activities that require high-quality written materials (Fintechnews Switzerland, 2023) as well as images and videos (Anisin, 2023), which are a key part of the marketing function. Unsurprisingly recent surveys conducted among organizations have shown that GAI's use in marketing has been more common compared to more other organizational functions. For instance, FreshBooks' survey of North American small-business owners discussed above viewed analytics, sales and marketing, and customer communications as the areas that are most likely to be impacted by GAI (Grothaus, 2023). Feely available GAI tools such as ChatGPT and Google Bard can provide even small firms with opportunities to boost effectiveness in digital marketing tasks, such as keyword research and content generation (DeBois, 2023). There are various mechanisms by which GAI's use in marketing activities may drive firms' financial performance. Scholars (e.g., Grewal et al., 2017) and practitioners (e.g., Accenture, 2015; Marketing Science Institute, 2016) have emphasized that improving customer experience is a key goal for companies. Customer experience is regarded as the foundation for customer engagement with products and brands (Grewal et al., 2017). Prior research has suggested that customer engagement is positively related to customer loyalty, customer satisfaction, positive word of mouth and the firm's financial performance (Barari et al., 2021; Fotheringham & Wiles, 2023). As previously discussed, GAI can help marketers take actions that have a positive effect on these various marketing processes and outcomes.

Especially, effective personalization is usually a prerequisite to achieve these goals. Personalization leads to improved marketing performance. Prior researchers have suggested that personalization has a positive effect on customer experience (Rose et al., 2012; Tyrväinen et al., 2020) and personalized messages lead to greater customer engagement (Buttle & Stan, 2015). In this editorial article, we demonstrated how GAI can help in the personalization of content and offering, enhance productivity of marketing activities and improve the lead generation process. For instance, GAI tools such as Einstein GPT generate customer insight and act rapidly and effectively on the insight (Sullivan, 2023). The insight can help companies develop and introduce new products and services to address unmet needs of the customer. All these can lead to an improvement in customer experience and engagement.

However, GAI also presents an opportunity to directly influence

customer loyalty and various other firm outcomes. A benefit of digital channels that prior researchers have suggested is that their use in real-time marketing can result in greater responsiveness (Buttle & Stan, 2015). For instance, GAI has the capability to analyze customer preferences, enabling the delivery of personalized emails and messages, ultimately driving higher engagement. This personalized approach, informed by factors like online activity and location, has the potential to significantly boost click-through rates. (Hameed, 2023).

Likewise, marketers can use GAI tools such as ChatGPT to analyze a customer's purchase history and other behavioral data to offer personalized product recommendations. GAI's use to generate product and service recommendations based on user behaviors and interest can lead to higher customer engagement (Hameed, 2023). In this way, GAI tools such as ChatGPT can help increase sales and customer loyalty (PYMNTS, 2023).

Prior researchers have suggested that in order to help potential shoppers learn more about a company's products, find precisely what they are looking for and inspire them to make purchases, they should be offered various digital touchpoints on their path to purchase and opportunity to engage with the company (Blom et al., 2017). The above lawnmower shopper example illustrated that GAI provides firms with great opportunities to deliver rich, contextually relevant and highly personalized content at various touchpoints. This will also allow the company to collect information regarding their needs and preferences (Blom et al., 2017). It is thus imperative for firms to use these powerful tools to transform their marketing.

This does not, however, mean that LLM-based chatbots can completely replace conventional chatbots or human teams. LLM-based chatbots differ from conventional chatbots in terms of the purposes they serve. Some argue that LLMs' open nature make them inappropriate for many customer experience applications. It is important to build a chatbot that can specifically answer questions about a company's products or services and help users with challenges they are facing. Thus, in order to provide a better customer experience, it is critical to appropriately combine LLMs such as ChatGPT with conventional chatbots (Albrecht, 2023). Likewise, human teams' skills and experiences are still needed in most marketing activities, and thus it is unreasonable to think that GAI will completely replace them.

As discussed above, firms can take advantage of opportunities offered by GAI to enhance efficiency and productivity by cutting costs. However, it is important to note that GAI's cost-cutting mechanisms in marketing might be different from other digital technologies. For instance, as noted above, some companies use social media as a lower cost channel to reach customers. The case of WPP discussed above suggests that GAI can significantly reduce content creation costs (NDTV, 2023). Marketers are also required to pay attention to a wide range of GAI tools that are rapidly evolving and are providing them with the ability to generate high quality content at a low cost. For instance, image editing app Lensa, which is one of the most common tools among marketers, makes it possible to generate unique artwork at minimal cost, which was not possible a few years ago (Wong, 2023).

7. Conclusion

In this article, we provided an overview of how GAI is transforming key areas and activities in marketing. We have focused our attention on the current top three marketing applications of GAI: personalization, insight generation and content creation. It should be noted that these uses are interrelated. For instance, insight generated by GAI can be used as a basis to develop better marketing content that enhances user engagement. Likewise, personalization is a key part of content creation. We discussed the roles of GAI in achieving personalization of content and offerings. Indeed, about a third of respondents in the Conference Board survey used GAI to personalize customer/user content (Table 1). Overall, GAI is effective personalization tool, which can help marketers establish a powerful form of customer experience and engagement.

Marketers are also using GAI as a tool to cut costs and boost efficiency and productivity of marketing activities. GAI can also improve marketers' lead generation process.

While GAI tools cannot completely replace human teams' skills and experiences, as the above discussion suggests, these tools can perform a number of marketing tasks at a lower cost, higher speed and more effectively than human teams or other tools. For instance, on the personalization front, past algorithms were less effective. Likewise, past AI models performed poorly in terms of scalability. GAI can help develop a marketing automation program which can produce hyper-personalized content based on individual customer profile and their journeys and interactions with a company and its products and services. GAI tools thus have the potential to help achieve personalization at scale. Indeed, the capabilities of GAI tools are so numerous and diverse that organizational and individual learning about their full capabilities may be the greatest barrier to effective adoption.

Declaration of Competing Interest

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