

Redefining the Way Visuals are Generated in the Era of Gen AI

**Mr. T. Senthilkumar & **Dr. K. Manikkam*

**Mr. T. Senthilkumar, Research Scholar, Department of Visual Communication, Hindusthan College of Arts & Science, Coimbatore.*

*** Dr. K. Manikkam, Assistant Professor, Department of Visual Communication, Hindusthan College of Arts & Science, Coimbatore.*

Abstract:

Generative Artificial Intelligence (GAI) is a new acronym that is becoming popular in the creative world. It represents the advancement in AI (*Dimitrieska, S.2024*). Whereas GAI plays a pivotal role in generating creative content by integrating with specialized AI tools that are built for creative professionals. In the face of technological change, creativity is often held up as a uniquely human quality, less vulnerable to the forces of technological disruption, and critical for the future (*De Cremer, et.al., 2023*) The use of GAI in various industries is currently a topic of debate. GAI-based tools, such as Midjourney, Dall-E2 and Adobe Firefly have been widely used in creative production studios, marketing companies, and academics. The visual creation process, in particular, has benefitted from GAI tools and has been widely adopted in the creative industry. This paper aims to investigate the impact of GAI on theory and practice in different areas of digital advertising, specifically in the visual creation process, and how it creates opportunities to flourish with as in the GAI realm.

Keywords: AI, Gen.AI, Creative, Visual Marketing, Advertising, Visual Processing

Generative AI:

Generative Artificial Intelligence (GAI) is a widely used term in the technology and creative industries. It refers to the ability of artificial intelligence to produce text, images, videos, or other data using generative models, typically in response to prompts. GAI models analyze patterns and structures in their input training data and then create new data with similar characteristics. GAI has been used to help designers with the aesthetic look of products, user interface designs, marketing effectiveness, lighter weight components, and much more (*Garon, J. 2023*). Using any GAI generator, you can type the prompt with a minimum of three words or as detailed or vague as you'd like and the result you get in the form of visuals, text, audio, video etc in a few seconds.

Generative artificial intelligence typically refers to large language models (LLMs). LLMs are neural network models designed to process sequential data. They are trained by learning to predict the next word in a sequence, based on the preceding words, using a large corpus of

text. This understanding of the statistical relationships between words enables them to produce new text that is both grammatically correct and semantically meaningful. (*Erik et. al., 2023*) Let's explore how GAI assists creative professionals in expanding their creative thinking and optimizing the creative process, especially in advertising and corporate marketing. This research study aims to investigate how creative professionals use GAI tools in their daily work. The survey and interviews were conducted with professionals from video, graphic design, and copy editing backgrounds across various industries. A total of twenty-five professionals were given a qualitative survey for this study. The study seeks to determine whether GAI is perceived as a threat or an opportunity for creative industry professionals.

1. The GAI tools:

“A Word is Worth a Thousand Pictures: Prompts as AI Design Material.” (Kulkarni et al. 2023), upon the arrival of GAI, text-to-image models (TTI models) enable users to create high-quality images based on a text description or "hint." This has streamlined the visual production process, making it faster and more efficient. There are numerous GAI tools available in marketing, and they continue to evolve to meet user needs and adapt to current trends. For accuracy of the study, I have selected the top most GAI tools that were primarily adapted by the corporate companies, advertising agencies and technology firms.

1.1 DALL-E

DALL-E is an AI system created by Open AI that can generate realistic images and art based on natural language descriptions. It uses textual prompts to create visual representations, interpreting short phrases and transforming them into images.

The visual quality of the images is stunning. We were particularly impressed with the ability to capture the top-down perspective we requested. (*Garon, J. 2023*)

1.2 MID JOURNEY

Midjourney AI is a creative platform that enables users to generate unique worlds, characters, and images by providing short text descriptions. In Chatbots, Midjourney runs commands with requests to guide and direct conversations by suggesting topics or options for the user (*Herliyani, E*). There is a community of users on Midjourney. Initially, Midjourney offered free use for a limited number of images, but now users must choose between subscription plans to continue using the service.

1.3 ADOBE FIREFLY

Adobe Firefly is a GAI tool that is included in the Creative Cloud package. To access its features, a basic subscription is required. It offers functions such as text-to-image, generative fill, generative shape fill, and generative remove. Firefly has been trained on images that are open-licensed and intended for free use, making it suitable for commercial

use as well (*Angelova, N. 2024*) As it is integrated with all apps from Adobe, it is easy to utilize the GAI feature from the native applications (*for example: Photoshop, Illustrator, InDesign., etc*).

1.4 OPEN AI - SORA

Sora is a cutting-edge generative AI model capable of producing realistic and imaginative scenes based on text instructions. It can generate a video in under a minute without the need for artists, cameras, or musicians. Sora's technology is built on Large Language Models (LLMs) and artificial video generation techniques. When combined with diffusion models for video generation, these AI systems can create detailed and dynamic visual content from text descriptions. This involves processing the text to understand its meaning and context, and then translating them into a series of images that form a coherent video sequence. (*Waisberg, E.et. al.,2024*)

In the age of Generative Artificial Intelligence (GAI), the visual creation process has greatly benefited from GAI tools and has been widely adopted in the creative industry. This paper aims to examine the impact of GAI on theory and practice in various areas of digital advertising, particularly in the visual creation process, and how it creates opportunities for growth within the GAI realm.

2. Review of Literature

In the past 2 years, AI has made substantial changes in the technology industry, not only in the digital realm, but also in healthcare, automobiles, and other fields. AI assistance increases worker productivity, resulting in a 14% increase in the number of inquiries that an agent successfully resolves per hour. This aspect is well examined in the research study 'Generative AI at Work' conducted by Brynjolfsson, *E.et. al.*, (2023). The study looked at the gradual implementation of a chat assistant using data from 5,000 agents working for a Fortune 500 software firm that provides business process software. The tool studied is built on a recent version of the Generative Pre-trained Transformer (GPT) family of large language models developed by OpenAI (OpenAI, 2023). It was found that access to AI assistance increases the productivity of agents by 14%, as measured by the number of customer issues they are able to resolve per hour.

Although Generative AI (GAI) is relatively new and has made a significant impact on many industries, it cannot match the capabilities of the human brain. The world has undergone numerous changes and advancements in the past. Technological updates are inevitable and constantly evolving. Similarly, GAI represents a technological update that requires adaptation from creative professionals.

A comprehensive study titled "The Impending Disruption of Creative Industries by Generative AI: Opportunities, Challenges, and Research Agenda," published by Amankwah-Amoah, J., Abdalla, S., Mogaji, E., Elbanna, A., & Dwivedi, Y. K. (2024), has revealed that

Generative AI is a powerful ally for the creative industries, positioned to drive innovation and encourage new creative exploration. Its ability to generate new ideas serves as a source of inspiration for creative professionals, providing fresh perspectives and serving as a catalyst for further imaginative endeavors. Furthermore, the creation of synthetic training data by these AI models holds promise in training other AI systems to detect patterns, uncover solutions, and push the boundaries of problem-solving.

Another recent study titled "Generative AI In Creative Industries: Revolutionizing Content Creation With Neural Networks," conducted by Reddy, V. S. S., & Reddy, N. (2022), revealed that generative AI, a field of artificial intelligence, is profoundly impacting people's daily lives. Generative AI uses neural networks to create various types of content, including text, images, and music, based on user input. Gartner's research from 2022 suggests that by 2025, 20% of company content will be AI-generated. This technological revolution allows anyone with an idea to bring it to life. The study also found that machine learning is transforming the creative process, benefiting artists, designers, authors, and many others. It unleashes previously unimaginable potential by harnessing the power of neural networks. Generative AI holds a promising and intriguing future, provided that we can overcome its challenges. It is clear from similar studies that GAI enables creative professionals to speed up the process, enhance creative thinking, and ultimately optimize existing processes.

3. Theoretical Approach

In this study, a quantitative research approach was used to investigate whether Generative Artificial Intelligence (GAI) is viewed as a threat or an opportunity for professionals in the creative industry. The study adapted Everett Rogers's (1962) Diffusion of Innovation theory which features the adaptation of an idea or product that gains momentum and diffuses through a specific audience. Adaption means that a person does something differently than what they had previously by using the new technologies. In our case, the audiences were creative professionals. It involved surveying 25 randomly selected participants in Chennai. These participants were chosen based on their working experience in the creative industry, specifically targeting individuals aged between 25 and 35 years, primarily from Media, Corporate, and Advertising agencies. The purpose of the survey was to gain insights into how GAI tools are perceived and their impact on the industry. Personal interactions were essential for understanding and evaluating the influence and effect of GAI tools.

4. Research Question

These questions have been formulated by researchers to uncover important answers.

1. **Awareness of GAI:** Do you use any Gen AI tools as part of your creative design work? (eg: Adobe Firefly, Mid Journey, DALL-E, Microsoft Designer, Sora, etc.,)
2. **Positive aspects:** How much does Gen AI support you to save time, increase efficiency, and enhance creativity on the scale of 10% - 100%?

3. Gen-AI is Threat or opportunity?

4.1 Research Objectives

The research objectives outline the primary and secondary focuses of the study, aiming to find solutions for them using theoretical approaches as a foundation. There are limited studies that analyze and evaluate specific solutions for visual creation in the field of mass media.

1. To explore various GAI tools available to support creative professionals from various industries.
2. To explore the primary impacts of generating visuals using GAI from different industry professionals in the creative industry.
3. To study GAI enhancing the creative thinking process or disrupting the designer thinking process.
4. To explore the use of GAI to create realistic visuals for news media, marketing collaterals, and successful case studies.
5. To understand the opponents of the GAI users and determine the impacting areas.

5. Survey Analysis

The gathered data pertains to 25 participants, with 60% being male and 40% being female. The participants were chosen from the top five companies in various creative industries. Five participants from each company, including both males and females, were selected to ensure accurate results. The survey comprises five key questions covering all aspects of our research topic. These questions are designed to address the three main objectives of the study in various ways, with the aim of fostering a personal interaction between the researchers and participants.

5.1 Awareness of GAI tools

The creative industry is constantly evolving due to technological advancements, and it's crucial for designers to stay updated. There have been significant advancements in the industry to support creative professionals in creating various assets. Professionals gain knowledge and expertise as they gain experience. Additionally, Generative Artificial Intelligence (GAI) has had a significant impact on creative professionals. The broad category of generative AI has the potential to disrupt industry, art, and culture, both if done poorly and if done well. The global AI market was valued at nearly \$59.7 billion in 2021, and is estimated to reach \$422.4 billion by 2023 (Jon Garon, 2023). Upon its arrival, designers have made efforts to learn and integrate GAI tools into their daily work. From the study, we found that 22 (88%) of professionals are using GAI tools such as DALL-E, Firefly, Midjourney, and Microsoft Designer in their daily work (*refer Fig1*). Interestingly, 3 (12%) of the group were not aware of these tools or did not use them, as they were not considered necessary for their work. The survey was conducted with the experience group of 2 to 10 and

above working experience professionals. Among 80% of professionals with 10 or more years of work experience, the majorities are familiar with GAI tools and use them daily in the workplace. This group comprises both male and female individuals.

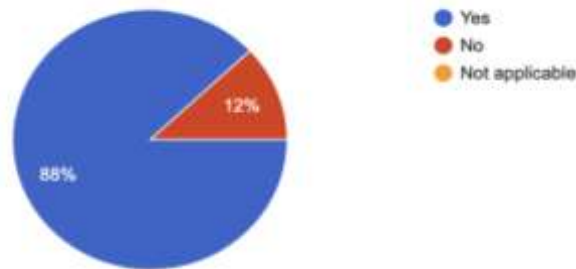


Figure: 1

Please see *Figure 1* describes the usage of GAI tools as part of the creative design work process on a daily basis

GAI represents another technological advancement for design professionals, prompting many design technology companies to invest heavily in integrating more built-in tools for designers. A classic example is Adobe, which introduced the GAI tool Firefly to incorporate all GAI features within their Adobe applications. For instance, Adobe Photoshop offers a plug-in for generative fill within the application, allowing designers to utilize GAI features.

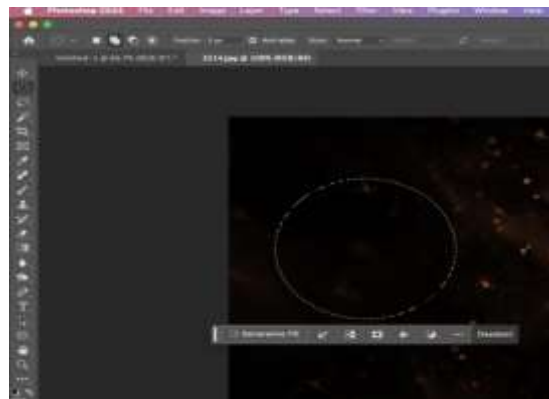


Figure: 2

Please see *Figure 2* for an illustration of the GAI feature in Photoshop. By using this plugin, the designers can enter the prompt to generate the desired visuals.

5.2 The positive aspects of GAI

The positive aspects of GAI can be considered in three primary components:

1. How much time is saved by using GAI tools in the specific process of visual creation?
2. Does this increase the efficiency of generating visuals?
3. Does this support enhancing the visuals and the creative thinking process?

The participants had varied responses to the questions above. Since it's a complex topic for discussion, I've divided the rating scale into five options ranging from 10% to 100%. The options are: less than 5%, 10% to 20%, 20% to 50%, 50% to 70%, and 70% to 100%. This classification will assist in further investigation and categorization of the results.

Overall 19 participants said they have largely benefitted of using GAI and helped them all aspects of time save, efficiency and enhance the creative thinking process. The ranges of 20% to 50% and 50% to 70% participants are among the top users of GAI tools on their daily works (*refer fig 3*).

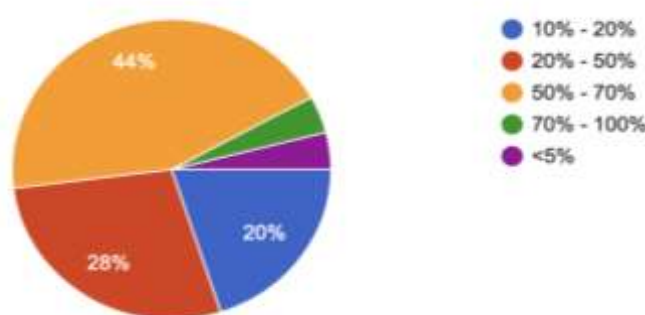


Figure. 3

Please see *Figure 3* describes the benefits of GAI tools that supports to save time, increase efficiency and enhance creativity process with different percentage of groups

GAI is advancing creativity by exploring new directions and innovative ideas, as well as significantly improving the efficiency of concept visualization and the automation of routine tasks. Automation is crucial for creative professionals. Currently, many creative specialists spend a significant amount of time on basic tasks, such as image cut-outs, which can be time-consuming. By utilizing GAI tools, creative professionals can focus more on creative thinking and developing concepts and themes, rather than on basic tasks. While machines cannot think like human beings, creativity is ultimately limitless to the human brain, and machines can assist in executing processes. Therefore, GAI plays a vital role in supporting these processes.

5.3 Threat or Opportunity

The data from the survey indicates that GAI is already a significant part of the creative industry. 80% of professionals are familiar with AI and 88% use AI tools in their creative work. More than half of the respondents are optimistic (80%) about GAI and are excited about its potential impact. These findings confirm the theory that people are actively using AI in their work and suggest that AI is more of an opportunity than a threat.

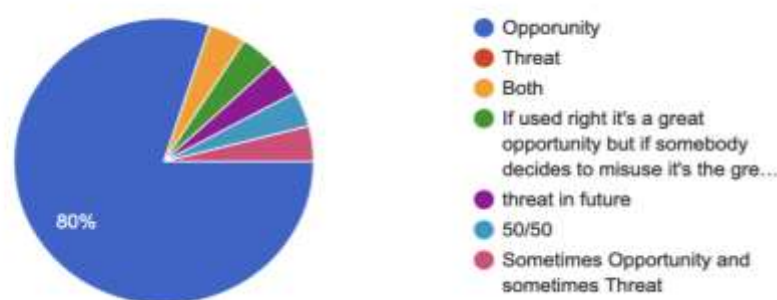


Figure. 4

Please see *Figure 4* explains how the creative professionals perceive GAI tools by using the GAI tools for the creative works

Twenty participants (see fig 4) mentioned that using GAI is an opportunity that helps them apply it in the work environment. They consider GAI an essential part of their work and using it helps them sustain themselves in the industry. The remaining five participants shared insightful thoughts about GAI. They perceive it as both a threat and an opportunity, and some suggested using it in the right place, while one participant said it's a threat. Interestingly, none of the participants expressed that GAI will replace their jobs. The perception of GAI gave them an opportunity and they utilized it as a learning tool to upskill in their career.

The majority of respondents display a strong willingness to utilize GAI tools and a high level of confidence in adapting to AI, indicating a forward-looking approach. The entire creative community is highly open to exploring how AI can complement their creative processes.

6. Successful case studies

"Is GAI a threat or an opportunity?" This question still remains open, although many top agencies and corporations have begun implementing AI in their workforces due to the potential for significant cost savings. Over the past 2 years, GAI has made positive impacts and provided numerous benefits in advertising agencies. Here are some case studies that demonstrate the benefits of using the GAI tool in the work environment.

6.1 Case study (Ogilvy)

During the pandemic, the global economy was affected and many small businesses struggled to survive. While large companies were able to weather the storm, smaller businesses faced significant challenges. To help these struggling businesses, Ogilvy India and Cadbury Celebrations collaborated to provide support. Ogilvy introduced a concept for creating advertising materials that could be used by local businesses to promote their products. Using GAI (Generative Adversarial Intelligence), they developed a technology that

could recognize Shah Rukh Khan's facial expressions and use them to 'speak' the name of a local brand in the local language.



GAI tool: Adobe firefly

References: Cadbury - Shah Rukh Khan-My-Ad (case study)

6.2 Case study (Cosmopolitan)

In June 2022, Cosmopolitan magazine designed its first-ever cover using GAI (Generative Adversarial Networks). It only took them 20 seconds to create a futuristic cover page by providing specific prompts. The prompt text they used was '*wide-angle shot from below of a female astronaut with an athletic feminine body walking with swagger toward camera on Mars in an infinite universe, synthwave digital art*'. The resulting image is displayed below:



GAI tool: DALL-E 2

References: DALL-E 2 Makes Its First-Ever Magazine Cover for Cosmopolitan

6.3 Case study (Martini)

Bacardi-owned brand Martini. They launched their 'Unbottling Martini' visual campaign featuring a video animation composed of nine images created on Mid journey. The

prompt text they used was *botanicals, floral, petals, flowers, Artemisia, and Roman Chamomile in the prompt box to generate images of different cocktails.*



GAI tool: Mid Journey

References: [How Brand Teams Can Use Midjourney AI](#)

7. Conclusion

The impact of AI on the creative field is inevitable and can be overcome by learning and adapting to GAI technologies in the workforce. When asked about the potential impact of AI on the creative field, 80% expressed excitement for the opportunities, while the remaining 10% reported concern about potential negative impacts and the other 10% were unsure of the impact. This part of the survey results confirms the theory expressed at the beginning of the chapter that people are already actively using AI in their work, leaning towards AI being more of an opportunity than a threat. A significant proportion of respondents acknowledge that AI could replace some job roles, but at the same time, they are confident that it will not completely replace the creative professions, suggesting that human creativity will continue to be important.

Today, technology is evolving and the change is permanent. The creative field has seen many changes in the past, which have helped creative professionals in various ways without widely impacting the nature of their work. Additionally, there should be strong regulations in place to curb deep fake components and avoid negative implications of technology.

Many advertising agencies and corporate companies have already started implementing GAI in their work, seeing a positive impact on saving time and costs. If the change is managed effectively, it will support the emergence of a new economy through opportunities for creativity, efficiency, and expanded resources. The research question of whether AI is a threat or an opportunity for creative professionals leans towards the opportunity side, indicating that the opportunity outweighs the threats.

References:

1. Dimitrieska, S. (2024). Generative Artificial Intelligence and Advertising. *Trends in Economics, Finance and Management Journal (TEFMJ) Vol, 6*, 23-33.
2. De Cremer, D., Bianzino, N. M., & Falk, B. (2023). How generative AI could disrupt creative work. *Harvard Business Review*, 13
3. Garon, J. (2023). A practical introduction to generative AI, synthetic media, and the messages found in the latest medium. *Synthetic Media, and the Messages Found in the Latest Medium (March 14, 2023)*.
4. Marcus, G., Davis, E., & Aaronson, S. (2022). A very preliminary analysis of DALL-E 2. *arXiv preprint arXiv:2204.13807*.
5. Kulkarni, C., Druga, S., Chang, M., Fiannaca, A., Cai, C., & Terry, M. (2023). A word is worth a thousand pictures: Prompts as ai design material. *arXiv preprint arXiv:2303.12647*.
6. Marcus, G., Davis, E., & Aaronson, S. (2022). A very preliminary analysis of DALL-E 2. *arXiv preprint arXiv:2204.13807*.
7. Herliyani, E., Suryana, J., Karso, O. S., & Purnamawati, I. G. A. STUDENTS' PERCEPTIONS OF MIDJOURNEY.
8. Angelova, N. (2024). The capabilities of the art-oriented artificial intelligence Adobe Firefly and its visual advantages and disadvantages. *Journal" Fundamental Sciences and Applications"*, 30(1), 1-10.
9. Waisberg, E., Ong, J., Masalkhi, M., & Lee, A. G. (2024). OpenAI's Sora in ophthalmology: revolutionary generative AI in eye health. *Eye*, 1-2.
10. Brynjolfsson, E., Li, D., & Raymond, L. R. (2023). Generative AI at work (No. w31161). National Bureau of Economic Research.
11. Amankwah-Amoah, J., Abdalla, S., Mogaji, E., Elbanna, A., & Dwivedi, Y. K. (2024). The impending disruption of creative industries by generative AI: Opportunities, challenges, and research agenda. *International Journal of Information Management*, 102759.
12. Reddy, V. S. S., & Reddy, N. (2022). Generative Ai In Creative Industries Revolutionizing Content Creation With Neural Networks. *International Journal Of Advanced Research In Engineering And Technology (IJARET)*, 13(1), 72-85.