

## Artificial Intelligence and Graphic Design: Transformations, Challenges, and Future Job Trends

Suhaib Sultan Alkhateeb<sup>1\*</sup>, Islam Ghandi Almomani<sup>2</sup>, Eman Musallam Altaweel<sup>3</sup>, Ayah Aloqaily<sup>4</sup>, Suhair Salah Abu Alhaija<sup>5</sup>

<sup>1</sup> Department of Applied Science, Faculty of Irbid College, Al-Balqa Applied University, Irbid, Jordan, ORCID No. 0009-0004-0957-792x, Email: [suhaib.sultan@bau.edu.jo](mailto:suhaib.sultan@bau.edu.jo)

<sup>2</sup> Department of Applied Science, Faculty of Irbid College, Al-Balqa Applied University, Irbid, Jordan, ORCID No. 0009-0007-0103-8405, Email: [i.almomani@bau.edu.jo](mailto:i.almomani@bau.edu.jo)

<sup>3</sup> Department of Applied Science, Faculty of Irbid College, Al-Balqa Applied University, Irbid, Jordan, ORCID No. 0009-0007-8302-0291, Email: [tawil.eman@bau.edu.jo](mailto:tawil.eman@bau.edu.jo)

<sup>4</sup> Department of Basic and Information Sciences, Karak College, Al-Balqa Applied University, Karak, Jordan, ORCID No. 0009-0006-0617-7108, Email: [ayaalooqaily28@bau.edu.jo](mailto:ayaalooqaily28@bau.edu.jo)

<sup>5</sup> Department of Applied Science, Faculty of Irbid College, Al-Balqa Applied University, Irbid, Jordan, ORCID No. 0000-0003-2125-8556, Email: [suhair.haija@bau.edu.jo](mailto:suhair.haija@bau.edu.jo)

\*Corresponding Author: [suhaib.sultan@bau.edu.jo](mailto:suhaib.sultan@bau.edu.jo)

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### ABSTRACT

The study examined the transformative impact of Artificial Intelligence (AI) on the graphic design job, discovering its influence on creativity, workflow, and professional identity. Fast evolution of technology in the past 20 years, AI has become a powerful force that is changing the design industry by producing original content automating repetitive tasks and redefining the role of the designer. The study adopts a mixed-method approach, merging a comprehensive literature review with interviews done with professional graphic designers and field experts. Results shown that AI serves as both a creative collaborator and a technological disruptor—enhancing productivity, idea generation, and design efficiency, while simultaneously raising concerns about job displacement, authorship, and ethical implications. In order to use AI-driven tools designers must acquire new technical and moral skills according to the study. It concludes that a more inventive and sustainable future for the graphic design sector may result from a well-balanced integration of human creativity and AI capabilities. According to the research AI should serve as a knowledgeable assistant to enhance human creativity rather than take its place.

**Keywords:** Artificial Intelligence, Graphic Design, Creativity, Ethical Implications, Digital Transformation.

### INTRODUCTION

Now a day, our daily life is being transformed by speedily developing technology, particularly in the last two decades, there is no doubt that the modern technological revolution, especially Artificial Intelligence (AI) technology facilitates human elements in carrying out their daily tasks and work, in addition to transforming societies from a traditional form to a creative and skilled form characterized by learning and knowledge at various levels. Artificial intelligence technology, through software and algorithms, has been able to participate with humans in their daily activities, from automating frequent jobs to creating new graphic designs depending on database and employee favorite's, AI is conducting a significant influence on this industry field of graphic design. Technological

evolution interacts as a significant engine in many industries and the differentiation and development of graphic design job, in addition to the design responsibilities and methods graphic design is not far a way of this evolution. And graphic design job is one of the most fields that directly affected by AI technology. The industry of graphic design has witnessed a significant revolution, which led professions in this industry to change their work mechanism of the way to create new designs.

The new era of digital dominance has yield to Radical transformations in the graphic design industry, new prospect of innovation creativity and graphic design processes, the transition to digital tools has given graphic designers with more flexibility, less time, and creative environment, in the same time also competition in this industry.

Professionals in the industry of graphic design are forced to work deeply and very awareneses the innovations and new technologies as a result of these developments to realize the impacts of the new digital age on the industry of graphic design, to keep up the competitive in graphic design work, it's not only that pace professionals keep pace with technological advancements but also study their influence on design principles, creativity, and aesthetics It's very important to examine both the innovations and their effects on the field. Technology's ever-changing dynamics are defining graphic design's future and showcasing its endless potential, this study is seeking to find and analyses the impacts, positive and negative of new revolution on this industry, the modern opportunities that can be provided to people working in graphic design and ethically considerations are examined and what is the relationship between graphic design and how this relationship will be now and in coming days.

## **METHODOLOGY**

Here are the models were followed to collect and breakdown information about this research paper: An inclusive literature revision was done to set up a databank framed of information on the actual situation of AI technological revolution and the used applications in profession of graphic design. The literature review included the journals for academic, reports extracted from graphic design industry, and internet sources that concerned about AI and graphic design, Interviews: interviews were managed over phone call or by person with graphic designers and field experts to collect their viewpoints on the impact of AI on their jobs, it was concentrated on the challenges of using AI in graphic design.

### **Research Problem**

The problem of this study is to revolve around exploring the potential of AI as a supportive mechanism in graphic design. AI technology has done key advancements. Modern technology plays an effective role in graphic design, digital technologies, and improving teaching, learning, and training processes, raising the level of awareness among human elements through extremely fast, precise processors, while increasing knowledge tools that have motivated and inspired employees, intelligent thinking, and effective communication to achieve better results. Artificial intelligence technology is one of the modern technologies that has flourished in the last decade and includes many modern programs and applications that widely affected the graphic design industry.

But, even though with here a new question popped up in this study: what is the "impact of Artificial Intelligence (AI) on graphic design jobs".

### **Research Objectives**

- The current study objective is to reveal the impact of applications related to artificial intelligence (AI) technology that have been used in the industry of graphic design.
- Explored the ethical impact of using modern technology related to artificial intelligence (AI) with regard to graphic design job.
- Examined the designers' opinions about how they Imagine AI as a collaborative tool and to identify limitations., challenges of integrating AI into the graphic design job, and to make the process of collaboration between designers and AI systems more solidarity.

## **LITERATURE REVIEW**

### **"Generative AI in Graphics Design"**

by the integration of generative AI tools, the future of graphics design is being reshaped. Generative AI calcified to AI technologies that Instantly create new content weather visual or written according to prompted text. DALL-E or Midjourney play a decisive role in enhancing creative ideas and have made publicity in the industry of

graphics design because of their efficiency to create authentic pictures and text by using large amount internet sources.

The mechanisms allow innovative professionals the solutions to inspire different content possibilities and extend their creative works, the concept discusses involving creators in design and decision-making processes. Creative AI has the capability to create high-quality content through automate the generation, which leading to maximize the diversification of subjects and personalized experiences for users. However, there are some issues and prospected risks related to generative AI. When using dual of realistic and AI-generated information, generative AI instruments may display degenerate achievement, as shown by simulations using an image-generation AI tool. This raises concerns about the degeneration of generative AI, concentrating the need for further research.

### **"Applications of Artificial Intelligence and its Role in Designing Digital Advertisements among Graphic Designers and their Attitudes towards it"**

The study concluded that graphic designers' approaches towards intelligence applications were positive. There was a high rate of artificial intelligence in digital advertising designs, and the axis of the Likert scale of graphic designers' attitudes towards the use of artificial intelligence in digital advertising in Egyptian newspapers had a weighted weight on the Likert scale. To achieve the required breakthroughs and updates in media and journalistic work methods, the study recommended using artificial intelligence applications in the creation of digital advertisements with creative and skillful qualities.

### **"The Impact of Artificial Intelligence on the Graphic Design Industry"**

The results said that the most professionals and specialists trusted that AI new technology can have an important influence on the graphic design industry. Such as improving the workflow, maximizing creativity, and getting better outcomes, where justifications for these convictions were cited. Furthermore, there was also an understanding of limitations and challenges brought by AI usage, such as the risk of losing jobs, special technical skills requirements to use it effectively, and the ethical and moral repercussions of its use.

In general, outcomes generated through the survey and interviews showed that the technology of AI has the power to have great influence on the graphic design industry. Most of professional working in this industry believed that AI brought a positive effect on their workflow along with more improvements, creativity and better results. Nevertheless, AI exposing this industry for many challenges including the limitations of current technology and the high technical skills requirements if need to use it effectively. opinions experts of this Industry still dissimilar about the impact of AI on the industry, with some Demonstrating significant optimism about its potential, while others were cautious in their appreciation.

The consequences of the interviews with "graphic design" specialists discovered mixed approaches about the "impact of AI on graphic design". In the same time some experts demonstrated great optimism about merging of AI in this industry, others were cautious in their assessment, pointing prospected Restrictions and challenges. The experts agreed on the importance of approaching the use of AI in "graphic design" with caution and carefully considering the potential consequences. They also concentrated on the importance of ensuring that AI technology is applied to reinforce and encourage the work of graphic designers, instead of replacing them.

### **"The Role of Artificial Intelligence in Graphic Design"**

Obviously, All the characteristics of AI mentioned in this study pointed out that the design industry will be transformed by this technology. On the other hand, they believe not to support the idea that machines will eventually replace human designers. These machines will still lack one thing: a goal, even if they start working on their own without human intervention. To instruct a machine to design something, and then later approve or reject it, a human is required. Humans need to understand the model. we can't compete humans with machines Because it may do perform jobs more efficiently than humans, but they don't have the power of setting any won goals or even having its aspirations. Because machines will always strive to reach human goals, but not their own, designers are required to enable the AI system to distinguish between appropriate and inappropriate design types.

### **"Usage of Artificial Intelligence in Today's Graphic Design"**

The "graphic design" industry will grow exponentially with the progressions of artificial intelligence technologies, which will able people working in this industry to reduce the time they spend on the most time-consuming tasks, just as printing press releases and designing posters previously took no time at all. Because this industry process requirements of the knowledge, then it involves aesthetic and artistic concerns accordingly. Designers create their designs based on their knowledge and experience, undoubtedly adding their own creative awareness. Artificial intelligence lacks creative awareness, which may be eliminated over time through using some methods like creative learning or adapting brain networks to AI. professionals dealing with these technologies must have high knowledge of design job principles to avoid design confusion. AI-powered web design and layout

software will allow graphic designers to complete time-consuming tasks, like web development and adapting user interfaces to mobile screens, thereby freeing up time to optimize content. After designing a business template using predefined templates, the remaining time-consuming work can be completed using AI without the need for a designer or implementer by inputting the necessary information.

### **"The Impact of Artificial Intelligence on Graphic Design: Exploring the Challenges and Possibilities of AI-Driven Autonomous Branding"**

By asking, how AI will classify issues related to ethical issues, be accepted by culture, and innovation, and what are the potentials for creating independent AI-driven brands, this study examines the potential impact of AI on graphic designers, including estimating how AI can be used as a self-directed system in brand establishing rather than as an applied mechanism to recognize new alternatives related to data and algorithms. Evaluative co-design methodology was the primary approach to spark provocative debates and debates through semi-structured interviews and a co-design workshop. The study was done in Saudi Arabia with participation from academia and industry. The results pointed to interconnected human-machine interactions around AI-driven self-directed brands, give the designers and concerned people to discover new opportunities in this industry.

### **"The Impact of Artificial Intelligence on Creativity in Graphic Design"**

With the advancements in "graphic design", (AI) has, in a way, extended its opportunistic benefits and creative freedom. In the process of the graphic design, the tools of AI automate routine jobs and contribute to the creation of innovative ideas. In real, AI can be very useful in enhancing creativity, but it cannot replace the vision, empathy, and anticipation that define the design process. Applying AI to "graphic design" raises the question of how it can enhance design without replacing the designer. Promoting the ethical uses of AI design development must include principles that enable designers to maintain ownership of their designs despite the various progression AI technologies will bring about. The "graphic design" job is no exception; it should go on to developed AI and adopt both to overcome the challenges and implications associated with it. AI must continue to be created and utilized to overtake the challenges and restrictions of AI progression.

### **"Transformation and Graphic Design with Digital Methods"**

"Graphic Design" as concept: it can be called as a visual tool that presents a subject to another party effectively, clearly, informatively, and illustratively. The primary goal of "graphic design" is to deliver a message clearly, effectively, and aesthetically. Graphic design, which has proven to be a field of fine arts and drawing, is a prosperous field of visual expression, with applications like photography and typography aim to express.



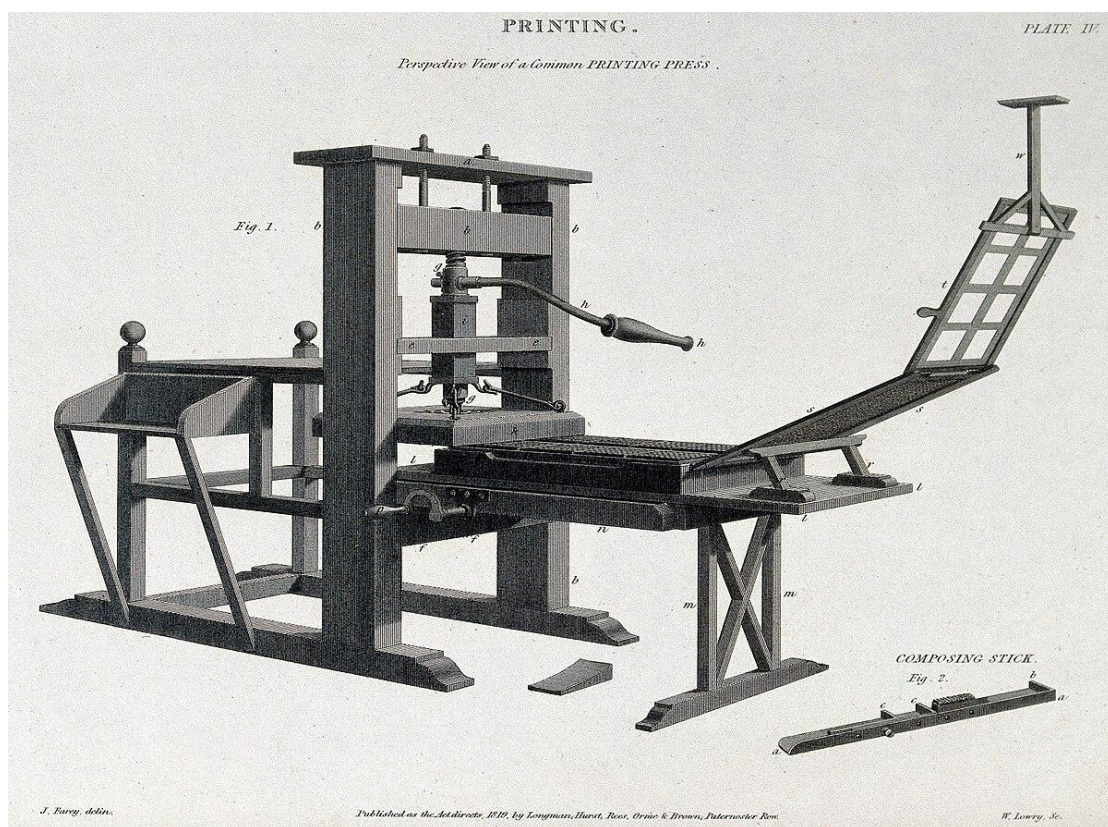
**Picture 1:** Sample of the first ancient paintings - (URL-1)

"Graphic design" in the ancient times, even before of writing learning, when means of communication had not yet developed. One of the earliest models of "graphic design" is cave paintings, as shown in [picture 1]. These are drawings created without any aesthetic considerations or adherence to visual hierarchy and design principles, to convey information about lifestyles, animal uses, lifestyles, nature, and daily life. These drawings are the first

visual examples of the emergence of graphic design as symbols. One more key example of communication using symbols in visual design to convey imagined messages is the "hieroglyph of ancient Egypt". Hieroglyphs are considered one of pioneer models of "graphic design" by creating a combination of visualized draw and written language. "Graphic design" started to reshape in the era of Middle Ages were religious writings and manuscripts spread; manuscripts took special place because of using it to record sacred writings "such as the Bible" In the beliefs of the Christian religion, finely decorated, and attentively drawn works, it is noteworthy that these projects provide considerable contributions and improvements in the aesthetic consequence of design throughout the history of this industry. prior of invention era of the printing press machines, all messages and books were printed out in the forms of manuscript, and in those times, copying wasn't pressed by printers as is the case today, but by slaves after special training, especially among the Greeks, just as it was the case among the Romans.

### Evolution and Turning Points of Graphic Design

By traveling back and noticing the process of graphic design, as illustrated in [picture 2], Gutenberg's printing press represents a revolutionary development. Thanks to it, designs became accessible to wider people and became one of the most important components and requirements of "graphic design" industry, this invention took the industry of "graphic design" forward step and played a key factor in the development of visibility designs and all other designs that fall under the umbrella of graphic design. After the Industrial Revolution, a rapid shift in approaches and innovative research was observed in the industry of graphic design, in addition to the increasing works in innovative approaches.



Picture 2: "Gutenberg, the first printer" - (URL-2)

### Transformation with Digital Methods

Since the dawn of time art has existed and changed over time. People have expressed themselves the world and nature through a variety of artistic disciplines throughout history. Modern technology has always been advantageous to art. The field of art has seen a significant acceleration in technological development in the twenty-first century the meaning content and purpose of art have evolved in tandem with the methods of production.

Thanks to technological advancements digital art and digital artists are becoming more and more prominent in the era we live in. Although there has always been interaction between art and technology its popularity and speed have grown in the modern era due to advancements and opportunities in the digital sphere. With the use of new technologies art has evolved and taken on new forms.

The swift ascent of digital media has drastically altered design processes and resulted in substantial changes in the field of visual design. Beyond the confines of traditional media, the digital transformation process has given

designers new possibilities and enabled them to develop a new aesthetic language. In addition to having an effect on design processes this change has brought about both new business opportunities and difficulties. Design for digital platforms describes the process of modifying conventional design concepts for use in digital settings. In order to maximize the advantages of digital platforms maintain brand consistency and enhance the user experience this adaptation is made.

To produce now day's art digital professions must push the limits of technology in addition to using new digital platforms. As these professions discover the implications of developed technologies and their realizations of digitalization of graphic design, also they consider the technological, artistic, and social progressions brought about by diversified forms of digital media.

Using advancement of machines (computers and tablets) and the proliferation of technology, smart devices and design software such as Adobe applications features have minimized graphic designers' creation time and enabled them to more effectively communicate their desired design message to their target audience, both visually and technically. Today, graphic designers and artists will be able catch up the entire world in a split second, at any time they wish, by delivering their designs online (via multi-social media applications) without the constraints of time and space, placing information and art to a multitude of users.

## CONCLUSION

- The integration of Artificial Intelligence (AI) into the "graphic design" industry has started a deep transformation that is reforming the nature and future of the job. One of the conclusions of this study reveal that AI is not only a technological innovation, but a creative associate that that can renewing the traditional concept of design workflows. Through automation generative algorithms and data-driven insights artificial intelligence (AI) tools boost productivity stimulate fresh creative ideas and push the limits of visual communication. These technologies enable people working in this field to concentrate more on conceptual and strategic aspects of their professions, while AI takes over frequented and technical tasks.
- The significant advancements in integrating artificial intelligence into "graphic design" work have brought about new challenges and ethical considerations, the more reliance on AI the more raises' concerns regarding originality, authorship, and job security and its lacking to the emotional intelligence, cultural sensitivity, and human intention that lie at the heart of authentic design
- It's also the study concluded the necessity of continuous learning and adaptability between graphic designers and developed technologies. As AI-driven tools become more prevalent, people who working in this field must obtain new technical skills and considerate ethical competencies to work collaboratively with intelligent systems.
- "The impact of AI on the graphic design" profession have dual affect, providing varied opportunities alongside significant challenges and limitations. So, the ideal manner to deal with this phenomenon is the balanced integration, where AI works as an intelligent assistant that supports creativity rather than reduces it. Ethical frameworks, educational reforms, and responsible use of AI technologies will be essential to ensure that this transformation advantages both the graphic designing and the innovative professionals in this industry

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