

Post-Photography: The Disruption Effect of Artificial Intelligence on Photography for Product Advertising

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Abstract: This study aims to understand visual phenomena by describing and analysing artificial intelligence (AI) technology in photography for product advertising. The focus of the study is the influence of these technological advances on significant changes in the advertising world. Initially, photography represented a reality that described facts, but artificial intelligence imaging has shifted the understanding of the concepts underlying photography. Visual Methodologies are used to identify, describe, and explain systemically. Data were collected by observing, documenting, interviewing, and questionnaires. The socio-technological approach is used to reveal the influence of technological developments on social problems and the phenomenon of advertising photography as an object of research. The study results show that advances in artificial intelligence technology positively produce more creative and innovative visual aesthetics. In addition, it can help facilitate more effective and efficient work. However, negative effects also emerged, namely problems and social anxiety for some artists/creator.

Keywords: Photography, Disruption, Technology, Artificial intelligence, Product advertising.

1 Introduction

Advances in digital technology in the field of photography have created enormous changes. The era of analog photography technology peaked in the 1990s and slowly began to recede along with the development of digital photography technology. Many of the principles or workings of photography have changed, replaced by new and easier ones. In the analog era, the nature of the photo/image produced was a single piece of film, while in the digital era, it could be duplicated without losing the original. In the analog era, images are single and cannot be separated, but in the digital era, images can be processed, engineered, cut, and combined into a perfect whole. In the 21st century, there has been another tremendous technological revolution with the advent of AI (Artificial Intelligence) technology which has been able to create photographic images without using a camera (without taking a photo). AI technology has implications for changing perspectives, attitudes, and new ideas about this technology. Thus, advancing human intelligence technology (AI) can be considered post-photography.

Post-photography is a transitional period in the development of AI technology that challenges conventional perceptions of visual representations (images) in producing more creative and innovative visual aesthetics. The development and progress of this technology can be utilized in the world of advertising because of its ability to create tangible things to become hyper-realistic and full of fantasy. In an AI product advertisement, this sophistication becomes essential and needed to realize imaginative ideas as an effort of persuasion. Meanwhile, in the digital era, the practice of photography for advertisements has become part of the information and communication technology discourse in which the visual meaning of advertising cannot be separated from the dynamics of software culture and online platforms. Thus, the disruption of AI technology provides space and opportunities for easy digital manipulation, and visual advertisements are easily and quickly distributed online.

So far, the study of Artificial Intelligence (AI) in the field of photography is viewed from three perspectives:

1. The threats and effects of technological developments and advances can potentially replace human work in various fields [1,2]. Advances in AI technology are seen as a new "virus" that must be fought or rejected in the world of photography (especially by photojournalists). Some think photography with a touch of AI will make photography never the same again [3,4,5]. Furthermore, Agung et al. (2017) reveals that this disruption can affect the decreased understanding of the meaning of photography, both physical and non-physical. The sophistication of AI technology can manipulate facts about objects photographed with creations based on digital intelligence. AI is considered to

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destroy the foundation established in the world of photography in image transfer. Therefore, including AI is both a challenge and a threat to the world of photography.

2. AI opens up opportunities and ease in developing its potential. Technology can help increase efficiency in various fields, such as in the fields of design and photography, making it possible to be more flexible in utilizing available time and resources. The development and advancement of Artificial Intelligence (AI) technology have become increasingly popular topics in various fields, from technology to philosophy and ethics. As a technology that can process and analyse data quickly, AI has the potential to bring significant changes in human life. Likewise, in the field of photography, AI creates conditions that give rise to innovations that cause fundamental changes to new systems. In photography for product advertising, judging from its development always have to keep abreast of these technological developments. Industries or institutions need AI technology in the field of photography to support delivering messages [6,7,8]. Susanti et al. (2022) explained that photographic works for product advertising are used as illustrative elements because they have persuasive value in influencing consumers.
3. The reconception of the understanding of photography began at the end of the 20th century and continues into the 21st century according to technological advances. The reconception (reconceptualization) of photography in the era of artificial intelligence is termed short photography. Short photography is made possible by artificial intelligence technology. The core of short photography is on mutable virtual elements such as digital files that are produced, reproduced, and transmitted digitally and are not printed but viewed on a screen. Reimagining must be done considering that in the era of artificial intelligence, nothing exists in a single and fixed form, and objects are changed artificially through technology [9]. Artificial intelligence technology or artificial intelligence (AI) in the field of photography is increasingly demonstrating its ability to do this. Thus, the existence of AI adds to the treasures of visual language in photography [10]. Of the three tendencies, studies looking at advances in AI technology in photography for product advertising have not been widely disclosed and studied.

This study is based on the argument that Artificial Intelligence (AI) in the field of photography for product advertising has a powerful influence on the efficiency and effectiveness of its creation. In addition, photography created with this technology has aspects that can be utilized primarily in visual appeal or visual persuasion in product advertising to convey commercial messages. The persuasive strength of this photographic image lies in a touch of Artificial Intelligence (AI) technology which is capable of creating various visual effects that can enhance the value of imagination. AI has become vital in sharpening the expression of visual messages and enhancing the persuasive power of photographic images in product advertising. Photographic AI technology used for product advertising can go further by performing certain tricks in visualization that can make natural things supernatural, full of imagination, and even hyper-realistic.

2 Literature Review

2.1. Artificial Intelligence

Artificial intelligence is a machine like a computer that has intelligence like humans. Artificial Intelligence computer machines can carry out orders that humans can carry out [11]. Furthermore, Utami (2021) said that artificial intelligence is a technology that allows computer systems, software, programs, and robots to "think" intelligently like humans. Humans create the artificial intelligence of a machine through complex programming algorithms. *Artificial intelligence* is a technology that makes it possible to create replicas of human intelligence that can be embedded into systems. Systems that show characteristics of thinking like humans and even enable them to do tasks better than humans (are important to study because this artificial intelligence can do some jobs faster and better than natural intelligence (human intelligence) [12]. Hecklau et al. (2016) states that the increasing digitalization technology is developing rapidly in all fields to connect people, objects, and systems in real-time, automation and sharing of manufacturing big data, the use of artificial intelligence technology (artificial intelligence) is inevitable.

2.2. Photography

Photography comes from the Greek word "Photos": light and "Grafos," which means drawing using light as a medium. This means that without light, no photograph can be made. *Photography* is an activity that combines aesthetic art with technology to document the appearance, moments, and emotions of the object being photographed [13]. At first, photography techniques relied solely on human manual abilities, but as technology developed, photographic techniques turned completely digital [14]. Whether obtained manually or digitally, photography as an art still has an intentional relationship between the object and the photographer. Photography as a cultural product functions as a need for art and as a documentation of expression, description, and construction of civilization [15]. Agung et al., (2018) stated that photography has a broader impact because it can form a new ethical perspective on reality through visual language. This happens because photography is considered a real work of visual art and a form of factual reality representation media [8]. Photographic technology was adopted quickly because it was based on efficient methods. The discovery of

photographic media can also reveal historical and event records for the next generation. However, it is also an important discovery for developing the advertising world. The existence of photography in advertising plays a significant role because it bears great responsibility in scoring the success or failure of an advertisement. The development of photographic technology has much to say about the development of visual representation mediums in terms of themes, ways of expressing them, and aesthetic innovations.

2.3. Advertisement

Advertisement is a form of media-communication activity that cannot be separated from the complexities of mass media. Advertisement is an art form; as a work of art, the elements and principles of art in advertising always accompany it. Three essential constructions in advertisement: Information, Identification, and Persuasion. This can be explained by the fact that every ad functions as a medium to convey information. The function of informing, informing something related to products and services to consumers is the primary mission of advertisement. Advertisement aims to secure the market by organizing and controlling people's tastes and behaviour. In this case, there is a shift where consumers initially looking for quality products are now producers looking for consumers [16,17]. This statement appears because of the differentiation that must be adapted to the desires and needs of consumers. For this reason, companies create product differentiation that provides more value to consumers than their competitors [18,19,20,21]. Each product needs to place its position (positioning) among other products, meaning that the products on the market have essential meaning for consumers who can differentiate them from competing products [36]. In line with this, the visual appeal, and specific products according to the wishes and needs of consumers are the attention of advertisement.

3 Methodologies

The object of this study is product advertising whose visualization uses elements of photographic images with a touch of digital-based technology (Artificial Intelligence). Meanwhile, media containing product advertising can be accessed in print media and online social media. This study used a descriptive qualitative method to explain comprehensively, assisted by various literature. The analysis is carried out based on visuality as the Visual Methodology which includes technology, image, and audience. In this context, the technology relates to the role of photographic AI technology in creating images, while the image is the work of the photo that contains aesthetic elements. Meanwhile, the audience is a group of people with social, political, economic, and cultural references that can differ when consuming a photo in advertising media.

Data collection was carried out using observation, documentation, interviews, and questionnaires. Observations were made by observing the design of product advertising in various media. By observing, one can find answers in this study, aiming to get an idea of photographic visualizations created using AI technology. Qualitative data was collected through a survey of 84 randomly selected respondents. This instrument collects information about respondents, responses to advances in digital technology/AI, visual appeal in advertisements, and manipulation of image reality/facts. Respondents were selected based on gender consisting of 42 men and 42 women. Respondents were sorted by occupation, including art/design students, design practitioners, and commercial photographers. Determining the age of student respondents between 17-25; practitioners 26-45 years. Furthermore, in-depth interviews were conducted with informants with professional backgrounds by asking several prepared questions to deepen the data to be conveyed by the informants. The questionnaire was created based on elaborating on the problems formulated in the research questions. The researchers extracted variables and aspects of AI technology advances in the field of photography in product advertising and visual appeal (visuality). Furthermore, visual communication messages on the perceptions and responses received by the audience towards visual messages resulting from AI technology.

This study describes the object studied in depth, broadly, and in detail. The value on the scale is obtained according to the response given by the respondent in each statement. The value assigned is also determined by the type of statement present in the scale. This research scale has two types of statements: Favourable and Unfavourable. Response options contained in the scale are STS (*Sangat Tidak Setuju/Strongly Disagree*), TS (*Tidak Setuju/Disagree*), R (*Ragu-ragu/Doubtful*), S (*Setuju/Agree*), SS (*Sangat Setuju/Strongly Agree*). While in scoring, to make it easier to calculate, the researcher will give four scale levels with a standard Likert scale, namely scores 1, 2, 3, 4, 5. The data obtained is then processed statistically, and scoring is according to the system applied. Scoring is done by using the Likert scale. The Likert scale can be used to measure attitudes, opinions, and perceptions of a person or group of people about a phenomenon. During data reduction, data is classified based on the theme and purpose. Tables, illustrations, figures, and quotes are used to display data. Verification is done by building linkages between data to build internal coherence. Further verification is carried out by placing the data in the context of AI technology in photography, advertising, and social culture.

4 Results

4.1. Disruption of artificial intelligence technology for product advertising photography: From analog to digital

To understand the concept related to technology is "Beyond." Beyond is technology always looks ahead and must be able to exceed or exceed what has existed before. Every presence of new technology does not eliminate the aura of existing works of art but gives new value to these new works. When photography took over the role of hand drawings in advertising graphic design, hand pictures remained and were not used. Instead, they took their path, namely, to highlight a graphic atmosphere that was distinctive and different from photography. Likewise, when digital photography replaces analog photography, it does not mean that recorded image culture is lost. The only thing that has changed is that the production system and digital images have values that are different from analog images [22]. The progress of Artificial Intelligence (AI) technology is currently one of the exciting topics. It is being discussed in various fields and points of view, from technology, philosophy, law, and aesthetics. In the context of aesthetics, Artificial Intelligence (AI) as a technology capable of processing and analyzing data brings significant changes in the creation of images (photography). A person has various kinds/types and goals in creating photographic images, including advertising photography. In this case, advertising photography is a medium for realizing aesthetic and communicative ideas. The aesthetic idea is used to enhance the power of persuasion in conveying messages, both commercial and non-commercial. A survey was conducted by distributing questionnaires to 84 respondents to observe the direction of development and advancement of AI technology in the field of advertising photography. Based on the responses of the respondents, the results of the questionnaire show: 1) AI technology helps designers and photographers in realizing ideas that are realistic to fictional (= 40%); next, design photography made with a touch of AI creates excellent appeal = 32%; design photography as a medium for conveying messages to the audience through visual support, respondents stated that the visual messages conveyed were easily accepted and understood = 28%; while related to manipulation of images made by respondents who understand/aware that the visual works (design photos) that are seen/read have a touch of digital manipulation/AI.

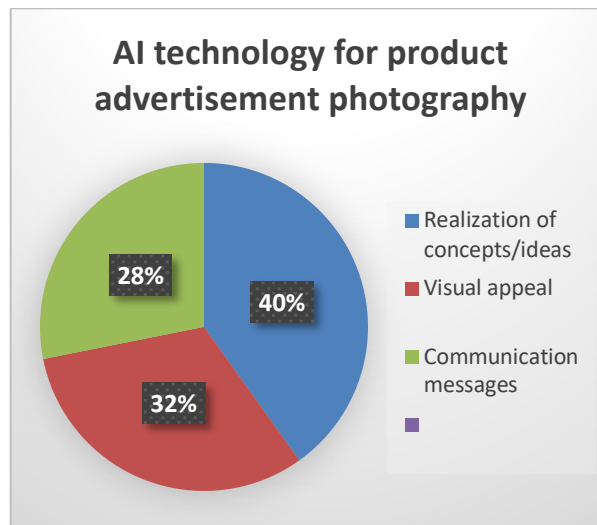


Chart 1. Survey data of respondents' choices on the implementation of AI technology (digital imaging) for advertising photography. (Source: *Data Survei* 2023)

The data above shows that the disruption of photographic AI technology has received a good response from respondents. As stated by KN (33 years old), a commercial photography practitioner as follows:

“...in my opinion, AI for photography is an advancement from film-based technology or analog to digital with various digital processing capabilities. While artificial intelligence in digital photography can be realized by marrying two processes, namely, images produced from shooting using a camera and then the images are transferred to a computer and processed with digital imaging to produce more interesting, imaginative photo images in line with the desired idea” (Interview, 26 February 2023).

Furthermore, J (24 years old) agreed with KN by saying:

“...analog/conventional photographic works in the digital era are considered too complicated and impractical. With the presence of digital-based photography, especially with advances in AI technology, photo image engineering with a particular application/software can provide flexibility in expressing ideas. These ideas are more creative and imaginative. However, the advancement of AI technology can be a concern for everyone. If they cannot adapt, they will lose their jobs

While HG (37 years old) who has sufficient experience as a graphic designer and photographer said:

“...advances in digital information technology will help and support my job as a photographer and a designer. The ideas in the analog era could not be realized, now there is no problem, especially for advertisement design or promotion the photos displayed need to be digitally engineered to make them more attractive....” (Interview, 9 February 2023).



Fig. 1 and 2: visualize an advertisement for Lux soap featuring movie star icons and the Eiffel Tower in Paris in the background. The two advertisements were created and aired at different times/eras. Figure 1 is from the analog/conventional photography era, and Figure 2 was made in the digital era. In this context, the camera is used to create photographic images, while 'artificial intelligence' is used as a means of digital processing. (Source: *Kompas*, 9 March 1978 and <https://www.bing.com/images/search?view>)

4.2. Image Artificial Intelligence Technology (AI image) as Machine Learning for Product Advertising Photography

The progress and development of image AI technology, or what can be called modern AI, is like a machine that can learn itself automatically (Machine Learning), which works connected to the network/internet [23, 24]. This technological revolution makes conventional (analog) photography seem insufficient for discourse and can no longer cope with the increasingly complicated and complex world of visuals/images nowadays. With the advancement of artificial intelligence image technology (AI image), the practice of analog/film photography, which covers all technical aspects today as an old (past) idea, has become a part of the history of photography. Artificial intelligence (AI) technology disruption is a digital mechanism created to resemble human intelligence, the aim of which is to complete various jobs, one of which is in the field of photography. AI Disruption in Photography can be seen as something positive or negative as a dynamic technological innovation. According to Don Ihde in Lim (2008), the form and impact of technology as a recurring phenomenon. This phenomenon is related to the mass response to action and reaction. Image technology plays an essential role in repetitive phenomena. Whoever has access to this technology, who controls it, and who uses it effectively will significantly influence the world of life. The role of image technology is very significant as a link for global information systems for socio-cultural changes. Questionnaires were distributed to see the effect of artificial intelligence technology in the image field. The questionnaires were distributed to 84 people with art backgrounds (photographers and designers). Based on the questions in the questionnaire to determine the effect of the presence of artificial intelligence technology in the field of photography, the results show acceptance and welcoming the presence of AI technology (positive response) = 50%; the answers of respondents who were not ready to accept the presence of AI (negative response) amounted to = 11%; while those who doubtful (compromise) = 39%.

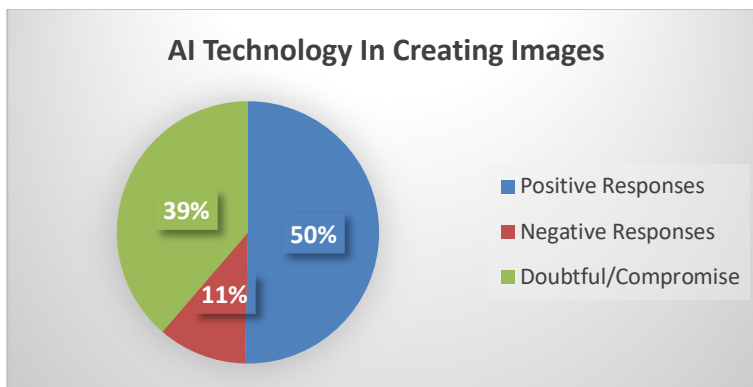


Chart 2. Respondents' preferred survey data on advances in AI technology creates images for product advertising. (Source: *Data Survei* 2023)

The graphic data above shows that AI technology has become a technology that really supports the creation of hyper-realistic (photographic) images. In addition, AI technology can also increase creativity in realizing the ideas/concepts needed by designers/photographers. In addition, the presence of modern technology makes work effective and efficient. Thus, AI in the field of photographic images received a positive response from respondents. The survey results were also strengthened by the opinions of the interviewees, as expressed by OL (29 years old), a commercial photographer:

“...I am greatly helped by this AI technology. Any idea can be realized and easier. To create an image exactly like photography, all you have to do is order with writing and it's done...fast and cheap, you don't have to have equipment such as a camera, lights, and take pictures directly on the object...” (Interview, 17 February 2023).

What OL conveyed was not much different from BWD (32 years old), who said that:

“...AI technology makes it easy for me to create images with the resulting quality very similar to photographic images. In addition, the process will be more effective and efficient. I have to keep up with the fast development of AI technology...because I'm sure there will be new opportunities. I have to be able to adapt to the progress of AI, based on the experience of development and technological progress it is impossible to stop...” (Interview, 7 February 2023).

A slightly different opinion was conveyed by a senior photographer, JWR (45 years old) who welcomed the pessimistic presence of AI in the world of photography by saying:

“...the development of AI technology that can create images without taking pictures and the results are exactly like photography...realistic and even super realistic...easy and cheap. This is a challenge that I have to face....will I still be able to get orders to take pictures in the future or not?“ (Interview, 29 February 2023).



Fig. 3 and 4: Models in Levi's brand fashion product advertisements were created using AI technology. AI technology is able to visualize hyper-realistic models, with the hope that customers can choose the desired fashion item according to their wishes, both in terms of body type, age, size and skin color. (Source: <https://www.welfare.id/>)

5 Discussions

5.1. Advances and Changes in Photography Technology for Product Advertising

The term AI (artificial intelligence) has existed since the 1950s (mid-20th century) with the concept initiated by Alan Turin, marked by the emergence of computer-based technology. Computer technology is the basis of digitization technology, which takes analog information and encodes it into zeros and ones (binary language) so that computers can store, process and transmit information [12, 23]. Meanwhile, the field of photography is marked by the automation of camera functions, such as measuring exposure, focusing, and so on. Along with advances in digital technology, digital camera products began to emerge accompanied by digital processing equipment as support, such as computers with various software/photoshop. As computers that can perform digital visual processing become more sophisticated, creators (photographers and graphic designers), find many ways to apply extraordinary new things to realize their creative visions. At the same time, digital manipulation opens up new possibilities in the field of photography, supported by the emergence of the Internet, which has accelerated the change from conventional photography practices to digital photography technology. With the sophistication of digital photography technology, the visual appearance of advertisements is better and more attractive. Ideas that previously could not be realized in the analog/conventional era have become possible in the digital era.

The era of analog/conventional photography technology reached its highest level in the 1990s and slowly began to recede as digital photography technology was discovered. At the beginning of the 21st century, photography experienced a tremendous technological revolution. Many old photography principles or ways of working have changed and have been replaced by new and easier ones. The presence of digital photography technology is “post auric.” In the analog era, the

nature of the photo/image produced was a single sheet of film. In contrast, images could be duplicated in the digital era without losing the original version. In the analog era, images are single and cannot be separated, but in the digital era, images can be engineered, cut, and merged into a perfect whole [16, 24]. Thus, the visualization of advertisements appears to convey imagination, which in the analog photography era could not be created. The development of AI in the field of photography at this time can be said to be progress in digital imaging. The process of creating images still requires the role of the camera to be used to take pictures. Therefore, the development of AI related to visual images can be referred to as static AI (static learning). In this case, working in digital processing does not necessarily require an internet network [23].

The development of digital/AI technology is enthusiastically welcomed in the world of visual communication design, especially advertising. Digital technology is then creatively applied to photographic appearances in advertisements. The development of AI technology has significantly impacted the creativity of photographers and ad design creators. Darmawati et al. (2016) and D. A. Sari (2020) stated that Lux soap advertisements experienced changes in the progress of visual presentation (see Figures 1 and 2). The presence of photographic works that used to represent reality, then with digital photography technology, the concept of representation shifted to become supernatural, full of fantasy (fictional), and imagination. It can be seen in the photographic appearances in Lux soap advertisements (see figures 1 and 2) to find out and compare how advances in digital/AI technology make it much easier and cheaper to create images. To create the work in Figure 1, a photographer and his/her team must visit a location (country) with the Eiffel Tower, Paris, as an icon and center of world beauty. Nevertheless, in Figure 2, the creation of advertising images (in the AI era) can be done without visiting the location simply by combining several images through a digital imaging process. Photography in this digital era can be engineered and manipulated according to the creator's concept [24]. The process of digital photography can modify, move, crop, overwrite, and change images without disturbing the original copy. Thus, advances in AI photography technology provide practicality and convenience for creators to create a photo/image by doing certain manipulation to make natural things supernatural, full of fantasy (imaginary), and even the impossible become possible.

Regarding photographic images in advertisements, one of the aesthetic values often carried out is Manipulation (trick effects), carried out both during shooting and post-shooting (digital imaging processing on a computer). Manipulation in advertising photography is necessary to attract and increase persuasion [27]. Advances in digital technology have shifted the concept of photographic works from reality to advertising. In principle, achieving and creating aesthetic value in advertising photography can be created by manipulating technical or non-technically (ideas). However, what is more, fundamental is how this technology is very supportive in industrial society for the benefit of visual communication.

Since the early 21st century, digital imaging has become a dominant force in commercial photography. Photography in product advertising is generally appreciated because it is known to have various communication functions, aesthetic functions, and economic functions (marketing/advertising strategy), which are very strategic for companies, individuals, and other organizations. These visual works can always express the function of persuasion through the symbols used in each object [28]. For the persuasion of photographic images with a photographic technique perfection approach, it is an attempt to utilize photographic techniques through the photographer's creativity to produce specific visualizations. Photographic images, in this case, are no different from a tool for realizing aesthetic ideas. The aesthetic experience is used to enhance the power of persuasion. In this approach, manipulation techniques or certain tricks are often used. An example of this visual persuasion can be seen in the advertisement for Lux soap (Figures 1 and 2).

The explanation above shows the development of photographic technology from analog to digital, which changes the perspective and attitude of society or individuals regarding this visual work. The changes in perspective and behavior can occur in creators or photographers creating these two-dimensional works, affecting photographic images in the product advertisement designs presented. The development of digital photography (AI) technology has made a very significant contribution to the development of modern human culture, namely visual culture. New technologies, specifically the technologies of photography, could draw invisible forces out into the open and make them conscious of how technological culture affects produces, or reproduces consciousness. The presence of new technology, incredibly photographic technology, can pull invisible forces out into the open and make one aware of how technology influences culture - producing or reproducing consciousness. Thus, the advancement of AI technology in the field of photography not only creates visual images through its fast apparatus but also has a broader influence on various fields (political, economic, social, and cultural).

5.2. Technological Leap Forward Artificial Intelligence Photography for Product Advertising

Artificial Intelligence or AI, a system or machine that mimics human intelligence to perform tasks and can continuously improve its capabilities based on the information collected, is said by Madhavan (2016) and Trivusi (2023) as machine learning. This machine, like humans, thinks and analyzes data by using previous experience or data to complete a given task. Artificial Intelligence (AI) can now make predictions or make several decisions using pre-existing data without being programmed so that the models created can produce accurate output. AI technology encourages re-perception of

what looks like and representations to produce more creative and innovative visual aesthetics. In the digital era, image/photography practices have become part of the information and communication technology discourse in which the meaning and agency of images cannot be separated from the dynamics of software culture and online platforms/internet networks.

The advancement of modern Artificial Intelligence (AI) technology in the field of photography (image) has been utilized by Levi's to support the fashion industry, including advertising models that appear hyper-realistic. Artificial intelligence (AI) has significantly contributed to improving the quality of photo images, speeding up the editing process, and enabling faster and more accurate object recognition. Levi's company considers this AI technology to help marketing by completing the model in its advertisements and hoping that consumers can see products that match what customers want. In addition, the concept that Levi's offers through models created with AI technology can create a shopping experience that is personal and inclusive (<https://www.welfare.id/>). The presentation of model photos in Levi's advertisements is no longer just the role of providing information about the value and quality of its products. However, it has become an expression of experience for its customers. Expression of experience is a form of the Experiential advertising approach [21,26].

The experiential concept in Levi's advertising aims to provide more than just information about a product or service, as well as to manage and achieve customer satisfaction through exchanging experiences on personal events that occur as a response or stimulus. Based on consumer experience, they want a product to be seen from the whole situation when consuming the product and from experience gained when consuming the product [27,29,30]. Meanwhile, Kotler & Keller (2016) says, "Experiences are private events that occur in response to some stimulation." Experiences are personal events that occur due to a particular stimulus. In connection with this study, Experiential refers to something specific to someone who can provide sensory, emotional, cognitive, behavioral, and relational values that replace functional values. The embodiment of the visual style in advertisements that express this experience can be marked by various forms of dramatized (narrated) stories, such as the dramatization of a single situation or Dramatization of a Headline as seen in the photographic images in Levi's advertisements and Lux soap advertisements (see figures 1, 2, and 3). Meanings are created to build a holistic consumer experience that involves the product within the consumer. The meaning of the product is a core factor and is considered very important in its contribution related to efforts to build consumer experience. Milano et al. (2021), said in Experiential; consumers are not only seen from a rational side but also from an emotional side. A person or consumer prefers to be entertained, stimulated, and influenced emotionally and creatively challenged. In experiential, the brand is not only a product identifier but rather a provider of a positive experience to consumers so that it can lead to consumer loyalty.

The impact of AI technology on advertising photography is the most significant change since the transition from wet plate to film. Likewise, the change from film/analog to digital cameras allowed studio photographers to skip the film processing step and shoot directly to a computer. On the other hand, AI has great potential to increase efficiency, quality, and speed in producing photographic images [12,31,32]. Advances in AI technology in photography for advertising always rely on network technology (internet). The presence of internet networks in mass media, social media, and computer technology has completely changed advertising photography to send advertising images that not only tell "how" the image is made but also convey "what message" is being communicated.

Advances in AI technology in photography today can become a new term to mark activities in creating an image/visual, which is very similar to photography but is no longer extended to photography because the principles and ways of working can be very much different from AI technology. To make images similar to reality/facts, the reader does not have to use camera equipment and has to shoot as in analog/conventional photography. The principle of conventional photography requires the main elements such as camera, light, lens, and film/CCD/CMos. However, in today's AI technology, to create photographic images, it is enough to have an idea and image to write down commands verbally (prompt). Thus, the ever-evolving AI technology revolution in photography will likely erase some, even all, of the common practice of photography so far.

Artificial intelligence (AI) is the science and engineering of intelligent machines, which involves mechanisms for carrying out a task using a computer. Therefore, artificial intelligence is a technology that enables computer systems, software, programs, and robots to "think" intelligently like humans [33]. AI, a technology that can process and analyze data quickly, can significantly change human life. However, the advancement of AI has also raised concerns about its impact on various areas of life, such as law, politics, economics, society, and culture [1,34]. AI can also replace human work in various fields, including jobs requiring specific expertise and skills, such as in the world of visual communication design. Thus, using AI has positive and negative effects, so a wise, appropriate, and integrated solution is needed.

The presence of AI technology in the field of photography is considered to have shifted the basic image transfer scheme, namely objects photographed using a camera, which is then beautified and can be engineered with software through digital imaging (photoshop). Visual imaging from the advancement of AI technology is an exciting, revolutionary step in visual/image creation. It marks the end of the darkroom (camera) as the principal place for creating photographic images.

Photographers no longer capture a slice of time but can manipulate it to magnify ideas about what constitutes reality. This transformation offers new possibilities for imaging and understanding the visual world in new and different ways. These AI technologies have led to new tools for creating still images, such as deep fakes, mid-journey, *et cetera*.

Every presence of new technology always has implications for changes in perspectives, attitudes, and new ideas toward these new technologies, as AI technology for photography shifts one's perspective and attitude in creating visual works or images. Technology has a huge role and is an agent of change in various aspects, such as politics, society, culture, and economy [35]. Therefore, pro and contra issues cannot be avoided over the occurrence of changes in various points of view. Likewise, the advancement of AI technology in photography for advertising has raised the pros and cons of the impact it will have. AI-generated visual photography has had a significant impact on the commercial photography industry. For this reason, commercial photographers must quickly adapt to a changing market because it is likely that more and more industries are choosing AI-generated photos over conventional photos. For example, Levi Strauss & Co. has used AI photo models to automate its fashion industry. The company chooses AI technology for its advertising model photos and is estimated to save costs and earn more than 100 million dollars in annual profits. However, the negative impact was the loss of 800 jobs [36].

The development of AI, which is very significant explicitly, greatly influences human social life in all fields. It is estimated that in the next few years, several jobs will disappear following this AI technology's continued development. This threat of job loss occurs due to the adoption of several technologies, especially AI and automation. This was revealed from the World Economic Forum (WEF) report entitled 'Future Job Survey,' which predicts that the technological revolution will become increasingly massive, driven by artificial intelligence and automation [37,38,39,40]. Another issue with current photographic AI is an ethical issue and has potential legal issues. AI-created photography has the possibility that the image source produced by AI takes a vague reference. An essential aspect of AI-generated photography is the ethical implications of its use. Thus, advances in AI technology have positive and negative influences that need to be anticipated. However, technological developments and advances are undoubtedly unavoidable. Therefore, a wise and adaptive attitude is needed by all parties.

6 Conclusions

This study finds that conventional photographic technology creates a representation of reality, while AI technologists create hyper-realistic images without using a camera. Advances in AI technology can increase efficiency and productivity in creating visual works. Besides that, AI technology has a positive correlation with the world of advertising (advertising) but has a negative influence on various aspects of life (social, political, cultural, and economic). Furthermore, advances in AI technology in ad visualization can provide meaning in a functional context as well as an aesthetic context. In a functional context, images in advertisements are created to help persuasively market products and services to target audiences. In an aesthetic context, images in advertisements can reflect the style (visual characteristics) according to the era.

This study contributes to understanding the resulting implications for the progress and development of AI technology in photography with its various influences. Thus, this study offers insights that can guide the impacts faced in the future. That is, people need to be adaptive and adapt to these technological advances rather than face them with apathy. In the era of AI technology, which is very democratic in adopting the development of this era, what needs to be done is to study it to know and fully understand AI and then live side by side to look for potential possibilities that can be achieved and developed.

This study is limited to reading and understanding advances in AI technology in the field of photography, specifically in the advertising scope. Meanwhile, the advancement of AI technology has a vast area that can be used and developed for various fields (health, transportation, banking, finance, industrial engineering, *et cetera*). With the study's limited scope, it cannot produce more comprehensive knowledge. Therefore, it is possible for future studies to use a larger population and sample, as this will map, contextualize, and understand the arguments in favor of further developments in AI technology.

7 Recommendations

This research recommends an accommodative and adaptive approach to innovation from Artificial Intelligence (AI) technology. It is necessary to immediately create laws regarding regulations for works produced by Artificial Intelligence (writing, sound, images, *etc.*) as copyright, ethical and legal protection.

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Conflict of interest

The authors declare that there is no conflict regarding the publication of this paper.

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