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FROM RENAISSANCE TO ROBOT: PARADIGM SHIFTS IN VISUAL ART

Mumtaz Mokhtar[1*)], Wan Samiati Adriana Wan Mohd Daud[2)], Nabilah Mudzafar[3)]
[1,2)]Faculty of Art & Design, Universiti Teknologi MARA,
Shah Alam, Selangor, 40450 Malaysia
[3)]Faculty of Art & Design, Universiti Teknologi MARA Selangor, Puncak Alam Campus,
Bandar Puncak Alam, Selangor, 42300 Malaysia
**Pos-el: mumtaz059@uitm.edu.my*

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Abstract

This paper investigates the paradigm shifts in art from the Renaissance to the contemporary digital age, emphasizing how technological innovation has redefined the value, function, and perception of art. During the Renaissance, art embodied humanistic ideals and served as a medium of communication between the artist and the audience through form, symbolism, and mastery of technique. In contrast, the advent of machines, robotics, and artificial intelligence has transformed the processes of creation, authorship, and aesthetic judgment. These developments challenge traditional notions of artistic authenticity and raise questions about the evolving relationship between human creativity and algorithmic generation. By tracing the historical continuum from the Renaissance's pursuit of perfection to the AI era's pursuit of simulation and automation, this study critically examines how the meaning and worth of art have been renegotiated. It concludes by calling for a re-examination of art education to sustain authenticity and critical engagement in an age where human and machine creativity increasingly intersect.

Keywords: *Paradigm shifts; Art evolution; artist's role; AI-generated art; Visual culture*

INTRODUCTION

The development of art is closely tied to several questions: when was it produced, who created it, what criteria define something as art, and how do people understand it? These questions become more complex as different artists introduce unique styles, often interpreted within various contexts. Additionally, art forms have evolved significantly over time, influenced by factors such as era, location, social circumstances, and culture since Prehistoric, Ancient, and Medieval periods.

Today, technological advancements have introduced innovative works, offering new and exciting forms that sometimes defy traditional expectations. The creation of art through machines has demonstrated remarkable intelligence, enabling the production of art quickly and in captivating ways. Over time, the evolution of art reflects changes that deserve appreciation, as they help to deepen our understanding, invite more diverse ideas, and guide the development of art in meaningful directions.

This paper adopts a historical and conceptual mapping methodology to trace paradigm shifts in art from the Renaissance to the age of artificial intelligence. The approach involves analysing texts, artworks, and theoretical discourses from different eras to understand how the form, function, and cultural significance of art have evolved.

By comparing across historical periods, the study highlights transformations in the role of the artist, the creative process, and audience engagement. This methodology is particularly relevant for examining paradigm shifts because it situates artistic practices within broader cultural, social, and technological contexts, thereby allowing a critical understanding of how past frameworks inform contemporary debates on AI and creativity.

In this context, the paper examines paradigm shifts in art from the Renaissance to the present, emphasizing how the form, function, and cultural significance of art have evolved.

LITERATURE REVIEW

Existing scholarship highlights how art has undergone significant paradigm shifts from the Renaissance to the present, with transformations in form, function, and cultural significance shaping its development. Traditionally, art has been understood as a medium of communication between artist and audience, articulated through diverse visual languages, media, themes, and styles. However, studies on the impact of technology, particularly the rise of machines, robotics, and artificial intelligence, demonstrate how the nature of artistic production and reception has been fundamentally altered. These technological interventions have not only redefined the role of the artist but also reshaped audience perception and appreciation, situating contemporary debates within broader cultural and aesthetic transformations.

The Renaissance Period

In the 14th century, a significant development in visual art known as the Renaissance began, primarily centered in Italy and later spreading to other parts of Europe, including Germany and England. Honour and Flemming (2005) referred to this period as the 'rebirth of classical culture'. The term Renaissance, meaning "rebirth" in French, highlights this revival of ancient knowledge and traditions, emphasis on critical thinking, scientific inquiry, and artistic expression. The Renaissance saw advancements in a wide range of fields, including astronomy, language, painting, and sculpture.

Renaissance art introduced several key philosophical concepts, including humanism, naturalism, idealism, and secularism, while encouraging individual styles among artists. Perspective and proportion also became fundamental concepts in Renaissance art.

Humanism originated from the term studia humanities and was popularized by the work of historian Jacob Burckhardt. According to Robert Wilde (2020), humanism encouraged a focus on human experience, promoting the idea that humans possess the ability to think and act independently rather than blindly following religious doctrines. Realism in Renaissance art involved the use of scientific techniques to incorporate emotional depth and lifelike representation. For example, Renaissance artists often created representational images that appeared natural and true to life.

The style of Renaissance art emphasized the artists' observations of life and beauty. They aimed to create art that closely resembled real or natural objects. As a result, both

painting and sculpture were crafted according to natural laws, with artists striving to depict the world and the human figure as realistically as possible.

Artists paid close attention to the correct ratios and anatomy in their works. To accurately capture what they observed, they mastered the manipulation of light and shadow. Filippo Brunelleschi's development of perspective, for example, introduced the illusion of depth and space in two-dimensional art. This advancement significantly enhanced the visual representation of space. Additionally, the chiaroscuro technique, famously applied by Leonardo da Vinci in his Mona Lisa, utilized highlights and shadows in precise areas, while sfumato created a soft, layered effect that made figures appear incredibly lifelike.

While previous era focuses on natural media such clay, bricks and organic medium, Renaissance artists perfected the use of oil paints, with meticulous attention to detail. They carefully rendered fabric folds and applied delicate brush strokes to create realistic textures on skin.

In contrast, Impressionism, as seen in the works of artists like Édouard Manet, Edgar Degas, and Auguste Renoir, focused on capturing moments of modern life. Their paintings often depicted outdoor scenes and social activities, such as picnics and cafés, using loose brushstrokes and a more spontaneous style (Ocvirk 2013).

The Modern Art Period

As artists gained the freedom to express their interpretations, their work began to reflect an increasing variety of styles. These styles emerged from their reflections on the world and the different ways they approached it. Modern art encompasses several key characteristics, including abstract representation, innovative techniques, self-expression, subjectivity, rejection of traditional values, and the influence of technology. It is a reflection toward steam technology under Industrial Revolution 1.0. These characteristics were explored in various art styles or ism.

The modern art period began in the 18th century (1780–1900). Art scene established movements such as Neoclassicism, Romanticism, Realism, and Impressionism. It continued into the 20th century (1900–1955) with styles such as Expressionism, Cubism, Futurism, Abstract Art, Constructivism, Dadaism, and Surrealism.

Neoclassicism was a movement supported by the French government, particularly the French Royal Academy of Arts and Letters, under King Louis XIV, and spread to other parts of Europe. It was also influenced by Johann Joachim Winckelmann, who distinguished between Greek and Roman classical art. Neoclassical art is characterized by softer, more ornamental, and often romantic imagery.

In late 18th century to early 19th century, Romanticism and realism appear in global art scene. Romanticism rejects conditions that ignore humanity while realism highlights the real situation of human life with the exposed impact of steam technologies and mechanical power.

In Romanticism, artists added dramatic and sensational elements, sometimes exaggerating figures and actions, and using strong contrasts of light to enhance the

narrative. Compositions often featured diagonal arrangements and thick applications of oil paint, as seen in Eugène Delacroix's The Death of Sardanapalus (1827). The Romantic era was also influenced by literary works, including novels, poems, and plays by writers like Shakespeare.

Realism artists choose existing social lifestyle from 1850-1870 like farmers, actors, refugees and working-class people as subjects in their artwork. All conditions are transferred to the canvas as they are and brought to the event, location, and its time. Realism works have connected with the exploration of photography besides photography was accepted as artform. The photographers at the same developed their artistic approach and tried to applied effects of lighting such in paintings. With the development of photography technology (wet plate to dry plate, faster exposure of image making) photographers establish photography production called pictorialism. Industrial revolution 2.0 took place in late 19th century to early 20th century where several art styles were established such as impressionism, expressionism and cubism. At that time, electricity, mass production, transportation are the highlights.

In the 1860s, Impressionist art continued to focus on real-life situations. Artists like Edgar Degas and Auguste Renoir frequently painted outdoor scenes and community activities. Compared to realism, impressionist artists not only refer to outdoor as reference subject. During this time, painting outdoors became essential for capturing the effects of natural light, which significantly influenced color. The study of color among Impressionist artists was closely tied to light, focusing on how they perceived their subjects and how the audience would interpret the effects of color and brushstrokes on the canvas. In Sunday Afternoon on the Island of La Grande Jatte, Georges Seurat applied small brushstrokes to explore color relationships between objects. He understood that light travels in straight lines and reflects, meaning each object is painted with multiple colors that correspond to the colors of surrounding objects in the environment.

In 1910, a new style emerged in France and Germany, introduced by young artists who prioritized expressing internal emotions over depicting external forms. Their brushstrokes became freer, guided by their feelings. These artists embraced decorative, colorful, spontaneous, and intuitive qualities, as seen in Henri Matisse's Odalisque with Tambourine. This approach reflects the characteristics of Expressionism.

Artists continue to express their ideas using their unique abilities, constantly offering new and diverse perspectives. Cubist artists for example, viewed objects in their most basic forms, focusing on geometric renderings appear transparent because they depict subjects from multiple angles simultaneously, suggesting a deeper understanding of the object's structure, as if one could see through it.

In the early 20th century, the presentation of images became increasingly blurred and abstract, particularly with the rise of abstract art. Futurism, for example, used fast strokes of color to emphasize subjects to show technological advancement, youth activities, and elements of modernity. In contrast to the Renaissance approach, some artists turned to anti-art as a reaction to the chaos of World War I. This led to works that highlighted illogical and absurd situations. Marcel Duchamp, for instance, presented

found objects in galleries, considering them as part of the Dadaism movement.

In addition to futurism, in 1913, Russian artists introduced Constructivism, a style that focused on urban landscapes and modern society. Architectural forms and geometric shapes dominated their artwork, with glass often being painted to highlight its edges and transparency. Meanwhile, Surrealism featured realistic-looking images with dreamlike, illogical narratives. Artists in this movement explored the unconscious mind, heavily influenced by the ideas of Sigmund Freud.

Contemporary Art Period

The contemporary art period was influenced by the 3rd Industrial Revolution, marked by the rise of electronics, telecommunications, computers, and the digital revolution.

Prior to contemporary period, Pop Art emerged in England in the 1950s and in the United States in the 1960s. During this time, television became an important electronic device, providing entertainment that was often repeated, which contributed to the rise of popular culture. Artists incorporated these popular elements into their work, creating a style known as Pop Art. Inspiration came from television, advertising, comics, newspapers, celebrities, and mass production items.

For example, Andy Warhol's Marilyn Monroe (1967) show up popular actress, and 100 Cans (1962) featured repeated images of soup cans, reflecting the impact of mass production on society, especially in food consumption. Pop artists also used techniques such as collage and silkscreen printing to create sharp edge images, opaque and flat color, and emphasized principles of repetitions and balance composition.

The contemporary art period is closely related to the diverse art styles that emerged in the late 20th century, including Conceptualism, Neo-Expressionism, Installation Art, Street Art, New Media Art, and Feminism. Contemporary art is strongly tied to culture, and these styles often reflect various social, political, and technological themes. Artists also continue to explore the latest available technologies, leading to discoveries in media and experimental approaches. With the rise of computer technology, new ways of visualizing images have emerged, expanding the picture plane into multiple dimensions of space, size, nature, medium and interactivity.

Conceptual art, for instance, focuses on the idea or concept behind the work, prioritizing intellectual content over formal aesthetics. The meaning behind the artwork is considered more important than its surface appearance. It emphasizes intelligence and ideas driving creation. A key exhibition that marked this shift was Information at the Museum of Modern Art in 1970, which transitioned art from an emphasis on form to conceptual expression. Artists used a wide range of media; text, images, photos, charts, tables, maps, printed items, and even real objects; to convey ideas. These materials were often reflections on film, advertising, and cinematic perspectives.

Later, Neo-Expressionism emerged in the 1980s as a response to conceptual art. Neo-Expressionist works are characterized by aggressive brushstrokes, larger strokes, and vivid colors. This movement opposed the restrained minimalism of the 1970s, which

explored materials like metal, welding, plastic, and plywood.

As painting expanded to larger canvases, sculpture evolved into spatial environments, giving rise to installation art. This three-dimensional form of art became more immersive, allowing the audience to engage physically with the work. Installations often involved site-specific environments and utilized a variety of media, including tangible objects, video, sound, and performance.

Feminism also became an important trend in the 1970s. Female artists gained visibility, addressing gender issues through their work. One prominent example is The Dinner Party by Judy Chicago (1979), a feminist artwork that employed mixed media such as ceramics and embroidery and brought attention to women's contributions in art and society.

Street art starts when graffiti was accepted as art and became an aesthetic phenomenon (Bijoor and Abnave 2015), Bijor confirmed that street artists create street art which function to political protest, reclaim, and assert themselves. The artworks are displayed in public spaces and buildings where community can engage with the artwork.

AI And Robot

Since the 1970s, the application of computers as digital tools in art has led to the establishment of several art styles and introduced new art terminologies. Digital art has been utilized both as a tool and a medium. Christiane Paul (2008) notes that computers were being explored in art as early as the 1960s. Michael A. Noll from Bell Laboratories, for instance, created computer-generated images such as Gaussian Quadratic (1963). This work was exhibited at an art showcase called Computer-Generated Pictures at the Howard Wise Gallery in New York. Since then, many artists, photographers, and video and performance artists have experimented with digital technology to create digital art, film, video, internet art, software art, virtual reality, augmented reality, and sound and music art.

Digital art evolved from computer art in the 1970s, followed by multimedia art. It later transitioned to new media art, which became an umbrella term encompassing various digital forms such as film, video, sound art, and hybrid art. The significance of new media art lies in its emphasis on the "new," which refers to the novel possibilities it offers for artistic creation (Paul 2008). In this context, digital technology functions both as a tool for artists to produce traditional art forms like photographs and prints, and as a medium for production, storage, and presentation of digital artworks.

In the early 20th century, internet artworks were seen as inseparable from technology and politics. Many artists explored themes of information, communication, and interaction, introducing new vocabularies (Greene 2004). In their work, artists often played the role of a medium, especially in performance art and relational aesthetics.

Industrial revolution 4.0 introduced various technologies such as nano technology, big data, and sky net. It expands digital art and new media art into more adventures driven by artificial intelligence and robotics. In that condition AI generated art was introduced. Artist explores reality, augmented reality and interactive installation. At the same time

NFT (Non- Fungible Tokens) was introduced which art market was transformed that sell digital artworks progressively through blockchain technology. NFT was seen as unique, part. Of digital assets and proved ownership of an original digital work (Martínez 2023).

Eva Cetinic and James She (2022) illustrated technology milestone that influences AI technology which starts with GAN (2014) followed by Deep Dreams (2015), Neural Style Transfer (2016), AICAN (2017) and currently DALL-E (2021). They found that AI art indistinguishable from human-made art, perceived as surprising and interesting or aesthetically pleasing.

Enrique Martinez (2023), which refers to Oxford Artificial Intelligence, AI is defined as the usage of computers and machines that seem to be humans that solve problems and make decisions. He continued; AI systems work by combining large data sets and using algorithms to identify some patterns and characteristics of the analyzed data. Digital artists encode art with complex structure and information. If art was previously appreciated in a formal form containing implicit meaning, the art produced by AI is presented numerically containing undisguised data or information.

GAN is short for Generative Adversarial Network, a kind of machine learning algorithm. It consists of two deep neural networks. One is generator which creates images and another one is discriminator that evaluates whether the image is real or generated (or fake) (Amazon Web Service 2024). Artists generate visual artwork with two options. First, creating visual images by writing prompts, second option is artist providing scan image or photo to be enhanced (generated). Additionally, GAN can transfer 2D image into 3D models as well. In advance, certain images of figures become more realistic by combining x-ray image and the figure photo image.

Deep Dream is an artificial intelligent art generator which was established in 2020. Deep Dream Generator or DDG introduces a platform for artists to offer many ranges of visual art styles from photo realism to expressive strokes based on artist flairs (Deepdreamgenerator 2024). Deep dream allows artists to write a prompt and click to the button to get new generated image which is also called as text-prompt-based image. This kind of artwork basically offers in distinguishing human art skills. In this year DDG also announced to offer animation art and video generated too.

DALL-E is another AI image generator through prompts. Dalle-E website (DALL-E AI 2024). powered by Dream Vibe Ai Studio offers public a platform to translate ideas into images. Users just write certain sentences of instruction or called as prompts, then the website will provide several images to be reviewed or chosen. If the user is not satisfied with the proposed image, the user may refine their prompt to a better way or make it more specific to their need. The website will provide another image as stated in the prompt and available to be downloaded. Instead of prompts, users can also ask for a generated image based on image provided.

Instead of Ai-Da, there are several robots that can draw such as Ameca. Ameca draws the vector of cat on canvas using pen based on open-source neural network and puts a signature on the bottom page as her own masterpiece. A humanoid robot developed by Hanson in 2016 named Sophia the robot also proved that she could draw a portrait.

These three figures illustrate an artistic exploration using AI prompts that evolve in complexity and style. The first presents a naturalistic still life with a cat among fruits, echoing traditional compositional balance. The second situates the scene beside a window, where sunlight introduces depth, contrast, and atmosphere, linking interior stillness with exterior vibrancy. The third transforms the same setting through Van Gogh's impressionist brushstrokes, replacing realism with expressive rhythm and color. Together, they demonstrate how prompt variation shifts artistic tone, mood, and interpretation.

Not even the introduction of AI assists artists or users to create art, but AI in robotic technology expands the ability to create art become real. Katy Cowan in Creative Boom (2019) exposed Ai-Da the robot that engineered with Robo Thespian body and able to make painting like human artist using AI processes and algorithm. Moreover, Ai-Da established her solo exhibition at Oxford University showcases her painting and sculpture works.

METHODOLOGY

This study adopts a historical and conceptual mapping approach, as it traces paradigm shifts in art from the Renaissance to the age of artificial intelligence. This involves analyzing texts, artworks, and theoretical discourses from different eras to identify how form, function, and cultural significance of art have evolved. Figure 1 illustrate the methodology of this study. By comparing across periods, the research highlights the ways in which the role of the artist, the creation process, and audience engagement have been transformed. This approach is particularly suited to examining paradigm shifts because it situates artistic practices within broader cultural and technological contexts, allowing for a critical understanding of how past frameworks inform contemporary debates on AI and creativity.

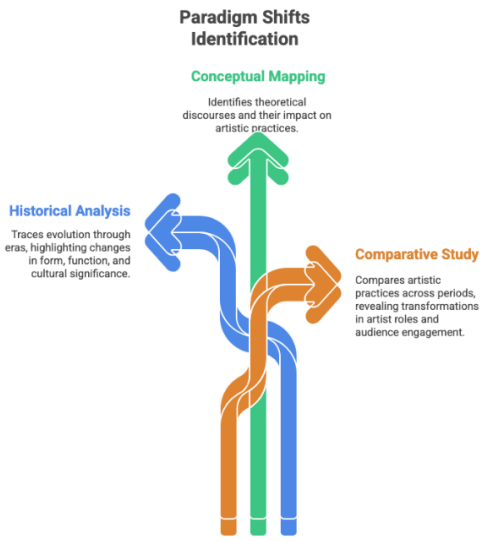

Figure 1. Paradigm Shifts Identification Framework.

RESULTS

The Paradigm Shifts

Art production has continuously evolved due to several factors, resulting in significant changes in both the forms of art and the role of the artist. The Industrial Revolution, new ideas, and emerging issues have all contributed to these paradigm shifts, leading to transformations in how art is viewed and appreciated. For example, Renaissance artists such as Leonardo da Vinci created painting (Figure 2a) through careful consideration, combining scientific knowledge with critical visual understanding. Their visual language became a direct expression of the artist's state of mind.

Figure 2a. Monalisa, c.1503
Image source: Wikipedia website, https://en.wikipedia.org/wiki/Mona_Lisa

Table 2b. The left light brightens; the opposite side darkens.

Table 2c. The arrangement directs active visual engagement.

Figure 2d. Use of sfumato and anatomical precision.

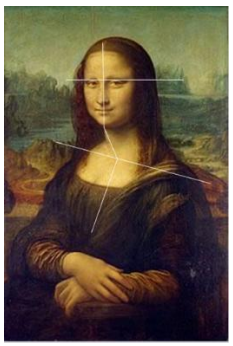

Figure 2e. A contrapposto pose adds movement and balance.

Table 2b visualised his approach in the creation of the *Mona Lisa* which emphasizes a meticulous study of how light affects the formation of the human figure. Artist paid close attention to the position of the subject, the direction of the figure's gaze, the focal point he wanted to highlight, as well as the angle of the light source and the resulting shadows. Every element was carefully considered to achieve a lifelike and harmonious visual effect. In Table 2c, the placement of the shoulders, arms, hands, and fingers is arranged harmoniously, reflecting the natural posture of an elegant woman. These elements guide the viewer's visual direction—the positioning subtly leads the eye across the entire figure, suggesting that multiple layers of meaning are being communicated within the painting. Figure 2d shows Leonardo combined scientific knowledge and artistic language simultaneously. His layered brushstrokes called sfumato technique reveal a deep understanding of human biology and demonstrate his mastery of anatomical structure in depicting the figure. Finally in Table 2e, Leonardo shaped the figure using a technique known as *contrapposto*, where the shoulders turn slightly to the left, the hands are positioned in the opposite direction, and the eyes gaze forward. This interplay of opposing directions creates a dynamic sense of balance and movement within the figure.

In contrast to the Renaissance method, which involved extensive observation and analysis, the author experimented with creating an artwork using AI. The author simply described the desired image by inputting a limited set of keywords. These words were combined into a prompt and entered into the Davinci system. Within a short amount of time, the system visualized the image based on the data it was trained on Figure 3a – 3c illustrate how AI adapts to prompt complexity while enabling human–machine collaboration in visualization. In Figure 3a, a basic prompt ("cat, fruits, and still life setting") generates a clear, classical composition. The generated image features a cat as the main subject, accompanied by several citrus fruits arranged beside it. The image appears almost photographic, with the lighting coming from a window on the left side. While in Figure 3b, adding context ("beside window and sunlight") enriches depth and atmosphere, showing AI's capacity to follow nuanced instructions. The addition of the elements "beside the window" and "sunlight" caused the cat to appear smaller in scale, allowing the window to become more dominant in the composition, with stronger contrasts of light and shadow. Finally in Figure 3c, the most complex prompt ("with Van Gogh brush stroke and impressionism style") transforms realism into expressive interpretation. This progression highlights how human input guides AI's creative output, producing evolving artistic possibilities through collaborative interaction. The prompt "with Van Gogh brush strokes and Impressionism style" resulted in brushwork applied in multiple directions, especially in the background of trees and foliage. The tin container holding the grapes also displays visible brushstrokes in varying blue tones, ranging from bright to deep. There is an orange reflection on the container, produced by the surrounding citrus fruit. Overall, the brush application on the fruits, wall, window panel, and table surface clearly reflects Impressionist characteristics. However, the image does not show a distinct or personal style; instead, it appears more generic. This may be because the

prompt used was not complex enough to generate a more unique visual identity from the author's intention.

Figure 3a: Prompt by Mumtaz. (23 Sept. 2025),, Cat, Fruits and Still Life Setting, Davinci AI, https://davinci.ai/app

Figure 3b: Prompt by Mumtaz. (23 Sept. 2025),, Cat, Fruits and Still Life Setting, Beside Window and Sunlight, Davinci AI, https://davinci.ai/app

Figure 3c: Prompt by Mumtaz. (23 Sept. 2025), Cat, Fruits and Still Life Setting, Beside Window and Sunlight with Van Gogh Brush Stroke and Impressionism Style, Davinci AI, https://davinci.ai/app

The evolution of art reveals significant shifts in various aspects, including creativity, materials, authenticity of production, audience perception, and value. As a result, the role of the artist, the nature of the artwork, and the way it is received by viewers have also transformed. Table 1 summarizes the paradigm shifts in art from the Renaissance to the era of AI.

The Role of Artist

The role of the artist has been shaped by cultural, social, and technological changes throughout history. During the Renaissance, the rise of the individual artist became essential. Artists like Leonardo da Vinci, Raphael, and Michelangelo were seen as creative geniuses rather than mere craftsmen. They were celebrated for their intellectual contributions to art and their technical mastery. Humanism, naturalism, and individualism became central to the Renaissance because they aimed to represent human experience more accurately and beautifully. Artists began to emphasize science, anatomy, and the natural world in their work.

In the modern art period, the artist was viewed as an innovator and experimenter. Movements such as Romanticism, Realism, Impressionism, Expressionism, and Cubism emerged. Artists were no longer bound by religious or state commissions, as was common in prehistoric and ancient times. Contemporary artists, working within movements like Conceptual Art, Installation Art, and New Media Art, are known for their ability to generate ideas. The conceptual framework behind art has become more important than the physical form. Visual language has expanded, especially in digital art, where traditional elements such as line and color have shifted to visual effects and data forms. Principles of art have also evolved, incorporating elements like automation and numeracy.

In the AI-driven era, artists collaborated with machines in creating art. AI allows those without manual artistic skills to create works by refining prompts and controlling the output. While humans still make creative decisions, AI offers extraordinary possibilities through machines that can act independently, based on data and sensory technologies. However, robots nowadays can draw extra ordinary possibilities and are still important study today.

Form

In the Renaissance, perspective and proportion became essential principles in art, with a more scientific approach to representation. Modern art forms broke traditional conventions, focusing on personal expression and unique perspectives. Artists such as Van Gogh, Picasso, and Matisse experimented with color, form, and brushstrokes. Contemporary art addresses political, gender, and social issues. It has become more dynamic, often inviting audience participation. Art forms such as performance art, relational aesthetics, and digital works have expanded the visual language to include elements of time, space, and virtuality. AI and algorithms have introduced machines into the creative process, shifting the visual language from analog to digital. These works exist virtually and can be printed, with AI-based creations often exhibited online and sold on NFT platforms.

Audience

In the Renaissance, artworks were appreciated by patrons and wealthy families. Artists were recognized as skilled craftsmen who also conveyed personal vision. Modern artists were seen as challengers of societal norms, critiquing modern life through their work. The mass production of art and popular culture during the Industrial Revolution further shifted audience perception. In contemporary times, especially with the emergence of the Third Industrial Revolution, art became more complex. The introduction of computers expanded the scale of artworks, both physically and virtually, requiring audiences to adapt to new forms of visual language that incorporate elements like time, space, and interactivity. Audiences must now engage intelligently with works, understanding how AI helps artists in the creative process. Digital literacy and a higher digital quotient are necessary for fully appreciating AI-generated art. The paradigm shifts above are summarized in Table.

Table. Paradigm shifts of Art from Renaissance to AI

Aspect	Renaissance	Modern	Contemporary	AI Era
Role of Artist	Individual, creative geniuses, humanism centered	Innovator and experimenter, breaking norms	Conceptual thinker, ideation-based	Collaborator with AI, decision maker through prompts
Art Form	Scientific approach, focus on humanism	Personal, expressive and experimental	Engage with political, social issues, dynamic forms	Digital, virtual, data-based, exhibited online, NFT based
Audience	Patron and wealthy families, personal vision	Challenged societal norm, mass production	Interactive, requires deeper engagement and understanding	Require digital literacy, AI and machine understanding

CONCLUSION

This study concludes that the evolution of art from the Renaissance to the era of artificial intelligence marks a profound transformation in its value, function, and creative agency. While Renaissance art embodied the human pursuit of mastery, meaning, and divine order, contemporary AI-driven practices challenge the very foundations of authorship, originality, and authenticity. This research contributes a historical–critical framework that situates AI art within a continuum of paradigm shifts, offering a deeper understanding of how technological mediation redefines the essence of creativity and artistic labor.

By establishing this dialogue between humanist traditions and algorithmic creation, the study underscores that the significance of art now lies not only in production but also in the negotiation between human intention and machine intelligence. This positions the artist as both creator and curator within hybrid systems of making and meaning. The findings therefore provide valuable insights for art and design education—calling for pedagogical models that integrate critical, ethical, and creative literacies suited to post-human aesthetics. Ultimately, this research advances the discourse on art's evolving ontology, affirming that the preservation of human sensibility remains essential even as artistic value becomes increasingly intertwined with technological intelligence.

REFERENCES

Amazon Web Service. 2024. *What Is GAN*. https://aws.amazon.com/what-is/gan/

Bijoor, S., & Abnave, V. (2015). Street art as a form of contemporary transnational protest. *Journal of Visual Culture*, 14(3), 321-335. https://doi.org/10.1234/jvc.2015.0143

Cai, M. (2024, April). Digital intelligence quotient: A new way to promote the digitization of higher education. In *Proceedings of the 3rd International Conference on Internet Technology and Educational Informatization (ITEI 2023)* (pp. 45-52). Springer. https://doi.org/10.1007/978-3-031-12345-6_5

Cetinic, E., & She, J. (2022). Understanding and creating art with AI: Review and outlook. *ACM Transactions on Multimedia Computing, Communications, and Applications*, *18*(2), 1–22. https://doi.org/10.1145/3475799

Chatterjee, A. (2022). Art in an age of artificial intelligence. *Frontiers in Psychology*, *13*, 1024449. https://doi.org/10.3389/fpsyg.2022.1024449

Cowan, K. (2019, June 4). Meet Ai-Da—the world's first robot artist, capable of drawing people fromlife.*Creative Boom*. https://www.creativeboom.com/news/meet-ai-da-the-worlds-first-robot-artist-capable-of-drawing-people-from-life/

DALL-E. (2024). *DALL-E: Your gateway to creative imagining*. [Computer software]. OpenAI. https://openai.com/dall-e-

Deep Dream Generator. (2024). Free AI art generator [Online platform]. https://deepdreamgenerator.com/

Dimitrakaki, A. (2018). Feminism, art, contradictions. *e-flux journal*, (92). https://www.e-flux.com/journal/92/

Garzaniti, M. (2020). Humanism, the Renaissance and Russian culture between the 15th and 17th centuries: Preliminary thoughts. In I. Smith (Ed.), *Rethinking the Renaissance: New Perspectives on Eastern Europe* (pp. 112-130). Cambridge University Press.

Honour, H., & Fleming, J. (2005). *A world history of art* (7th ed.). Laurence King Publishing.

Hutson, J., & Harper-Nichols, M. (2023). Generative AI and algorithmic art: Disrupting the framing of meaning and rethinking the subject-object dilemma. *Global Journal of Computer Science and Technology: D*, *23*(1), 15-30. https://doi.org/10.1234/gjcstd.2023.2301

Levin, I., & Mamlok, D. (2021). Culture and society in the digital age. *Information*, *12*(2), 68. https://doi.org/10.3390/info12020068

Martínez, E. (2023). AI: Artificial intelligence, a primer for artists. *Proceedings of the International Scientific Web Conference*, 83–93. https://doi.org/10.1234/iswc.2023.0008

Marzano, G. (Ed.). (2022). *Sustaining creativity and the arts in the digital age*. IGI Global. https://doi.org/10.4018/978-1-7998-1234-5

Ocvirk, O. G., Stinson, R. E., Wigg, P. R., Bone, R. O., & Cayton, D. L. (2013). *Art fundamentals: Theory and practice* (12th ed.). McGraw-Hill.

Paul, Christiane. 2008. *Digital Art*. 2nd ed. World of Art. Thames & Hudson.

Ragot, M., Martin, N., & Cojean, S. (2020, April). AI-generated vs. human artworks: A perception bias towards artificial intelligence. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1–6). https://doi.org/10.1145/3334480.3382892

Rai, R., Tiwari, M. K., Ivanov, D., & Dolgui, A. (2021). Machine learning in manufacturing and industry 4.0 applications. *International Journal of Production Research*, *59*(16), 4773-4778. https://doi.org/10.1080/00207543.2021.1956673

Rithcher, I. A (1980), Notebooks of Leonrdo da Vinci, New York, Toronto, Melbourne: Oxford University Press,

Rush, M. (2005). *New media in art* (2nd ed.). Thames & Hudson.

Tyler, C. W. (2020). The intersection of visual science and art in Renaissance Italy. *Perception*, *49*(12), 1265-1282. https://doi.org/10.1177/0301006620968242

Wilde, R. (2020, February 11). A guide to Renaissance humanism. *ThoughtCo*. https://www.thoughtco.com/renaissance-humanism-p2-1221781

Yang, J., Wang, C., Jiang, B., Song, H., & Meng, Q. (2020). Visual perception enabled industry intelligence: State of the art, challenges and prospects. *IEEE Transactions on Industrial Informatics*, *17*(3), 2204-2219. https://doi.org/10.1109/TII.2020.2992345