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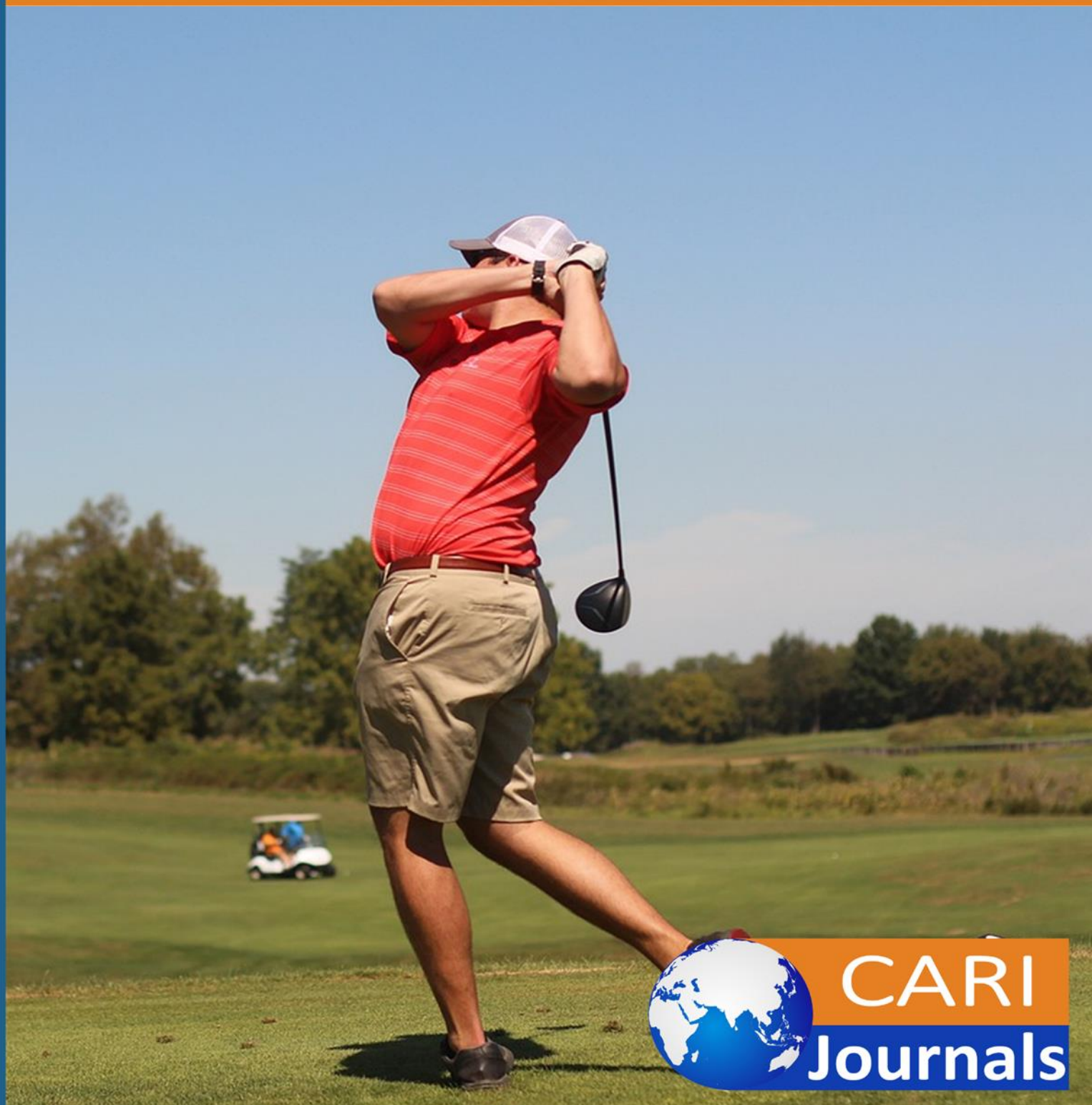

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Artificial Intelligence in Digital Art: A Comparative Analysis on Impacts to Artists

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Abstract

Purpose: This study explores the evolving relationship between artists and AI tools in the digital art world. AI's ability to mimic artistic styles and generate new ideas challenges traditional notions of art creation. While AI offers potential benefits like workload reduction and creative inspiration, concerns remain about its impact on artist income and creative processes.

Methodology: The research investigates artist satisfaction with AI-generated works, the impact on workflow efficiency, and the potential for income changes. It aims to understand how artists perceive these tools and how AI is affecting their creative ecosystem.

Findings: The study anticipates that traditional and blended approaches will hold higher value due to the unique skills and time invested. Findings revealed a three-tiered artist landscape: 1) traditional artists, 2) artists who blend AI and traditional methods, and 3) artists solely using AI tools. The research sheds light on the complex interplay between technological innovation, creative expression, and financial viability within the digital art domain.

Unique Contribution to Theory, Policy and Practice: The study employs economic theory of production to analyze the impact of AI on artistic production. In the context revenue, satisfaction, and workload, artists in Manila, Philippines are willing to use AI tools in order to increase their revenue, have a felicitous satisfaction, and reduce their workload that align with the client's needs. While AI tools can be valuable assistants, the human element remains central to the creative process.

Keywords: *Digital Artists, AI Users, AI's Impact, AI Incorporation*

Introduction

There's been a surge in AI advancements, particularly in web search, image recognition, chatbots, and robotics. However, this progress has sparked concerns about AI's impact on various aspects of society, including the art world. News media often sensationalizes new AI capabilities for image and video creation, portraying them as if they can autonomously create art, which raises questions about the true nature of artistic expression in the age of AI (Hertzmann, 2018). Furthermore, Artificial intelligence (AI) thrives on data. The more information it can access, the more powerful it becomes. Today's vast data stores, fueled by internet searches, online purchases, social media, communication channels, and even government documents, provide AI with a massive learning ground. This constant influx of data is propelling AI's capabilities forward at an accelerating pace, with no signs of slowing down in the near future. However, AI's potential is still limited by two key factors: the availability of data and the processing power of current machines (Chatterjee, 2022). Responsible development is key for harnessing the potential of Artificial Intelligence (AI). AI offers advantages for both consumers and manufacturers, but proper legal frameworks are crucial to maximize these benefits for all. As AI becomes more sophisticated and widespread, its impact will extend across various spheres, including culture, economics, law, and the way technology interacts with creativity (Hertzmann, 2023).

Digital artists are the storytellers of the digital age. They blend artistic talent with tech know-how to craft captivating visuals - images, animations, and graphics. These visuals can entertain, inform, or leave a lasting impression. To succeed, digital artists need both technical skills and a creative spark, allowing them to create work that connects with audiences and achieves the desired outcome (Teal, n.d). The growing impact of AI on the art industry, where AI can now contribute to or even create entire artworks. The study is important because it aims to accurately assess the influence of AI on this sector, both positive and negative. (Cetinic, et. al., 2022)

AI art pushes the boundaries of human creativity. Unlike humans, AI isn't limited by physical constraints or traditional ways of thinking. This allows AI to create art forms or explore artistic avenues that may be inaccessible or unimaginable to us (Manovich, 2019). The rise of image generators poses a major threat to artists' livelihoods. While artists hone their skills through years of dedicated practice and investment in materials and education, companies like Stability AI can exploit their work for free to train image generation models. This has already led to job losses in the creative industries, with companies like Netflix Japan replacing animators with AI and blaming the anime industry's lack of artists, rather than their own shift to automation (Jiang, et. al, 2024). In a surprising turn of events, "Portrait of Edmond de Belamy" (2018), the first AI-generated artwork ever auctioned, fetched a whopping $432,500 at Christie's New York. This price tag smashed expectations, soaring 43,200% above the pre-sale estimate of a mere $10,000. A heated bidding war lasting over six minutes underlines the growing intrigue surrounding AI art and its potential value in the art market.(Kinsella, 2019). Where it shows that Artificial generated works can be profitable.

However, Köbis (2020), showed that there haven't been many studies using rewards to see if people can tell the difference between human-written and AI-generated material. Their study used a task similar to the classic Turing Test, but with an economic incentive. Interestingly, participants had trouble distinguishing AI-written poetry when the human author was involved in the creation process (Human-in-the-loop). However, they were better at identifying AI-generated poems when humans weren't involved at all. The study also suggests a slight bias against AI-written poetry. People showed a small preference for poems they thought were written by humans, regardless of whether they were actually informed about the poem's origin. Overall, the study highlights the limitations of our ability to detect AI-generated writing, especially when humans are involved in the process. Additionally, it suggests a lingering preference for human creativity, even when the quality of AI-written material is difficult to distinguish. A study done by Rozman, et. al. (2023) suggests that companies promoting a positive AI environment through supportive culture, leadership, and employee training can lead to a happier, more engaged workforce and ultimately, greater business success.

The researchers aim to assess several key aspects related to AI-generated artworks. These include determining whether the revenue of digital artists is impacted before and after selling AI-generated pieces, gauging artist satisfaction with AI-generated artworks, comparing the need for adjustments between AI-generated and traditional handmade digital art, evaluating any potential reduction in workload and increase in project output facilitated by AI tools, and discerning artists' overall opinions on the acceptance or rejection of AI-generated tools. Addressing these inquiries is vital for understanding the full scope of AI-generated artworks and their impact. Essentially, the study explores the complex web of the digital art environment, illuminating the ways in which technological attitudes interact with the needs of creative expression and long-term financial viability. It looks closely at how AI-driven technologies affect creative workflows and revenue streams in an effort to find insights that are vital for navigating the rapidly changing digital creation ecosystem. The study aims to provide light on the complex processes influencing innovation and creative expression in the digital sphere through rigorous empirical investigation.

Literature Review

The exploration of interactive evolutionary algorithms of Epstein et al. (2020) exemplifies the burgeoning landscape of AI tools and how humans interact with them, pushing the boundaries of art and technology in computer-generated creations. This signifies the growing presence of artificial intelligence as a collaborative force within the artistic realm. According to Yan Shen and Fang Yu (2021), artificial intelligence (AI) is transforming the world of art. Traditionally, art was created within the constraints of space, time, and natural logic. AI, however, pushes these boundaries, offering new ways to create and experience art.AI's ability to mimic artistic styles, like the use of Generative Adversarial Networks (GANs) to replicate the work of famous painters. This case, like "Edmond de Belamy," highlights how AI is fundamentally changing the very concept of art aesthetics. While AI can perform tasks similar to humans, it's important to remember it doesn't

necessarily replicate the human mind or recognize human traits in the way we do. "AI art" refers to artworks created through a unique collaboration. Artists program computers to act with a level of independence, resulting in new creations that are recognized by art professionals as part of contemporary art according to Manovich (2019). While AI in art holds promise, concerns linger about its impact on digital artists' income and the creative process itself, prompting research into artist satisfaction and the real-world implications of AI-generated art on creative workflows (Gatys et al., 2016). Additionally, beyond the practicalities of using AI to create art and potentially reduce workload, researchers are also interested in how artists perceive these tools. Are they seen as valuable companions or viewed with suspicion and resistance? A deeper understanding of artists' perspectives is crucial to fully exploring the impact of AI on the art world. (Epstein et al., 2020). These studies shed light on the potential benefits and drawbacks of AI-generated art, offering insights into how this learning technology is reshaping the landscape of creativity. According to Manovich (2019), though still under development, AI's immense potential as a tool can significantly enhance human capabilities, but its integration requires careful consideration.

Benefits of AI

According to Moro-Visconti et al. (2023), the integration of Artificial Intelligence (AI) into traditional business practices signifies a paradigm shift towards enhanced productivity, creative potential, and market competitiveness. AI ushers in an era of operational efficiency and optimized resource allocation by streamlining workflows, maximizing process effectiveness, and minimizing errors. Furthermore, AI fosters business scalability through automation of tasks like data entry, image and speech recognition, and customer support, ultimately leading to increased productivity, reduced costs, and accelerated business growth (Baig, 2024). While AI art generators, as explored by Nanou (2023), open doors to a vast realm of creative possibilities and widespread accessibility, ethical considerations regarding fairness and potential misuse cannot be ignored. The allure and ease of use of these tools must be balanced with a critical evaluation of their limitations and potential impact on human creativity.

Artificial intelligence ushers in a new era for businesses, characterized by both enhanced operational efficiency and deeper customer focus. On the one hand, AI streamlines workflows, optimizes resource allocation, and fosters personalized customer experiences through data-driven marketing as stated by Moro-Visconti et al. (2023). This shift towards customer-centricity was further discussed by Lamarre (2024) wherein he mentioned that it is further empowered by AI's ability to tailor messages and anticipate needs. On the other hand, generative AI tools empower businesses across industries to create high-quality technical and written content with speed and precision, leading to resource savings and novel opportunities for value creation.

While AI art is commonly perceived as a cheat and a quick way to make art, it is not necessarily a complete truth. According to Nordström, et. al. (2023), AI art in its current capabilities can only serve as a tool to be used by artists to explore more options in making their

artworks. On top of that, by delivering insights from large datasets, AI-powered analytics facilitates data-driven decision-making and improves organizational flexibility and strategic agility (Moro-Visconti et al., 2023). However, AI-driven startups show a threat to established businesses, requiring them to modify their business models in order to incorporate AI capabilities and successfully adapt to the changing market conditions (Moro-Visconti et al., 2023). Working with AI startups gives established businesses the chance to bring innovation into their operations which is beneficial for further developments. By utilizing outside knowledge and resources, they may develop new business models and keep a competitive edge (Moro-Visconti et al., 2023). Supporting these European Science-Media Hub (2021) said that art can be considered an interpretation of the environment (data) that can be radically different from one moment to another. There is no such thing as a well-defined and set artistic style. Picasso painted radically differently in a matter of a few years. When it comes to development according to Norbäck, et al. (2023), limited access to operational data can induce entrepreneurs to take on more risk, thereby increasing their probability of developing transformative products. Thus, increased ML for incumbents' operational data may make the creative destruction process not only more creative but also less destructive.

Disadvantages

The utilization of Artificial Intelligence, while it has benefits it also has various disadvantages. The first such disadvantage would be the concern for risk management and security. According to Moro-Visconti (2023), with increased reliance on AI systems, companies must also address cybersecurity concerns and ensure the protection of sensitive data from potential breaches or attacks. Artificial intelligence grows via machine learning and utilizes data input into it which can be a concern as using it in companies may expose sensitive information from being leaked via the artificial intelligence. Another such disadvantage is with the ethical concerns and regulatory considerations. As further technological advances are made with Artificial Intelligence it can be concerning as it impacts the industry workforce. Companies will choose the cheaper alternatives in this case AI technology rather than the traditional labor force that can cost more than the utilization of AI. In this case the regulatory aspect of AI is underdeveloped and has not been further explored. Notes to be taken from the research is that Artificial Intelligence in its current state is not yet fully mature. According to Amir Baradaran (2023) the current application of AI is mainly driven by profits which is in its current form oligarchical and corporate-driven. Proper systems are not yet fully placed and policies to regulate the usage in a more efficient, productive, and just way is lacking.

On the other hand according to Cetinic et al. (2021), there are important factors that needs to be taken into consideration in understanding AI art, its process of creation, and the impacts of such technology on the ecology of the industry. While AI does serve as a tool to allow a new way for artists to express themselves it is easy to exploit. The considerations and the improper usage of AI has not been fully addressed which results in the abuse of such technology for various purposes.

Additionally, Artificial Intelligence may offer a lot of functionality however, it can be observed that AI models' content may often sound extremely convincing but sometimes the information they generate is just plain wrong. It can also be said that there are some biases with the output of AI as it is built on the gender, racial, and myriad other biases of the internet and society more generally (Chui, 2018). Lastly the volatility that is created due to the appearance of such new technologies. According to Lamarre (2024) the risks and opportunities associated with AI are likely to change rapidly in coming weeks, months, and years. The main reason being that AI is still developing and with new functions being made it will allow AI to become increasingly, and seamlessly, incorporated into business, society, and our personal lives, we can also expect a new regulatory climate to take shape.The reason why artists exploit artificial intelligence is that it accommodates the consumers by being able to answer scarcity, commercial availability, and ownership. It enables artists that use it to benefit at the cost of other artists as it damages the ecology of artists due to the lack in regulations to answer issues such as copyright infringements (Grba, 2022). The impacts faced are currently due to such usage that exploits AI systems or generators without taking into consideration the potential harm that it holds. It is important to take note of and consider the after effects of using AI art as in its current form it is not yet fully mature and regulations or policies are not yet set to allow it to be utilized better and more stable. A new reality could also be born from an analogical copy-paste, if we take into account artists that tried to replicate reality. Afterwards, this fabricated reality, a duplicate of the real world, was shared with others (European Science-Media Hub, 2022)

AI Revenue

It can be observed that AI art is perceived as something that has less value. The main reason for this can be related to authenticity and the fame of the artists making the art. Human made art is observed to be worth more due to the renown and skill that the artist has according to Fortuna, et al. (2021). The growing power of Artificial Intelligence (AI) is creating new revenue opportunities that weren't possible before. This is leading to a rise in AI adoption by many businesses. According to Moro-Visconti, et. al. (2023) Artificial intelligence (AI) presents a golden opportunity for businesses to create new and innovative revenue streams. Imagine a manufacturing company that utilizes AI to predict when a customer's equipment needs maintenance, allowing them to shift from simply selling products to offering ongoing, AI-powered maintenance services. This is just one example of how AI can unlock significant value. The revenue generated by these new business models can be reinvested to fuel further AI development, stimulate economic growth, or fund new ventures, creating a positive cycle of innovation and progress.

The high price tag of an AI-generated artwork ($432,500 for "Portrait of Edmond de Belamy") sparked an "AI Art Gold Rush," but experts remain divided. While Arushi Kapoor, an art consultant, acknowledges the technological advancements, she emphasizes the enduring value of human-made art. She sees AI as a helpful tool, particularly for tasks like recovering stolen art,

but believes it can't replace the creativity and emotional depth of human-created art. Ultimately, Kapoor hopes AI remains a tool for creators, not a competitor (Annie Brown, 2021). A study by Bellaiche et al. (2023) suggests that human art might hold a higher monetary value because it reflects a deeper human experience that AI currently struggles to capture. This opens doors for a new perspective in creativity research. Instead of viewing creativity as a binary (human vs. machine), we can explore it as a spectrum of abilities, with AI potentially mastering some aspects in the future.

AI Satisfaction

Art, a hallmark of human experience, is intricately linked to our capacity for symbolic and abstract thought. It acts as a neurological symphony, igniting specific brain regions and fostering their collaboration, resulting in a rich artistic encounter. This artistic expression, imbued with symbolism, might even be a reflection of the very brain changes that enabled complex social structures and language to develop. The study of aesthetics, the perception of beauty, might have roots in our evolutionary past, where visual cues played a role in mate selection. However, the brain's interpretation of beauty and pleasure is subjective, leading to the vast array of artistic preferences and varying perspectives on what constitutes valuable art. In essence, what moves one person deeply might leave another completely indifferent (Chatterjee, 2022).

Achieving widespread satisfaction with Artificial Intelligence (AI) is complex due to its current implementation. While companies benefit from AI through cost reduction and innovation, consideration for the workforce is crucial. Integrating AI often necessitates worker reskilling and transformation, as some jobs may be negatively impacted.

According to Osborne and Frey (2022), experts predict significant job changes due to AI, with up to 30% of jobs potentially automated by 2030. However, AI is seen as a tool for artists, not a replacement. While AI might excel at creating variations of existing works, it currently lacks the creative decision-making skills needed for original art. The human touch remains irreplaceable in imbuing art with context and intention. Therefore, as AI is incorporated into the workforce, it's crucial to develop strategies that allow humans and AI to work together effectively. This will ensure a smooth transition and maximize overall satisfaction.

An AI expert, Kaifu Li, argued in his 2017 monograph "Artificial Intelligence" that AI-generated art is currently a form of imitation. AI learns from vast databases of existing art, replicating styles but lacking true originality. Li contrasts this with traditional static art forms like painting and sculpture. However, the concept of AI art challenges this notion. As Ascot observes, AI art can be "infinitely changing" and "flowing," unlike static traditional art. This fluidity has led some to suggest a shift in art's focus, from visual appearance to a more inherent, ever-evolving experience (Chen, et al. 2020). Ting, et. al. (2022) claims that it challenges the notion that AI can never achieve true creativity in artistic fields like painting or literature. While some believe AI art is inherently "artificial" and not deserving of the title "art," the research suggests otherwise. The

study found that the public's perception of AI art isn't based on their technical knowledge of AI, but rather on their personal experiences and preferences. This highlights the importance of improving AI algorithms to generate more realistic artworks. By focusing on artistic quality, researchers can potentially bridge the gap between human perception and AI's creative capabilities. This is backed up by the study of Nordström, P., Lundman, R., & Hautala, J. (2023) where the authors revealed that creating digital art with AI involves a multi-step process where artists combine multiple AI tools, showing AI as a collaborative aid rather than a one-click art generator. A Finnish study by Latikka, R., Bergdahl, J., Savela, N., & Oksanen, A. (2023) using a two-wave survey found that people were less enthusiastic about using AI in art and culture compared to other fields. While AI has potential benefits like detecting forgeries and even creating art itself, the study suggests that the human element remains crucial. Our fundamental needs for connection (relatedness) and creative freedom (autonomy) will likely continue to be essential aspects of art creation, even in the age of AI. In accordance to the study of Mineo, L. (2024), while AI can produce impressive and visually pleasing art, many believe it lacks the soul and depth of human-created works.

According to Sherman, A., & Morrissey, C. (2017), scientists, humanists, and art lovers alike value art not just for its beauty, but also for its social and epistemic importance; that is, for its communicative nature, its capacity to increase one's self-knowledge and encourage personal growth, and its ability to challenge our schemas and preconceptions. However, empirical research tends to discount the importance of such social and epistemic outcomes of art engagement, instead focusing on individuals' preferences, judgments of beauty, pleasure, or other emotional appraisals as the primary outcomes of art appreciation. Here, we argue that a systematic neuroscientific study of art appreciation must move beyond understanding aesthetics alone, and toward investigating the social importance of art appreciation. We make our argument for such a shift in focus first, by situating art appreciation as an active social practice. We follow by reviewing the available psychological and cognitive neuroscientific evidence that art appreciation cultivates socio-epistemic skills such as self- and other-understanding, and discuss philosophical frameworks which suggest a more comprehensive empirical investigation. Finally, the authors argue that focusing on the socio-epistemic values of art engagement highlights the important role art plays in our lives. Empirical research on art appreciation can thus be used to show that engagement with art has specific social and personal value, the cultivation of which is important to us as individuals, and as communities. AI art may mimic styles or generate new visuals, but it can't replicate the emotional connection and personal stories that artists like Beethoven or Van Gogh poured into their creations. True art, in this view, evokes feelings and resonates with viewers on a deeper level, something AI-generated art currently struggles to achieve. Researchers Schepman, A., & Rodway, P. (2022) validated a new scale, the GAAIS, to measure public opinion on Artificial Intelligence (AI). They compared it to an existing technology scale. While both scales aligned in measuring general attitudes towards technology, the GAAIS captured something unique. It wasn't simply influenced by a person's own experiences with technology. This suggests the GAAIS offers a

valuable tool for understanding public perception of AI, especially considering AI is often implemented by companies or organizations, not by individual users themselves.

AI Workload

AI is becoming a game-changer for manufacturers looking to embrace "digital servitization," which means offering services alongside products. Manufacturers need robust data pipelines to manage the vast amounts of data needed for training and running AI systems. They also need the ability to develop or acquire the specific algorithms relevant to their unique service offerings. AI shouldn't be siloed with specialists. By empowering a broader range of employees to leverage AI tools, manufacturers can unlock its full potential for developing innovative new services (Sjödin et al., 2021).

In terms of workload the utilization of artificial intelligence is the best at adapting and proficiency due to the various and continuous advancements. Artificial intelligence in its current form however is still not enough to fully replace manpower. According to Christian Peukert (2018) With the digitization and the internet being the technology heavily invested on by many countries it has lowered the participation rates of individuals in the cultures. It showcases the reliance of companies and firms on advertising as a way to reach the individuals. The advertisements on the other hand is now also where AI is being utilized to enable fast production at lower costs. (Cetinic, 2022) explored the significant impact of Artificial Intelligence (AI) on creative methods and research. While AI technology is still under development and has limitations, it holds vast potential. The study focuses on two main ways AI is influencing the art world: first is the Digital Art Management and Analysis where AI can be used to manage and analyze vast collections of digital art, aiding researchers and curators in their work and Artistic Creation, in so, AI can also be a creative tool for artists, allowing them to generate new ideas and produce original artworks. Overall, the research highlights the exciting possibilities of AI for both the study and creation of art. Additionally, AI can have a significant impact on scalability by improving efficiency and reducing costs. AI-powered systems can help automate many repetitive, time-consuming tasks, allowing companies to scale their operations more quickly and efficiently. For example, it can be used to automate data entry, image and speech recognition, and customer service, among many other applications. AI can help companies identify new opportunities for growth and innovation. Analyzing data from a variety of sources, AI-powered systems can help companies identify trends and patterns that might be uneasy to detect with traditional methods. These insights can help companies develop new products and services, enter new markets, and innovate in ways that can support long-term scalability (Moro-Visconti, et.al. 2023)

ARTISTS ON AI

Artificial intelligence presents many opportunities. In this case for artists it is a new form of canvas which they can explore however it has not entirely incorporated itself into the industry

yet. With the boom of the digital age and the rise of artificial intelligence many are still skeptical about its use.

According to Mazzone (2019), AI is emerging as a valuable tool for artists, assisting them in the creative process. While the AI algorithm generates surprising and often original visuals, the artist retains primary control through pre-production choices, post-processing tweaks, and algorithm adjustments. This collaborative approach has produced impressive artworks. However, copyright and artist protection remain important considerations as AI art creation continues to evolve. James Wood (2020) however stated that AI art creation is revolutionizing the art world. AI algorithms can generate artwork based on your instructions, and unlike human artists, they can do it very quickly. While some artists, particularly those in digital arts and graphic design, fear being replaced by free AI tools, others see it as an opportunity. AI relies on existing artwork to learn and generate new pieces, so human artists are still essential for providing the foundation upon which AI builds its creative abilities. According to Grba (2022), while exploring the interesting parallels between Artificial Intelligence (AI) and Contemporary Art. Both share a focus on embracing diverse and creative approaches, often heavily influenced by technical elements in the creation process. However, the challenges they face are also similar. Both AI and contemporary art involve a degree of uncertainty and experimentation, grapple with complex conceptual and philosophical questions, and raise ethical and societal considerations. These shared characteristics suggest a strong connection between AI and contemporary art, potentially paving the way for a future of mutual influence and exploration. A new study by Mikalonytė & Kneer, (2022) suggests people might be hesitant to recognize AI as creators deserving copyright for their artwork. This is because people generally don't view robots as artists. However, the researchers acknowledge that the design, physical form, and especially human-like features of the AI might influence this perception. They propose further studies comparing AI creators to different types of artists, including groups, children, and even human-robot collaborations, to see how these factors affect our judgment of AI's artistic ownership.

The support that Artificial Intelligence has for artists however can be surprising. A study conducted by Hurst, et al (2023) on the other hand presents the necessity of finding customized solutions to different issues, in this case issues that AI art has. The research also shows the potential of developing virtual galleries and its benefit to AI artworks. The research further emphasizes such a customized solution by incorporating the metaverse. The metaverse serves as a support or rather its role is to be the platform for AI art. The benefits of the Metaverse's development shows that it is accepted and welcomed by the participants of the research. AI art according to the research will have a steady and sustainable environment to strive in. Logan & Daleo (2024) also stated that AI-generated art is a hotbed of controversy. Artists worry that the ease of access and ability to mimic styles could be used by companies or even fans to devalue or plagiarize their work. Cases like the AI art winning a competition highlight these concerns about fairness and originality. The ethical implications of AI art are vast, raising questions about whether it should be allowed to replace

human creativity entirely. Ultimately, society needs to decide how to leverage this new technology while protecting the livelihoods and originality of artists.

A new study done by Baradaran (2023) examines the impact of Artificial Intelligence (AI) on cultural and economic landscapes, particularly focusing on potential drawbacks. The research identifies four key considerations for responsible AI implementation. Firstly, the study emphasizes that access to AI should be recognized as a form of power. AI acts as a powerful tool that can significantly boost creative output, but this power needs to be acknowledged and utilized responsibly. Secondly, the research highlights the importance of understanding and addressing potential biases within AI systems. These biases can have negative consequences if not addressed, so responsible use of AI requires proactive identification and mitigation of these biases. Thirdly, the impact of AI on marginalized communities is a critical consideration. The study emphasizes the need to carefully assess how AI might negatively impact these communities, such as artists whose work might be infringed upon by AI-generated content. Copyright protections and other measures may be needed to safeguard their livelihoods. Finally, the study argues for challenging existing narratives surrounding AI. To fully integrate AI into the cultural and economic spheres, it's vital to promote alternative voices and diverse perspectives. By encouraging a broader conversation, we can ensure AI is incorporated in a way that benefits everyone.

The rise of Artificial Intelligence (AI) in art creation is sparking mixed reactions. As stated by Vargas (2022), AI art tools gather information from vast datasets to generate creative outputs. Some, like artist James Gurney, view this as revolutionary. However, others fear AI could devalue human artists' work. This division highlights the complex impact of AI on the art world, leaving artists to decide whether to embrace this new technology or resist it. This was backed up by Mineo (2023) in which the author stated that the emergence of AI art generators like Dall-E2 and Midjourney has sparked a debate about whether AI-created art can be considered "real" art. Critics like novelist Daphne Kalotay argue that AI, while adept at mimicking existing styles, lacks the originality and lived experience that defines true art. They see AI as a tool for imitation, not genuine creation.. A study by Fortuna & Modliński, (2021) with nearly 300 participants (mostly male) examined how people perceive the value of art. The findings suggest that people value art differently depending on its creator. Art attributed to a human artist was seen as more valuable than art created by AI. Interestingly, participants also seemed to exclude AI-generated art from the category of "human-made art." However, the study also found that people were willing to assign greater value to the same artwork if they were told it had a higher price tag. This suggests that our perception of art's value can be influenced by both the creator and external cues like price. The notion of art as simply something to be consumed. The author argues that experiencing art is fundamentally different from consuming other products, like food. Furthermore, Coeckelbergh, (2016), claimed that buying art doesn't automatically translate to a positive evaluation of the artwork. This limited view, according to the author, overlooks the social and political significance

of art. While the specifics of this social and political understanding aren't addressed here, it's clear the author advocates for a more complex way of understanding how people engage with art.

Synthesis

The research builds on the findings of Visnjic et al. (2019), who identified a growing trend of industrial companies turning to digital technologies for new business models. These models focus on creating value throughout a product's entire life cycle, not just the initial sale. This is achieved through strategies like pay-per-use or performance-based pricing. In other words, the companies are looking to move beyond simply selling products to offering services and experiences tied to those products. Visnjic et al.(2019) also stated that businesses need to develop innovative digital business models to leverage the power of AI. However, public trust is crucial. People who generally distrust corporations also tend to view AI more negatively. In contrast, those who trust people more are more open to AI. Therefore, companies implementing AI should prioritize responsible and ethical practices to build public trust.

AI is a rapidly developing technology with immense potential, but its creative outputs are still under development. It was explored how people perceive art created by humans vs. AI. The study found that people generally value human-made art more, regardless of knowing the creator's identity. This aligns with the development of the GAAIS scale, which measures public perception of AI and highlights the importance of trust and personality in shaping these views.

Parida, et al. (2019) further elaborates the benefits of utilizing artificial intelligence. It is stated that appropriate business models are crucial to derive the benefits from digital technology economically, environmentally, and socially. In order for artificial intelligence to be fully integrated into and accepted by artists the impact and effects it has on economically, environmentally, and socially must be carefully planned out to ensure efficient production of content. While these struggles are present it must not be an excuse to say that artificial intelligence is only harmful and causes negative impact. According to Lamarre (2024) Generative AI tools can produce a wide variety of credible writing in seconds, then respond to criticism to make the writing more fit for purpose. This has implications for a wide variety of industries, from IT and software organizations that can benefit from the instantaneous, largely correct code generated by AI models to organizations in need of marketing copy. As it is, the potential and benefits that Artificial Intelligence has is worth the investment and for artists it is only full of potential and is a new canvas that can be explored.

Research Hypothesis

The production of AI-generated art may be negatively correlated with an artist's income. This hypothesis is predicated on the idea that customers may come to view human artistic skill and effort as less valuable when AI tools are used in the creative process. Furthermore, it's been suggested that the incorporation of AI techniques allows artists to take on more projects or lessen their effort. This result comes from automating monotonous processes like creating foundational

drawings, choosing color schemes, or creating simple compositions, which speeds up the creative process and boosts output.

Furthermore, the hypothesis suggests that the level of experience gives digital artists different views about AI-generating technologies. A particular suggestion is that digital artists who have worked in the field for more than three years are reluctant to use AI tools because they fear that AI will replace human creativity and knowledge. This cynicism is especially evident in areas of the art business, such commercial art, where there is a strong desire for repeatable products. Here, seasoned artists could worry that options for artistic expression and uniqueness would be diminished and the perceived worth of their trade will be diminished by the broad adoption of AI technologies.

To summarize it all, the researcher's hypothesis shows that a complex interaction between the digital art community's views toward technology, workload dynamics, artist earnings, and the use of AI-generating technologies exists. The paper aims to not only investigate and clarify the complex relationships between these factors but to also see the consequences for creative practice and innovation in the digital age through empirical research.

Theoretical Framework

The study is based on the economic theory of production. It will serve as a basis for the researchers to observe the impact and effects of Artificial intelligence. In order to fully showcase how it is related to the study the theory of production is first defined. The production theory of economics states that it is how businesses decide the quantities of outputs to produce in response to demand. The resources firms use in production are called the factors of production, and they are also known as inputs (Dorfman, 2022). It is here that the researchers introduced the utilization of artificial intelligence. How it can affect the production of goods and services, in this case art and artists.

In various cases artificial intelligence is being incorporated into production. Firms have been observed to utilize artificial intelligence as a way to achieve better efficiency in production. The study in this case focuses more on the creative aspect or rather the creative industry. Art while its value may be subjective is an industry that now utilizes artificial intelligence in its production. Many artists and new artists have begun utilizing artificial intelligence as a way to produce art. The study will focus on these artists as the impacts that artificial intelligence may have on the industry should be observed. It is necessary to do so as the industries production and revenue is a vital factor for the economies development too.

Research Design

The research was conducted to showcase the effects of Artificial Intelligence in the dynamic landscape of digital art creation. The advantages and disadvantages of using Artificial Intelligence as well as its reliability for artists. The study primarily focuses on the 3 factors that

artificial intelligence affects. The Revenue, Satisfaction, and Workload that artists receive from their artworks.

Scope of research

Digital artists use technology (computers, tablets) and software to create visual works. (Garcia, et al., 2023). Digital artists are like modern-day artists with a tech twist. Their art is open to interpretation and can be used in various industries, from games to advertising. Always adapting to new technology, they push the boundaries of what digital art can be (Teal, n.d)

The researchers will focus on collecting data from artists that sell their artworks within Metro Manila, as a starting point or focus point to get accurate results of artificial intelligence usage within the specific industry. The researchers will conduct said research via using the population on facebook groups or pages by artists that sell their artworks.

Using the Raosoft online sample size calculator; the sample size was calculated. A 5 percent margin of error, a 50 percent answer distribution, and a confidence level of 95. The current population size to be used is 18,000 where in the random sample size to be used/collected is 377.

Instrumentation and Data Gathering Procedures

The participants were asked to answer a questionnaire in a Likert scale format to ensure that their opinions on the usage of Artificial Intelligence was properly translated into quantifiable data. The researchers question the effects of artificial intelligence on said artists and will conduct a survey on said artists that utilize artificial intelligence. Artists that have incorporated artificial intelligence in the process of making their art would be the main focus of this research. A survey on artists that utilize artificial intelligence and sell their artworks is to be conducted.

Details of Model

The data gathered is then interpreted using statistical software namely Gretl, Excel, and Google Spreadsheets. It will allow an easy and accurate data presentation to be showcased in the paper. Given that the data is interval in nature. The research paper is then able to analyze the effects of artificial intelligence, advantages, disadvantages, and its reliability. Lastly with the analysis, the researchers aim to provide practical recommendations tailored to the needs of artists navigating the evolving landscape of technological innovation. By highlighting both the opportunities and challenges in utilizing artificial intelligence, the research seeks to empower artists with the knowledge needed to leverage AI as a powerful tool in their creative endeavors.

$$\mathbf{Y=\mu + \tau + \epsilon}$$

The equation represents a linear regression model, a statistical model commonly used in various fields. It's particularly useful for analyzing data with nested structures. **Y** represents the response variable, the outcome or measurement interested in analyzing. **μ** is the overall mean of the response variable across all groups and observations. It represents the average value of Y if

there were no group effects or individual differences. **τ** represents the fixed effect. Fixed effects are typically considered categorical variables, meaning they have a limited number of predefined categories (e.g., treatment groups, experimental conditions). While ϵ represents the random error associated with each observation. It captures the unexplained variability in the response variable that's not due to the group effect or the overall mean. Random errors are assumed to be independent and normally distributed across observations.

RESULTS

Model 1
Dependent variable: Revenue

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	**4.93611**	**0.258529**	**19.09**	**<0.0001**	*******
Artists	**– 0.0639673**	**0.0615146**	**– 1.040**	**0.2995**	

Mean dependent var	**4.676407**	**S.D. dependent var**	**1.015904**
Sum squared resid	**236.2583**	**S.E. of regression**	**1.015724**
R-squared	**0.004700**	**Adjusted R-squared**	**0.000354**
F(1, 229)	**1.081335**	**P-value(F)**	**0.299496**
Log-likelihood	**– 330.3745**	**Akaike criterion**	**664.7490**
Schwarz criterion	**671.6338**	**Hannan-Quinn**	**667.5258**

The findings for revenue, as seen in model 1, are observed when the artist's revenue is after AI tools are introduced, Even though the p-value is more than the alpha, given that the p-value is 0.2995. It is still statistically significant and shows that there is certainly a correlation between the two factors, and they are related. It is concluded that with the introduction of AI the artist's revenue has been impacted positively. As presented in the paper various strategies have been implemented by artists for them to capitalize on AI tools and artworks. The data mainly showcases that artists, in order to thrive in the industry, will have to incorporate and link the usage of AI into their marketing strategies.

Model 2
Dependent variable: Satisfaction

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	**4.92343**	**0.218852**	**22.50**	**<0.0001**	*******
Artists	**– 0.0259246**	**0.0520739**	**– 0.4978**	**0.6191**	

Mean dependent var	**4.818182**	**S.D. dependent var**	**0.858433**
Sum squared resid	**169.3054**	**S.E. of regression**	**0.859840**
R-squared	**0.001081**	**Adjusted R-squared**	**-0.003281**
F(1, 229)	**0.247847**	**P-value(F)**	**0.619073**
Log-likelihood	**– 291.8874**	**Akaike criterion**	**587.7748**
Schwarz criterion	**594.6596**	**Hannan-Quinn**	**590.5517**

Following artists' revenue, it can be seen in model 2 that an artist's satisfaction in relation to Artificial Intelligence tools is also taken into account. The p-value(f) is 0.619073 shows that the data supports the conclusion that artists' satisfaction with AI tools is positive. It can be explained as the usage of AI tools are favored by artists. The main reason for it being so, is due to the fact that it accelerates the process of creating art pieces, given that the result of AI tools to produce a unique art with the artist's creativity and vision in spite of that it has introduced more competition in the market.

Model 3
Dependent variable: Workload

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	**4.78305**	**0.238381**	**20.06**	**<0.0001**	*******
Artists	**– 0.0254674**	**0.0567204**	**– 0.4490**	**0.6539**	

Mean dependent var	**4.679654**	**S.D. dependent var**	**0.934936**
Sum squared resid	**200.8675**	**S.E. of regression**	**0.936563**
R-squared	**0.000880**	**Adjusted R-squared**	**-0.003483**
F(1, 229)	**0.201601**	**P-value(F)**	**0.653856**
Log-likelihood	**– 311.6311**	**Akaike criterion**	**627.2623**
Schwarz criterion	**634.1471**	**Hannan-Quinn**	**630.0392**

Lastly as seen in model 3 the factors of an artist’s workload with AI tools. With a P-value(F) of 0.653856 it is still statistically significant for this study. The data suggests that artists perceive AI tools as a positive addition to their workflow. It is then concluded that with the introduction of AI the artist's workload has been significantly reduced. As presented in the paper

the usage of AI tools has shortened the extraneous process of making artworks by automating tasks, generating ideas, and streamlining workflows.

General Discussion

Upon the introduction of AI art generators on different websites that could be found on the internet. A transformation in the creative landscape can be observed in a visible manner. The evolution of making art has empowered many individuals. AI-generating tools allowed individuals' imagination to be expressed, by encoding a simple and detailed prompt on AI-generating websites, resulting in an exceptionally-made artwork. In recent years, many people have engaged in utilizing AI generators to create funny, heartfelt, and astonishing images. This modification in producing art gave an opportunity to those people who do not have any real experience on making artworks by allowing them to introduce the imaginative visions that they possess, making it into reality and showing it to the world.

However, with the introduction of such technology, the impact on the industry is varied. In the existing market, artists' opinions and experience with AI generating tools are split. While some benefit, others are disadvantaged with the introduction of such production methods. A concern is that due to the nature of faster inputs and quicker production the market is getting flooded with AI generated artworks. A counter to this however is the discussion regarding quality. While AI generated artworks are faster and easier to procure, the quality is oftentimes worse than not, due to an influx of new artists allowed by such tools, questionable. The skills honed by artists and the emotion imparted on their works cannot be replicated by AI tools in its current form. Which gives rise to a difference in opinion regarding usage by artists. Such a split view on the technology has given a rise in new forms of marketing and pricing strategies. Traditional artists are benefiting via marketing their artworks as unique and human-crafted pieces. In order for more traditional artists to thrive in such a market as AI continues to evolve is to put emphasis on the value of human creativity as the selling point. It can be challenging as AI continues to evolve and influence the expectations of clients. Due to the nature of AI generating tools to be faster in production and with improving quality the clients will expect faster turnaround times, while having the ability for more customization to be done. Artists can utilize AI tools as a powerful tool to meet such demands and in increasing their creative process.

As we are now in a digital age, artists embracing AI tools will allow them to evolve their process in producing art and to thrive in this day and age. AI can be utilized in initial concepts, incorporating different styles, and streamlining production processes. Applying AI in such a way, will allow artists to focus more on the main factors that give the art they produce their own individual identity. It allows the artists, while using AI, to still retain their creativity and emotional connection to the piece. Along with the advance of AI art the landscape of artists has undoubtedly changed. Artists have considered incorporating the strategies in the pricing of artworks/commissions and in marketing said works. The line that differentiates art is defined via

that uniqueness of each individual artist's creative process. In addition to this emphasis on the variables such as time, skill, and experience invested of the artist is used to evaluate the pricing of artworks. The shifting of said variables is what separates traditional artworks from AI art.

In light of the arrival of such technologies it certainly has made it easier for individuals to enter the industry of artists. AI is currently viewed as disruptive in the market, however, it also allows opportunities for said artists to explore a new canvas to express themselves. The ease of use and incorporation of AI generation tools also allowed artists to increase their potential income which is due to the fact that the time to produce art has been significantly reduced. According to (Davey, n.d.) the arrival of such technology will allow artists to create more innovative and original pieces that stand out in a crowded market. The introduction of AI generated art however has put emphasis on the value of traditional artwork, while at the same time, allowed non-clients of traditional pieces to consider commissioning artworks. While dabbling in usage of AI generating tools is relatively easy to do due to ease of access. The knowledge of using the right inputs and the most effective processes in production is increasing in value. A market for knowledge on effective usage of said generation tools are now taken into consideration.

In comparison the skill and time invested in traditional artworks takes longer to produce. Some clients however, have neither the time or budget to commission traditional artworks. In this case clients that require quick production of simple designs can opt to commission AI generated works, which are quicker to acquire and better for the cost efficiency they require. In this case the efficiency and quick production allows AI generated artworks to thrive in the art industry. The world of art has been being revolutionized by artificial intelligence, this offers innovative tools that pushes one's creative imagination and demonstrates it into life. By transforming images into a different art style, artificially made images or artworks encourages fresh interpretations on art pieces that currently exist, this also introduces a broader perspective among artists which would be beneficial for them in creating an exceptional outcome. In addition, the algorithms of AI generate intricate patterns and structures. This could be used as the spark which will ignite innovative concepts, and impel an individual's artistic boundaries.

Moreover, AI makes life easier by lessening the time that an artist would typically consume if the artist manually do tasks such as color correction, noise reduction, and image resizing. This helps the artists to free up some time and allow them to work on other significant tasks such as focusing on the core aspects of their works (Fortino, 2023). By digging deep into vast datasets of art, AI would be able to uncover trends, patterns, and inspire approaches that an artist could utilize when making a novel, composing, or coming up with a color theory. Artificial Intelligence served a great purpose on artists, when used as a tool that helps them create foundational pieces. Artists could utilize AI generators through encoding a command or a prompt. This could also be the key to enhance and refine the artists' own artworks. With the collision of the human and machine's approach, it empowers artists to put the unknown artistic territories to surface, and help them discover their own exclusive visions. AI tools can help artists automate certain tasks, such as image

editing, color correction, and pattern generation. This frees up more time for artists to focus on the creative aspects of their work. AI can help artists generate a larger volume of work, which can lead to increased sales and commissions. AI tools can automate time-consuming tasks like background generation, texture creation, or color palette selection, allowing artists to focus on more creative aspects of their work. AI can quickly generate multiple variations of a design or concept, enabling artists to iterate and refine their ideas more efficiently. By automating certain tasks, AI can significantly reduce the time it takes to complete a piece of art, increasing overall productivity.

New aspiring artists can utilize AI tools in order to discover and culminate their own art styles. By incorporating AI tools not only will they be able to produce artworks, it will also allow them to study and refine the process of how they produce said art. In doing so will lessen the work and time needed to be put into learning art styles. As AI generated artworks are now gaining traction in the art industry artists that do not use AI tools are also receiving benefits. With the rise of AI artworks, a resurgence of art enthusiasts and collectors can be seen that are more willing to purchase at a premium for zero AI tools used art pieces. An appreciation for human ingenuity and creativity is the selling point that these artists can utilize when marketing their pieces. While AI is said to be disruptive it has not made traditional artists obsolete, instead it has allowed for new strategies and selling points to now be available for artists. In addition, as can be seen the emergence of new and faster processes that can be utilized by existing and new aspiring artists is beneficial and profitable for artists that require faster solutions. While the common usage of using AI in the artist's artworks is mainly focused on streamlining the process of creation it has other uses for art too. AI can be utilized to generate unique and complex watermarks to ensure the security of the piece made, not being stolen by other artists. Watermarking as it is now is crude and simple however, with AI tools making the watermark more complex and automated allows artists to have better security on their art. AI art gave opportunities to every artist in some way or form. In the current phase of AI however, it has mainly highlighted that human creativity, emotion, and personal touch in art is still irreplaceable and highly valued. It is a tool that will elevate artists and allow them to have a new canvas to express their creativity.

Limitations

Different artists have a variety of individual preferences and procedures when producing artworks. These can be in the form of canvas used, tools used, art style, and personal preferences of the artist themselves. While the paper showcases the impact and efficiency of AI-generating tools in the market and in artists, it has certain limitations. As the paper only wanted to confirm the usage of AI tools the process of said artists were not taken into consideration. Mainly due to the understandable confidentiality of some artists with their process and techniques. Additionally, the amount of usage of the technology into producing their artworks is not specified. The paper's goal is purely to showcase the presence, usage, and effects of AI tools in relation to the art industry. It however limits the paper only on usage and cannot provide data or statistics regarding purely AI-generated artworks.

Additionally, there exists a wide variety of tools that artists incorporate to make artworks and a variety of canvases. Examples of such are drawing tablets, photoshop tools, generators, and the more traditional canvases. The study however, did not take into account such tools and canvases used due to taking into consideration the constraint of artists to fully divulge their art process. Lastly, the use of the artworks produced, whether for individual use or for a more business purpose like NFTs, is also not included in the coverage of the paper. The reason for not including the direct purpose is due to the nature of the population and sample size. The artists asked to participate in the paper were all categorized as one unit, namely artists that do commissions and sell their artworks.

Conclusion

Artificial Intelligence is an excellent tool that has the potential to transform the creative business. Understanding its possibilities and limitations allows artists to adapt to the changing world while continuing to create meaningful and compelling work.

In conclusion there now exists three types of artists. An artist that sticks to the traditional way and processes of making art pieces will have premium benefits for their art. The logic behind that premium is due to the time and skills that have been honed by traditional artists. While usage of AI tools do require knowledge and a level of skill, it pales in comparison to traditional artists' skill due to the simple reason that AI was made and used to make things easier. An artist that incorporates and blends AI tools into the process of making art will be set as the middle level in terms of pricing. These artists mix the new and the old, and are steadily becoming the standard of artists as progress in any industry is inevitable. While it will take more time for AI tools to be fully developed and accepted, it is already used in quite a variety of ways to make the art process easier for new and existing artists. The third type are artists that fully use AI tools and are making AI artworks will be on the lower end of the pricing if things such as NFT works are not included. The main reasoning is due to people's view and knowledge of AI tools being one keyword or one click away which then makes art. Not a lot of people know that while this is true it generally will not produce good or acceptable pieces of art and will require refining using other tools which makes it typically lower on the pricing range.

For AI art enthusiasts, this study aims to illuminate potential benefits associated with this technology. While some artists who criticize AI art may indeed be overly protective of their domain, others raise valid concerns that deserve careful consideration. It is crucial to adopt a receptive stance towards these critiques. Ultimately, it is in the best interest of the AI art community to advocate for responsible regulation. Failure to do so may lead to a future where, despite the ability to effortlessly realize creative visions, the value and impact of such work diminishes.

For artists with a different point of perspective, this paper may seem disheartening, but it's important to remember that much of the concern is within a limited population. The early stages

of AI technology create a chaotic ecosystem in which individuals and businesses experiment with its possibilities, sometimes without clear limits. While AI is definitely a strong tool, it is critical to create a collaborative atmosphere for AI engineers and artists. By fighting for acceptable laws, artists may guarantee that AI complements rather than replaces human creativity. Therefore, it is essential to actively voice concerns and propose solutions to shape the future of AI in a way that benefits both artists and technology.

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