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The Impact of Artificial Intelligence on Art and Creative Careers

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Augustine C. Arize[1], Sophia Delanoy[2], Loredana Levitchi[3], John Malindretos[4], Ikechukwu Ndu[5]

Abstract:

Purpose: *This study investigates the impact of Artificial Intelligence (AI) on art and creative careers, focusing on its economic, cultural, labor-market, and technological implications. The research explores how generative AI is transforming creative production processes, altering employment patterns, and reshaping the value of human creativity in an increasing digital economy.*

Design/Methodology/Approach: *The study adopts a qualitative and analytical approach based on an extensive review of academic literature, industry reports, and economic forecasts from international organizations, including PwC, Goldman Sachs, OECD, UNESCO, the World Bank, and the World Economic Forum. The analysis examines current trends and future projections related to AI adoption in creative industries, employment transformation, intellectual property challenges, and global economic development.*

Findings: *The findings indicate that AI is expected to become one of the most influential technologies affecting creative industries during the coming decades. While AI significantly improves productivity, lowers production costs, and expands access to creative tools, it also creates challenges related to job displacement, copyright protection, cultural homogenization, and economic inequality. The study identifies the emergence of new hybrid professions that combine artistic creativity with technological expertise. Furthermore, AI-driven growth is projected to contribute substantially to global economic output while simultaneously transforming traditional creative occupations.*

Practical Implications: *The results highlight the importance of workforce reskilling, educational adaptation, and policy development to support creative professionals in an AI-driven environment. Governments, educational institutions, and industry stakeholders must develop strategies that encourage innovation while protecting intellectual property rights, cultural diversity, and employment opportunities.*

Originality/Value: *The study contributes to the growing literature on AI and creativity by integrating economic, cultural, labor-market, legal, and environmental perspectives into a comprehensive framework. It provides a forward-looking assessment of how AI may reshape*

[1]*Prof., Department of Economics and Finance, Emeritus, Texas A&M University, USA, e-mail: Chuck.Arize@tamuc.edu;*
[2]*Prof., Department of Management and Marketing, William Paterson University, USA*
[3]*Prof., Department of Economics, Finance Global Business and Financial Planning, William Paterson University, USA*
[4]*Prof., the same as in 3, e-mail: malindretosj@wpunj.edu;*
[5]*Prof., Department of Accounting and Law, William Paterson University, USA, e-mail: ndui@wpunj.edu;*

creative careers and the global creator economy while emphasizing the importance of human–AI collaboration.
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1. Introduction

Artificial Intelligence has and continues to greatly impact on our world, particularly for professionals. Artificial Intelligence or "AI" is "commonly described as systems with intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from experience" (Miller, 2024).

This system has evolved into being able to write essays, create music in the likeness of artists, alter images or videos, and create art. Art represents a practice known to humanity since they walked the earth, from the time of cavemen to now, it is the epitome of being human. It demonstrates their ability to create complex works and concepts in an artistic form, which distinguishes humans from other species on Earth.

However, what does it mean if art is taken away from creative careers and those who rely upon it to convey something, especially for a living? What are the ethics behind the use of AI art? What does this mean financially? In this paper, we will discuss the impact that AI has on art and creative careers.

2. Literature Review

The concept of artificial intelligence goes back thousands of years, when philosophers came up with the idea of "automatons," meaning "acting of one's own will" in ancient Greek. However, the term wasn't officially coined until the 1950s when scientists started asking themselves if it was possible to create an artificial brain. A notable advancement occurred in 1950 when Alan Turing published "Computer Machinery and Intelligence," which proposed a test of machine intelligence called The Imitation Game during World War II (n.d.). This started a lot of research and testing that allowed these systems to progress into the advanced models that are around today.

However, the main concern for artists stemmed from the creation of image-generating AI. The first attempts at this occurred in the 1970s, though it failed, it was able to create the foundation for the software that exists today (Khadatkar, 2023). The most well-known of them is DALL-E by Open Ai, the creators of ChatGPT, and Mid Journey. Both platforms have had many versions and updates that have helped them progress into creating more realistic images. Since they work by training the AI model, real art is input so that the output is more realistic. Additionally, the more users contribute, the more they advance.

This brings into question the ethics behind the model. In 2023, three artists tried suing AI developers over copyright, and a US federal judge almost threw out the lawsuit "brought by artists accusing text-to-image AI developers of copyright infringement but decided to give the creatives a chance to improve and resubmit their complaint" (Quach, 2023). In this case, illustrators Sarah Andersen, Kelly McKernan, and Karla Ortiz argued that Stability AI, Mid Journey, and DeviantArt had "unlawfully scraped billions of images from the internet – including their copyrighted art – to train AI models to generate digital images from users' natural language descriptions" (Quach, 2023).

This lawsuit proves the impact that these software programs are having on the world of artists. If one were to ask Mid Journey to generate an image of an ice cream, for example, in the style of Van Gogh, something dangerously close to a painting he might have created will appear. It would have copied its style, strokes of paint, frequently used forms, etc. This brings artists to face the risk of having their unique style stolen from them and devaluing their art. Though it will never be as valuable as an original piece, their art becomes less of a commodity because people can easily recreate something in their style without commissioning it.

This concept ironically makes one reflect on the evolution of art as a valuable contribution to society. Eras like Renaissance and Baroque, for example, birthed techniques and elements of art that have led many aspiring artists through years of study to learn and perfect such techniques to now be faced with a technology that can almost perfectly recreate what was once "an art". In addition, this also brings one to reflect on how art was interpreted as a valuable career in history, yet slowly it has dwindled to the popular saying, the struggling artist, and now with AI, one would argue that this popular saying may convert to the extinct artist.

Furthermore, with growing concerns for the environment, it's important to note the effects of AI on Earth. Companies are facing pressure from global organizations to improve their impact on climate change. This means saving electricity, reducing their carbon footprint, etc. But with the evolution of AI and increased use amongst big corporations, one may question if this is against the ethics of improving the environment.

The usage of AI requires a huge amount of electricity and water. Electricity is a big emitter of greenhouse gases that contribute to global warming and exert pressure on the electric grid, such as notably when the AI models have billions of parameters like Open Ai's GPT-4 (Zewe, 2025). Water, which is already scarce in many parts of the world, is used to cool down the machinery that runs the hardware, which is "used for training, deploying, and fine-tuning generative AI models, which can strain municipal water supplies and disrupt local ecosystems" (Zewe, 2025).

In terms of quantities, "Today, data centers run 24/7 and most derive their energy from fossil fuels, although there are increasing efforts to use renewable energy resources. Because of the energy the world's data centers consume, they account for 2.5 to 3.7 percent of global greenhouse gas emissions, exceedingly even those of the aviation industry" (Cho, 2023). This also brings into question whether or not the companies that run the software and those who use it should be considered unethical, as they are knowingly harming the environment.

Granted, there are progressions towards more sustainable practices, but where should one draw the line of what is ethically responsible or not? Do these companies have to be held accountable for the pollution they are causing, or applauded because of their technological advances? And how should creative industries manage their use of AI to remain compliant with positive environmental impacts? These questions are imperative for businesses, artists, and anyone who uses AI, as everyone is concerned by these developments.

Another ethical issue to consider with AI is bias and stereotyping. This concerns those who use image-generating AI software the most. These systems can amplify biases that were present in their training data, leading to either stereotypical or discriminatory images. For example, "In an analysis of more than 5,000 AI images, Bloomberg found that images associated with higher-paying job titles featured people with lighter skin tones, and that results for most professional roles were male-dominated" (Turk, 2023).

To counter such biases, diverse training must be done to vary the output that the software creates. However, an important point to note is that, as stated in the Rest of World article (Turk, 2023), people have sought diversity and representation for a very long time. By "giving a voice to machines," the stereotypes of images are bringing us a step backward from where we have gotten by resorting to the biases that many have fought against.

Regarding art and design, this means that artists who use AI will be creating images that do not accurately represent people or cultures correctly. For instance, when providing a prompt such as "an Indian person," trials have shown that an old man with a beard and turban is what is almost always generated. Unless instructed further to show something else, this proves that more biased images will be released into the world and reinforce ignorance.

On the other hand, this has allowed companies and artists to save a lot of time and money. For designers, this means automating tedious tasks and faster production times, which saves money since more can be done in shorter periods. To give an example, on Adobe Photoshop, a popular tool for many users is the AI photo editor. This quickly adds or removes elements, replaces backgrounds, and more.

For example, if a photographer is tasked with removing a stranger in the back of a couple's photoshoot and making the sky prettier since it was cloudy, they can now do so through only a few clicks instead of hours of work. The photographer will simply get on Photoshop, highlight the stranger that needs to be removed, and Photoshop will replace where the person once was with a matching portion of the background so that it appears as though the photo was taken like that originally. Additionally, for the sky, there is now even a sky replacement tool where one can simply choose the sky one desires, and Photoshop completely changes everything automatically. This saves a lot of time and allows for more work to be done efficiently.

These developments mean many things for creative careers. A study by Stout shows that there has been an "83% professional adoption… seeing a deeper integration across various creative disciplines," and "is reshaping everything from graphic design to content creation, with up to 26% of creative tasks now augmented by AI assistance" (Stout, 2025). Along with significant productivity and efficiency, AI has also allowed for quicker concept generation.

Inspiring artists when they may not have found any yet. It has now served as a creative partner. Allowing for ideas to go farther than ever before. AI lets artists explore thousands of different ways their concepts could go and lets them decide which is the best way to pursue what they chose. Therefore, for anyone who thought that they could never do art, this is the tool that can make that dream a reality. Although this brings one back to ponder, if these new artists would be considered authentic artists.

Additionally, AI has allowed more people to explore their creative abilities. Those who considered themselves bad at art have been able to create through a more accessible format. They can now make art through a simple typed prompt. On the professional side, this has allowed small businesses and startups to create and explore their visual identity without having to spend large amounts of their small budget on graphic designers.

Through platforms such as Canva, which is an easy-to-use graphic design platform for logos, social media content, posters, and more, and AI-driven logo generators, these businesses can launch their company with a quality and low-cost visual identity. This will allow them to make a bigger impact on future customers and get their name out there quicker than having to wait to have the budget to pay for someone to create a logo for them. Thanks to this innovation, an increasing number

of people have seen success in launching their businesses. According to Advertising Week (Charest, 2023), using AI for marketing purposes has allowed 91% of small businesses to be more successful.

In terms of creative industries, AI has been revolutionizing the way that creatives go about their jobs. Artistic Directors have reported that it has made creating concepts with clients easier and even a more fun and collaborative process. Graphic Designers state that it has made their jobs easier and more efficient. Artists say that they have been able to get their art out there on social media easily and therefore have earned more sales. And even musicians can generate more ideas, improve production quality, and facilitate collaboration.

As of right now, AI does not seem to be advanced enough to completely replace these jobs, but the huge question is, will it be in the future? AI seems to be evolving at a rapid and impressive rate. The 2025 Future of Jobs report by the World Economic Forum showed that graphic design was “the 11th fastest declining job, based on the employers’ predictions” (Alderson, 2025).

This is very concerning because just two years ago, it was considered a moderately growing career. Design Week states that, “The report links this newly endangered status to the rise of AI, and its 'increasing capacity to perform knowledge work” (Alderson, 2025).

Although graphic design is just an example of a career that is being affected, this represents all jobs in the creative industries. Unfortunately, as AI progresses, more and more companies are getting rid of or no longer using their artists/ graphic designers because they can do the same job quickly and cheaply. This does not replace the skill and human touch that creatives possess, but more companies are just thinking about their dollars rather than investing in high-quality graphics.

Moreover, as art becomes more accessible to those who didn’t have a natural artistic talent, more entry-level artists are trying to enter the workforce. This means that the few entry-level positions that still exist are becoming overly saturated and seeing a lower salary progression than previously.

Noble Desktop states for graphic designers, “this means that aspiring Graphic Designers are likely to face a slightly more competitive job market and see slightly lower growth in their overall salaries compared to other creative professionals.

As a result of this, it is good practice to consider what skills you can learn beyond the basic tools of graphic design as a means of expanding your career opportunities in the face of a potentially stagnating market”. Which is interesting, again considering that hundreds of years ago, art was considered one of the most prestigious and high-paying career paths that only nobles could pursue.

3. Material and Methods

In the United States, there are multiple factors that contribute to the hardships that people in the creative industries face, outside of AI, which is now adding another obstacle. Nowadays, artists face a lack of affordable housing and workspaces, where a 2021 study by the Aviara Arts Renaissance Initiative "found that 66% of U.S. artists struggle to pay rent" (Wenzel-Vollenbroich, 2024).

They also struggle with the lack of access to healthcare, the business side of art, and the discrimination and lack of representation that is being strengthened now through AI images. "Like many industries, the arts continue to grapple with underrepresentation and discrimination facing women, BIPOC, LGBTQ+, and disabled artists. A 2019 study by the PEW Research Center found that 69% of artists in the U.S. identified as non-Hispanic white" (Wenzel-Vollenbroich, 2024).

Furthermore, despite 50% of current visual arts students being female, only 2% of global auction spending is by works of female artists" (Wenzel-Vollenbroich, 2024). Interestingly, this dynamic is no stranger to the art world. Women artists have often been pushed to the sidelines as men prospered from their works. To give an example, one can recall the iconic story of Rodin vs Claudel. Camille Claudel was Auguste Rodin's student, then muse and lover in the mid to late 1800s. Rodin was a renowned sculptor, and Claudel's work was just as impressive.

However, she faced significant challenges in establishing her own artistic identity, and people did not take her seriously or want her to be a part of art galleries like Rodin. This relationship with Rodin heavily affected her mental health, leaving her to destroy most of her art in her later years so that it would be gone forever, as she believed no one wanted to see it anyway. This story portrays how women have been fighting for the spotlight for centuries, and AI's biased images are not aiding in the fight for equal representation.

This author conducted a study to generate multiple images of artists and see what type of person was depicted. This was meant to prove whether the world is perceiving artists, thanks to AI, as a certain stereotype, as touched upon earlier in this essay. Since AI images are becoming more widespread, if stereotypes continue to be pushed, those who fall outside of the stereotype could face the consequences when, for example, competing for a job.

The interviewer may choose the candidate who best fits their idea of an artist subconsciously due to the exposure of these constant biases. Holding this thought, the author proceeded to put this to the test but using the prompt "an artist painting," to see what would generate on various models. On ChatGPT, a young white male with brown hair was shown. On Microsoft Bing, three images of a young white male with brown hair and a beard appeared; the fourth was a black male. On Deep AI,

another white male, this time slightly older than the previous images, was displayed. Same with Google Gemini, a middle-aged white man was generated.

According to this study, results show that artists are stereotyped as being white males. Meaning that as AI images become more widespread, people will be exposed to these biases and have these images become top of mind when thinking about this profession. This could include recruiters or even clients who could reduce their opportunities for other artists to receive projects or jobs.

Financially speaking, the International Confederation of Societies of Authors and Composers (CISAC), representing over 5 million creators, measured the economic impact of AI in another form of art, which is the musical and audiovisual sectors. CISAC found that "Generative AI will enrich tech companies while substantially jeopardizing the income of human creators in the next five years" (n.d, 2024).

Though generative AI seems to aid creativity, the CISAC suspects that, "music and audiovisual creators will see respectively 24% and 21% of their revenues at risk of loss by 2028. This amounts to a cumulative loss of €22 billion over the 5-year period (€10 billion in music; €12 billion in audiovisual)," (n.d, 2024), translating to about $25 billion over 5 years, $11 billion in music, and $13 billion in audiovisual.

Job security is another major problem for those in the creative industries. Creatives are feeling the fear of AI potentially taking over their jobs, and the numbers are not soothing their worries. Professor Zhao at the University of Chicago wrote, "Just in the realm of artistic imagery alone, human creatives have been replaced in significant numbers in industries ranging from graphics design, illustrations, to game design. Predictions of massive job loss have been confirmed by repeated waves of layoffs in 2023 and 2024 across the entertainment industry, many of which are explicitly linked to use of AI" (Zhao, 2024). This proves just how much AI seems to be affecting art and creative industries now and in the future.

To conclude, there are various ethical concerns relating to the use of AI, particularly in art and creative industries. Notwithstanding, it is evident that one must acknowledge that AI has given art and aspiring artists a new window to work from. Yet, this is still not enough to comfortably sit with the presence of AI because this can lead to an overdependence on this tool and bring artists to a state of stagnated creativity as they are/would no longer be active critical thinkers in their medium.

Thus, bringing us back to the crashing of originality or, worse, the death of the spirit in art. Art moves its public and allows authentic representations of cultures and their stories, but it is becoming lost or blurred by stereotypes that send generic messages to audiences. Furthermore, the devaluation of art hits the history of skilled craftsmanship, slowly turning this once vibrant field into almost no longer necessary for companies, forcing artists to adapt to low-cost, quick production work that removes the spirit in art, as previously stated.

The future is uncertain in the degree to which AI will restructure the world of art; however, even with access to faster and/or easier ideas and production, the rich skills that once fueled the many variations of art are becoming extinct in the face of upcoming generations.

Ethics also remains unclear in how boundaries and regulations will be properly formulated to protect artists. There are an insurmountable number of concerns and financial issues that need to be addressed going forward with the evolution of AI. This is particularly important in how royalties will be allocated, as AI seems to be placing art in such an accessible format that licensing or copyright infringements feel like they have lost their strength in the realm of law.

This dilemma deeply resonates with what happened to street artist Jean-Michel Basquiat. Beginning as a street artist, his work was notably unprotected, and as his popularity rose, so did the thirst to use his unprotected work for personal gains by various entities, and this example, proves how valuable art put out on the street or in today's world, the streets of the internet, aka, AI harshly removes proper recognition of the artist whose work may have been used.

Just as Basquiat's unprotected work became vulnerable to exploitation, today's digital landscape exposes artists to similar risks, only now, the scale is amplified by artificial intelligence. This wide accessibility not only challenges traditional notions of ownership and compensation but also fuels the misconception that AI-generated art is nearly free.

All one must do is sit down at their computer, come up with a good prompt for whatever art piece they're trying to create, and input the prompt into the AI software of their choosing. A few seconds later, the image appears. If the user is unsatisfied, they can instruct the generator to adjust a few settings until it produces the desired piece. However, it is not as simple as it appears to be. There are numerous hidden costs that complicate this perception.

Firstly, AI contains quite a hefty amount of development costs. The user may not have to worry about these directly, but without them, there would be no platform for the artists to use. Henceforth, they must be taken into consideration when finding the production costs of AI artwork.

Expenses such as training data are required to have performative software. Big companies are paying $1-4 per minute for high-quality data training, such as images, videos, or illustrations (Dunn, 2025). These require licensing agreements with copyright holders or content creators, so for large-scale performative datasets, costs easily reach tens of thousands to millions of dollars.

These fees are important to avoid copyright infringement and stealing from artists, as in the 2023 case with Sarah Andersen, Kelly McKernan, and Karla Ortiz, as

previously mentioned. To protect themselves from copyright litigations over unlicensed use and privacy laws, AI companies need to have a team for legal and compliance review.

Afterwards, there are curation costs. Before data can be used, it must be organized, cleaned, and annotated, which requires a lot of time and skills. If data is not curated, it is practically rendered useless, as it would be too much of a mess to acquire what is needed to respond to users' prompts. This further adds to labor costs since it requires skilled people to ensure that data meets technical and artistic requirements.
Secondly, hefty computational power expenses are added to the costs. AI companies must consider hardware costs for training powerful and innovative AI models. GPUs, such as the NVIDIA H200 NVL, cost over $25k, and usually a rack of them is needed to ensure speed and performance. This adds up to hundreds of thousands of dollars per server (n.d, 2025). Then, there are energy and cooling fees. These include what is needed to maintain the heavy and constant workload of usage and training in terms of electricity and cooling substances.

This cost is sometimes even higher than initial hardware expenses. Since the silicon in the machines can become unstable and inefficient when heated, AI companies must find the best cooling solution, whether it be air or liquid. The final computational power cost is when using a cloud infrastructure for storing data. Subscriptions for GPU access can go from $50,000 to over $150,000 per year, depending on the size of the company and its needs (Sheykin, 2025).

Thirdly, there are salaries for AI Researchers & engineers. These roles require high compensation, going from $100,000 to over $300,000 per year, depending on role, experience, region, and project complexity (n.d, 2025). Companies could also consider hiring special talent to successfully scale their operation, such as experts in generative media, computer vision, deep learning, or even for AI-specific leadership roles.

Colucci (2025) states that finding AI talent is a "high-stakes race," and companies are raising important questions about "how to attract specialized AI talent." Therefore, with the demand from AI companies and those who will the using it for their operations, compensation for these roles represents a large portion of costs. Not to mention that there are other roles from other sections of a company that must be taken into consideration as well, including marketing, sales, etc.

After analyzing the costs associated with AI, one might be wondering if all of these costs are even necessary. Without these high expenses, companies would not be able to offer the quality of software that they do and might only be able to operate on a small scale, which would limit the company's ability to grow. Since AI is such a new playing field, it's also important to make legal costs a necessity, as copyright laws around AI, and more specifically, AI art, are ever-changing and uncertain. As

mentioned as well, acquiring talent is indispensable to produce engines that are able to generate high-quality outputs.

However, these costs are not directly paid for; they are passed on to other parties. Consumers or artists who create using these platforms must pay higher prices for subscription fees, and some AI-generated content is only available if paid for by the subscription.

Companies can find ways to create subscription plans that allow them to bring in a lot of profits while still allowing users to create any image they can imagine. For example, Midjourney, the popular generative media AI platform, uses different tiered subscription plans to appeal to the various needs users have. It ranges from basic ($10/month) for casual users to mega ($120/month for professional creators, providing different generation times depending on the tier. It allows casual creators to professional designers to use the platform. Midjourney requires users to create an account to keep all their creations in one place and displays a gallery of media that other users have created on the platform. This is meant to entice non-subscribers to purchase a plan to start creating for themselves.

Their B2C business model, paired with Midjourney being entirely self-funded since its founding in 2021, has skyrocketed the company, giving it a unique edge amongst competitors. “David Holz has maintained the company’s independence by rejecting venture capital, allowing Midjourney to operate without external investor pressure or dilution,” states Sacra (2025). This allowed the company to build its $200M+ revenue via its own organic growth and reinvested profits.

With only 40-45 employees, Midjourney strives to allow artists to be more “explorative in the beginning, coming up with lots of ideas in a short amount of time. Game designers and concept artists could also use Midjourney creations as a base before jumping into modeling and rigging. In addition to helping artists settle on an idea before spending hours drawing, molding, or photographing, others have used Midjourney as an input to their work” (Kayman and Segal, 2025).

This proves that, although at first glance creating art via AI seems to cost close to nothing at first glance, the production cost behind each image represents a significant amount more for the company.

On the contrary, an art piece created traditionally by an artist seems to have more upfront costs for the creator than a subscription plan.

Firstly, an artist must cover expenses for materials and tools. This includes acquiring the correct canvas for the painting, ensuring the material (cotton, linen, synthetic), its format (stretched, panel, rolls, pads), and preparation (primed or raw), as well as the size and quality, all best correspond to the type of piece the artist intends to create. Costs for canvas vary largely between what is selected, ranging anywhere from

about $10 to well over $200. Once the canvas is selected, the artist needs to purchase the medium they will be using.

When doing a painting, the artist must choose between a wet medium, which includes acrylic, oil, watercolor, gouache, and more, or a dry medium, which includes graphite pencils, charcoal, and pastels. The medium also heavily varies in pricing depending on which is selected, the number of colors needed, and the quality or brand. Then, the appropriate brushes and tools must be purchased depending on the intended medium. This would include paintbrushes, palette knives, sponges, and much more. Varying again in size, quantity, and quality, these tools could be costly.

Once the piece is completed, a very important step is protecting it. Without the appropriate varnishes, art could fade or easily become damaged, which would be unfortunate for the piece that was created. Finally, an artist must consider a frame or presentation to mount the artwork, either to sell or display. Though it may not seem to be as important, the frame adds value to the work and shouldn't be looked over.

Secondly, there are fees for the studio and overhead. As a professional artist, there are expenses such as studio rent or mortgage that must be taken into consideration, especially when pricing artwork, to be able to pay. Depending on the location of the studio, rent per month can go up to $3,000 for a small place in New York, for example (n.d, 2025). Then, there are utilities including water, electricity, heating/cooling, and internet. Insurance is another expense required for protecting the work and supplies, along with business liabilities.

Thirdly, labor and time investment represent another cost to the artist. Artists' wages by the hour are about $15-$40; however, more established artists may earn higher. If an assistant or contractor is needed, their external labor cost should be included amongst the production expenses calculations. Besides creative work, it's important to remember that administrative tasks such as answering emails, speaking to a customer, or managing inventory also require compensation as work is being done.

Finally, there are other hidden costs that are involved with the production costs of creating artwork. Packaging and shipping can often be costly but are required for transporting a piece safely or sending it to a customer. Rates depend on the carrier, size, and weight. Marketing and promotion are essential for having work known and growing a customer base.

This can include building and maintaining a website, having a social media presence, and going to shows and galleries. So, in the case of going to a show to present artwork to potential buyers, transportation must be taken into account along with anything needed for the presentation.

Lastly, membership and other fees that an artist might pay to be displayed in some galleries or to agents who help sell artwork.

To better understand these production costs, an average expense list would require identifying what costs are fixed and which are variable, so that an artist can determine what budget they need to have per month. The following shows what exactly one should expect per month when professionally making traditional artwork on commission.

Fixed costs include studio rent ($1,000), utilities ($200), phone and internet access ($300), marketing and advertising ($500), and membership ($30), which would total $2,030 per month.

Then, the variable costs include materials and supplies ($500), packing and shipping ($200), printing and reproduction ($300), miscellaneous ($300), artists' labor at $20 per hour ($3,200), totaling to $4,500 variable costs per month (Tommey, 2023).

Meaning that the average artist would have about $6,530 in production costs per month, not including the opportunity cost an artist might face taking the time to do one piece instead of another.

Now that the production costs of AI art and traditional art have been calculated. Which is the most advantageous? In terms of general creation costs from scratch, traditional art is much cheaper because expensive software and AI development are not needed. However, for out-of-pocket expenses to the artists, AI art is the most advantageous option.

The user will only have to pay for the subscription to the platform; if they have a computer connected to the internet, they will be able to create artwork quickly and at a low cost. Their productivity would increase as less time is needed to come up with a creative vision, acquire the material, and spend hours on end to bring the vision to life. Therefore, profits would skyrocket as costs are low, and mass production is possible.

However, value perception complicates things. There is a large gap between the monetary value of both. Studies show that participants "valued AI-labeled art 62 percent less than art identified as human-made" (Mead, 2025). This is confirmed by an article released by the Department of Computer Science, State University of New York (Oswego), where "Experiments were undertaken where participants were asked to evaluate and compare a series of human and AI-produced images without knowing the origins of each.

Quantitative data revealed that although human artwork was preferred overall, AI-generated pieces were selected at a rate of nearly 45%, indicating a growing acceptance. Also, the experimental participants consistently assigned a higher monetary value to human art, suggesting that human-created pieces offered some perceptibility to an increase in perceived worth despite a lack of knowledge about the origin of the artwork by participants" (Hall and Schofield, 2025).

Research done by Columbia Business School states that "The rise of AI-generated art is provoking anxiety about the future of human-made art. In a recent study, participants valued art labeled as AI-generated 62 percent lower than art labeled as human-made.

Although human-made art had a higher perceived value when displayed next to AI art, no such increase occurred when shown next to other human art. Even in a market affected by AI art, human artists may be able to preserve their pricing by drawing clear distinctions between their work and AI-generated pieces" (Mead, 2025). This proves that the complicated relationship between art and AI may still hold some positivity, and not all hope is lost for artists who want to continue working traditionally.

From a commercial perspective, many companies are now choosing AI over traditional methods because of the fast turnaround time and lower perceived cost. This shift is comparable to the monumental change that occurred when photography became widely accessible and began to challenge the work of portrait painters.

Portrait paintings were once used to represent status and power, but required long periods of time posing, and were very expensive. However, this practice also faced a huge change when people were able to have their photo taken. Instead of hours posting, they simply had to be still for a few seconds, which made it more advantageous. Additionally, the cost was lower because they didn't have to pay artists for labor and supplies. Just a quick click of a camera and the portrait was taken. This artist on the left is facing job losses as fewer people were asking to have their portraits painted. Artists had to adapt and find a new way of working to get an income.

This is very similar to how AI is taking over the artists' playing field. More companies are resorting to AI for their advertising designs, such as logos, instead of hiring designers. Today's artists must take note of how previous artists had to adapt to technological advances to survive.

However, how can this reshaping movement bring certainty to artists? What does the future hold for artists and designers when the essence of their crafts is being transformed into technological advances? The depth of these two questions resonates profoundly with the author. While a wave of reflection has been ignited by research and reflection, this transition holds a chilling uncertainty about how our culture is morphing into a state where human craft is being devalued or underappreciated in favor of the quick access to machine-generated content.

The evolution of artists is spotlighted as one evaluates how their creativity has been put to the test repeatedly throughout history. As previously discussed, portrait paintings were once an aristocratic service that kept artists employed, and once photographic portraits entered the scene, these artists faced a crisis much like the one

today. Yet, in that time, artists needed to think quickly and resort to creating styles that could still be alluring to customers for their home decor.

Impressionism and abstract paintings began to take form as creativity blossomed over literal representation, and if we extend this thought to the branch of music, one can also observe how musicians were, in parallel, forced to transition from live performances to recording. Undoubtedly, beautiful work was born from the forced evolution of technology.

Hence, the world of art, today, faces yet again another forced evolution, with what seems to be higher stakes and a grim future for working artists. This leads one to consider how artists, past and present, also need to reevaluate how they interact with their audience. This might be where hope is, audience is what keeps art alive in its many forms, from fine arts to performing arts, and as the world of today settles into a reality that is fully shaped by technology, today's audience is accessible through said medium therefore, the reshaping of art to AI could be transition as the next artistic evolution by examining how audiences view art. For example, an organization in the field named No Code Alliance states that "the AI integration not only redefines artistic practices but also opens up new ways of engaging with audiences" (n.d).

They offer a plethora of resources for artists to consider how this inevitable transition can be navigated. New skills are surfacing that can bridge art and technology, as they explain, prompting a list of possibilities where artists can set their sights on for their transition, like:

AI Curator: *Responsible for selecting and organizing AI-generated art pieces.*
Generative Artist: *Creating original artworks using generative algorithms.*
AI Art Programmer: *Developing software that enables the creation of art via AI.*
Data Scientist for Art: *Analyzing trends in art and leveraging AI to predict future styles.*
Interactive Designer: *Crafting experiences that combine art and AI technology for user engagement (No Code Alliance, n.d.).*

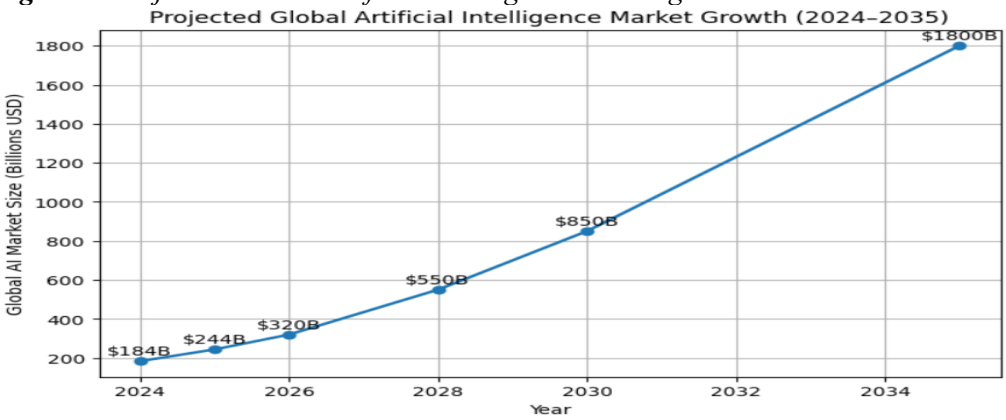
While we are still in the beginning phases of this transition, artists are now facing hard questions and having to cultivate a new skill set that transcends how they once produced their craft. Are we, as a society, supporting this transition by transitioning art education to match this? Or are we leaving artists to fend for themselves?

But if we look at the problem from an expandable angle we can respond to some unknowns and legitimate concerns when we integrate artificial intelligence, art to a future global creative economy. Below we provide additional economic forecasts, global financial projections, future predictions, labor market statistics, environmental considerations, and emerging policy developments.

3.2 Global Economic Expansion of Artificial Intelligence

Artificial intelligence is projected to become one of the most economically transformative technologies of the 21st century. According to PwC, AI could contribute approximately $15.7 trillions to the global economy by 2030 through productivity improvements, automation, and increased consumer demand. Goldman Sachs estimates that generative AI alone could raise global GDP by nearly 7% over the next decade (Figure 1).

Figure 1. *Projected Global Artificial Intelligence market growth*



Source: *Own study.*

Figure 1 presents projected global artificial intelligence market growth between 2024 and 2035. Forecasts are based on combined estimates from PwC, Goldman Sachs, Statista, McKinsey & Company, Stanford AI Index Report, and Grand View Research. The data reflects expected expansion in generative AI, cloud infrastructure, robotics, automation, healthcare AI, cybersecurity, and AI-powered business systems.

4. Key Economic Forecasts

• By 2030, artificial intelligence is projected to contribute approximately $15.7 trillions to the global economy according to PwC estimates.

• Goldman Sachs predicts generative AI could increase global GDP by nearly 7% over the next decade, making AI one of the largest technological productivity revolutions since the Industrial Revolution.

• AI adoption is expected to accelerate particularly in healthcare, finance, logistics, military systems, education, entertainment, and autonomous transportation.

• NVIDIA, Microsoft, OpenAI, Google, Amazon, Meta, and other technology companies are investing hundreds of billions of dollars into AI infrastructure and semiconductor expansion.

• Data center electricity consumption linked to AI systems may more than double by 2030 according to the International Energy Agency (IEA), increasing environmental concerns regarding sustainability.

• Economists forecast that AI automation could replace or significantly transform between 300 million and 800 millions jobs globally by 2040, while simultaneously creating entirely new AI-related professions.

• The creative industries are expected to undergo major restructuring as AI-generated music, design, filmmaking, advertising, and publishing continue to expand rapidly.

Table 1. *Main forecast contribution*

Source	Main Forecast / Contribution
PwC Global AI Study	$15.7T projected global economic impact by 2030
Goldman Sachs Research	7% increase in global GDP due to generative AI
McKinsey & Company	Massive productivity gains across industries
Stanford AI Index Report	Rapid acceleration in private AI investment
International Energy Agency	AI-related electricity demand forecasts
Grand View Research	Long-term AI market valuation projections
Statista	Global AI market growth estimates

Source: *Own study.*

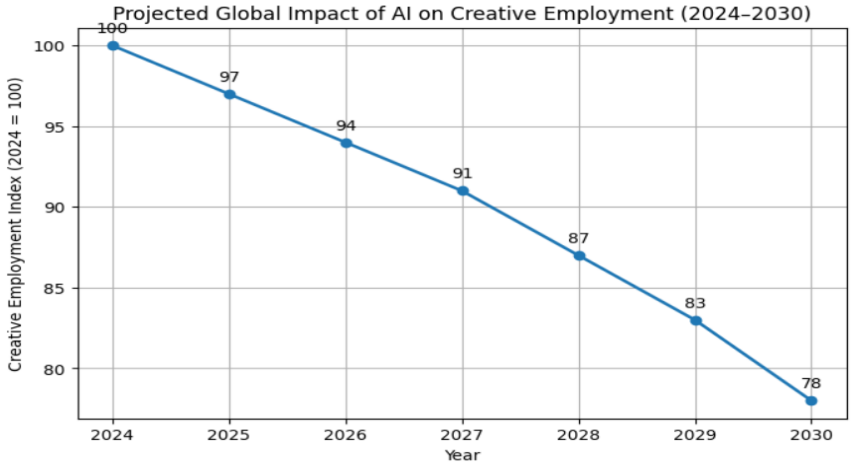
4.1 Future Labor Market Disruption in Creative Industries

Creative industries are expected to face significant structural changes as AI systems become more advanced in generating text, music, videos, and visual designs. The World Economic Forum reported that creative and design occupations are among the fastest transforming professions. Research from McKinsey & Company predicts that between 20% and 30% of current creative tasks could be automated by 2030.

Figure 2 illustrâtes projected changes in global creative employment resulting from the expansion of artificial intelligence technologies between 2024 and 2030. Forecasts combine data and projections from the World Economic Forum, McKinsey & Company, Goldman Sachs, Stanford AI Index Report, PwC, and OECD labor studies.

The projected decline in creative employment reflects growing automation in graphic design, advertising, media production, and digital content creation. Although some traditional jobs may disappear, entirely new hybrid careers combining creativity with AI engineering are also expected to emerge.

Figure 2. *Projected Global Impact of AI on Creative Employment 2024-203*



Source: *Own study.*

4.2 Additional Forecast Analysis

• Creative professions expected to face the largest disruption include graphic design, advertising, illustration, video editing, animation, publishing, journalism, music production, and digital marketing.

• Goldman Sachs estimates that generative AI could automate portions of work equivalent to approximately 300 million full-time jobs globally, including creative and knowledge-based occupations.

• McKinsey & Company projects that by 2030, nearly 30% of current creative tasks may be automated or AI-assisted, especially repetitive production work.

• The World Economic Forum reports that creative and media occupations are among the fastest transforming industries due to rapid AI integration.

• AI-powered content generation platforms are expected to reduce costs for companies by billions ofdollars annually through faster advertising production, automated design, synthetic media creation, and AI-generated entertainment.

• Despite projected employment declines in some traditional artistic sectors, entirely new hybrid careers are expected to emerge, including: AI Prompt Engineer- Synthetic Media Producer- AI Ethics Consultant- AI Creative Director- Digital Authenticity Analyst- Human-AI Collaboration Specialist

• Economists predict that premium human-created artwork may become more valuable in the future as authentic handcrafted creativity becomes increasingly rare in highly automated markets.

• UNESCO and OECD researchers warn that unequal access to AI technologies may widen economic inequality between advanced economies and developing nations relying on creative outsourcing industries.

4.3 Forecasted Financial Impact on the United States

The United States is expected to remain the dominant global leader in AI investments and innovation. Stanford University's AI Index Report noted that U.S. private AI investments exceeded $67 billion in 2024 alone. Analysts predict that by 2030, AI could increase U.S. labor productivity by 1.5% annually while simultaneously displacing millions of routine and entry-level jobs.

Economists estimate that the U.S. entertainment, advertising, and digital design sectors may collectively lose between $80 billions and $120 billions in human labor income over the next decade due to AI-generated content replacing lower-cost creative services.

Table 2. *Main findings*

Reputable Source	Main Findings
World Economic Forum	Creative jobs among fastest transforming occupations
Goldman Sachs Research	300M jobs exposed to automation globally
McKinsey & Company	30% of creative tasks potentially automated
Stanford AI Index Report	Rapid acceleration in AI investment and adoption
PwC Global AI Study	AI contribution to labor productivity and GDP growth
OECD Future of Work Studies	AI reshaping labor markets and employment patterns
UNESCO Reports	Cultural and educational implications of AI

Source: *Own study.*

5. International Financial and Cultural Impact

Globally, developing countries may experience disproportionate disruptions because many outsourced creative and digital services are vulnerable to automation. Countries relying heavily on freelance design, animation, and digital marketing industries could face declining export revenues.

At the same time, AI accessibility may democratize creativity worldwide. Independent creators from low-income regions can now produce professional-level visual content with minimal equipment costs. This may create a new global creator economy where barriers to entry are significantly reduced.

The international financial and cultural consequences of artificial intelligence are expected to be among the most transformative developments of the 21st century. While AI promises enormous economic growth and expanded access to digital tools,

its benefits and disruptions are unlikely to be distributed equally across countries and populations.

Developing nations may experience disproportionate economic instability because many of their rapidly growing service industries rely heavily on outsourced digital labor that is increasingly vulnerable to automation.

According to PwC's global AI economic analysis, artificial intelligence could contribute approximately $15.7 trillion to global GDP by 2030, representing one of the largest technological wealth expansions in history. However, economists warn that a significant portion of this wealth may remain concentrated in technologically dominant economies such as the United States, China, and parts of the European Union, potentially intensifying existing global inequality.

Many developing economies currently depend on outsourcing industries including freelance graphic design, animation, video editing, software development, social media management, digital marketing, and content moderation. Countries such as India, the Philippines, Pakistan, Bangladesh, Nigeria, Kenya, Vietnam, Indonesia, and parts of Latin America have experienced major economic growth through participation in the global digital service economy. Yet many of these jobs involve repetitive or scalable digital tasks that generative AI systems are increasingly capable of automating at significantly lower cost. The OECD warns that rapid AI adoption could reshape global labor markets faster than many economies can adapt, particularly affecting workers in vulnerable digital service sectors.

Financially, the risks are substantial. Analysts estimate that global AI-driven automation may place pressure on work equivalent to approximately 300 million full-time jobs worldwide over the coming decades, with developing countries facing heightened exposure because of their dependence on outsourced digital labor markets. Simultaneously, the World Bank estimates that nearly 800 million people in low- and middle-income countries may be at risk of economic displacement over the next decade without significant investments in digital infrastructure, education, and AI readiness.

Countries unable to develop domestic AI capabilities may experience declining export revenues as corporations increasingly replace outsourced human labor with generative AI systems capable of producing advertising campaigns, illustrations, subtitles, translations, logos, videos, customer support responses, and social media content almost instantly.

The cultural implications are equally profound. AI systems are largely trained on datasets originating from dominant global cultures, languages, and artistic traditions, particularly Western and English-speaking media ecosystems. Researchers studying global AI ethics warn that this may contribute to cultural homogenization, where

local artistic identities and regional creative traditions become overshadowed by algorithmically dominant global aesthetics.

Smaller cultural industries may struggle to compete against AI-generated content optimized for large-scale commercial engagement. This raise concerns that local languages, artistic styles, indigenous storytelling traditions, and regional forms of expression could become increasingly marginalized within global digital platforms dominated by AI-generated media. At the same time, however, artificial intelligence may also democratize access to creativity on an unprecedented scale.

One of the most revolutionary aspects of generative AI is its ability to dramatically reduce the cost of producing professional-quality content. Independent creators from low-income regions who previously lacked access to expensive cameras, software, recording studios, animation tools, or design agencies can now generate sophisticated visual content using only a laptop or smartphone connected to cloud-based AI systems.

The World Bank notes that AI and digital technologies create opportunities for emerging economies to "leapfrog" traditional industrial barriers by lowering startup costs and enabling new digital business models.

This transformation is contributing to the rapid expansion of the global creator economy. Goldman Sachs projects that the creator economy could approach $500 billion globally by 2027, fueled by social media platforms, digital monetization systems, AI-generated content tools, and direct audience engagement models.

Millions of creators worldwide are now generating income through YouTube, TikTok, Instagram, Twitch, Patreon, Substack, Spotify, and other digital ecosystems without relying on traditional publishers, studios, or media corporations. AI-powered tools further accelerate this transition by allowing creators to produce logos, animations, marketing campaigns, video scripts, music tracks, podcasts, and entire digital businesses with minimal capital investment.

The reduction in barriers to entry may particularly benefit younger populations in emerging economies. Regions with rapidly growing internet penetration and mobile connectivity — especially Africa, Southeast Asia, South Asia, and Latin America — may experience major growth in digital entrepreneurship. In countries where traditional employment opportunities remain limited, AI-powered creative platforms could become alternative economic lifelines.

For example, freelance workers increasingly use AI systems to accelerate workflow efficiency, improve language translation, automate editing, and acquire new skills more rapidly. Recent academic research on freelance knowledge workers found that generative AI tools are increasingly being used not only for production but also for self-education and career survival in highly competitive digital labor markets.

Nevertheless, this democratization of creativity introduces a paradox. Although more individuals can now produce content, the digital economy itself remains highly unequal. Research on the creator economy indicates that only a small percentage of creators generate sustainable income, while the majority struggle with monetization instability, algorithm dependency, and platform competition.

According to creator economy statistics, more than 50% of creators globally earn under $15,000 annually, while only approximately 4% earn more than $100,000 per year. Thus, while AI lowers production costs and expands access to content creation, it may simultaneously intensify competition and oversaturate digital markets with synthetic media.

Another emerging financial issue is the concentration of AI wealth creation. Studies suggest that approximately 70–75% of AI-generated economic value may ultimately accrue to fewer than ten technologically advanced nations, particularly those controlling semiconductor production, cloud infrastructure, advanced computing systems, and proprietary AI models. This creates the possibility of a widening "AI divide" between countries capable of producing advanced technologies and those dependent on consuming them. Nations lack robust internet infrastructure, cloud computing capacity, cybersecurity protections, and AI education systems risk becoming digitally dependent economies rather than participants in future technological leadership.

Furthermore, governments in developing countries face difficult policy challenges regarding regulation, taxation, workforce adaptation, and intellectual property protections. Some economists argue that without proactive public policy, AI could exacerbate unemployment, income inequality, and social instability in regions already facing economic fragility. Others believe AI may ultimately generate entirely new industries and entrepreneurial ecosystems if governments invest effectively in education, infrastructure, and innovation programs. The World Bank emphasizes that successful AI integration requires not only technology access but also strong legal systems, digital safeguards, cybersecurity, workforce development, and inclusive public policy.

Ultimately, the international financial and cultural impact of artificial intelligence will likely depend on how effectively countries balance technological innovation with social inclusion. AI has the potential to both deepen inequality and expand opportunity simultaneously. On one hand, it may automate outsourced labor, centralize economic power, and threaten local cultural industries.

On the other hand, it may empower millions of independent creators, entrepreneurs, educators, and artists in regions historically excluded from global creative markets. The future global economy may therefore be shaped not only by who develops the most advanced AI systems, but also by which societies successfully adapt their educational systems, infrastructure, labor protections, and cultural policies to ensure

that technological progress benefits a broader portion of humanity rather than a small concentration of technologically dominant actors.

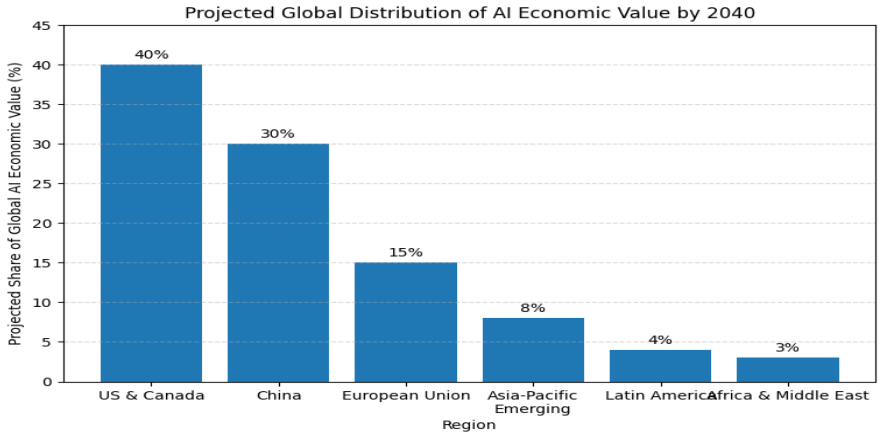
5.1 International Financial and Cultural Impact of Artificial Intelligence

The following figures illustrate projected international economic and cultural impacts of artificial intelligence on global labor markets, developing economies, and the creator economy.

5.1.1 Global Distribution of AI Economic Value by 2040

The following figure provides a detailed projection of how artificial intelligence-generated economic value may be distributed globally by 2040. The estimates combine projections and economic analyses from PwC, Goldman Sachs, McKinsey & Company, OECD, the World Bank, and the World Economic Forum regarding AI productivity growth, infrastructure ownership, semiconductor dominance, cloud computing expansion, and technological investment.

Figure 3. *Projected Global Distribution of AI*



Source: *Own study.*

Figure 3 demonstrates that the majority of future AI-generated economic value is projected to remain heavily concentrated in technologically dominant economies. According to PwC's Global Artificial Intelligence Study, artificial intelligence could contribute approximately $15.7 trillion annually to the global economy by 2030, with cumulative long-term value potentially surpassing $30–40 trillion by 2040.

However, much of this wealth is expected to accrue to countries controlling semiconductor production, advanced AI research, cloud computing infrastructure, data center networks, and proprietary large language models.

The United States and Canada are projected to capture approximately 40% of total AI-generated economic value due to leadership in generative AI research, advanced

semiconductor design, venture capital funding, cloud computing systems, and major corporations such as Microsoft, Google, OpenAI, Amazon, NVIDIA, and Meta. Analysts estimate that North America alone may generate over $6 trillion annually in AI-related economic output by the late 2030s.

China is projected to account for nearly 30% of global AI economic value due to its massive state-backed AI investments, industrial automation systems, semiconductor expansion efforts, surveillance technologies, robotics manufacturing, and rapidly growing digital economy. Chinese AI investments already exceed hundreds of billions of dollars, and the country continues to aggressively expand domestic AI capabilities.

The European Union is expected to capture approximately 15% of global AI economic value. Although Europe remains highly advanced in industrial automation, engineering, healthcare AI, and regulatory frameworks, it currently trails behind the United States and China in large-scale consumer AI platforms and cloud infrastructure dominance.

Emerging Asia-Pacific economies including India, Indonesia, Vietnam, and the Philippines are projected to collectively account for approximately 8% of global AI value creation. These regions face both opportunity and vulnerability.

On one hand, AI-powered entrepreneurship may significantly expand digital economies and the creator economy. On the other hand, many outsourced digital service industries remain highly exposed to automation risks.

Latin America and Africa & Middle East currently represent smaller projected shares of global AI wealth creation due to limited digital infrastructure, lower AI investment levels, and reduced access to advanced computing resources. However, rapid internet penetration and mobile connectivity growth may create substantial long-term opportunities for AI-driven entrepreneurship and education.

5.1.2 Financial Risks and Global Inequality

Economists and international organizations including the OECD and World Bank warn that artificial intelligence may widen global inequality if technological access remains uneven.

Countries lacking AI education systems, cybersecurity protections, cloud computing infrastructure, and advanced research institutions risk becoming digitally dependent economies rather than technological leaders.

Global investments in AI infrastructure, semiconductor production, and cloud computing are expected to exceed $1 trillion annually by the mid-2030s. At the same time, AI-driven automation may place pressure on work equivalent to approximately 300 million full-time jobs globally according to Goldman Sachs estimates.

5.1.3 Projected Expansion of the Global Creator Economy

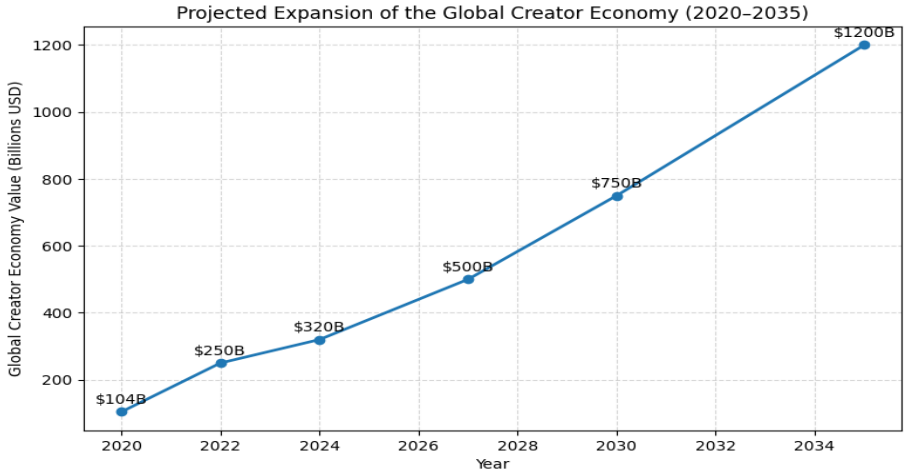
Figure 4 illustrates the rapid projected growth of the global creator economy between 2020 and 2035. The estimates combine projections from Goldman Sachs, Influencer Marketing Hub, Statista, McKinsey & Company, PwC, and World Bank digital economy research.

The creator economy includes content creators, influencers, digital educators, streamers, online artists, podcasters, independent filmmakers, musicians, freelancers, and AI-assisted digital entrepreneurs monetizing audiences through social media and online platforms.

6. Economic and Cultural Impact

This graph demonstrates one of the fastest-growing segments of the digital economy. The creator economy was estimated at approximately $104 billion globally in 2020 according to Influencer Marketing Hub. Goldman Sachs later projected that the creator economy could surpass $500 billion globally by 2027 and continue accelerating rapidly as artificial intelligence lowers production costs and expands digital monetization opportunities.

Figure 4. *Projected expansion of the global creator economy 2020-2035*



Source: *Own study.*

By 2030, analysts estimate that the creator economy could approach approximately $750 billion globally, while long-term projections through 2035 suggest the market may surpass $1.2 trillion annually. This expansion is being fueled by AI-powered content generation systems, social media monetization, subscription-based platforms, virtual goods, digital advertising, livestream commerce, and the increasing globalization of online audiences.

Artificial intelligence is dramatically reducing barriers to entry within creative industries. Independent creators from Africa, South Asia, Southeast Asia, Latin America, and the Middle East can increasingly produce professional-level videos, music, advertising campaigns, animation, graphic design, and educational content using cloud-based AI systems with minimal equipment costs. Tasks that once required expensive production studios, large creative teams, or advanced technical skills can now be completed using generative AI software accessible through smartphones and laptops.

The World Bank and OECD both note that AI-powered entrepreneurship may create new economic opportunities for younger populations in emerging economies where traditional employment markets remain unstable. Regions with rapidly growing mobile internet penetration may experience substantial growth in digital entrepreneurship and freelance online labor markets over the next decade.

However, despite the apparent democratization of creativity, income distribution within the creator economy remains highly unequal. Research on creator monetization indicates that more than 50% of creators globally earn less than $15,000 annually, while only approximately 4% generate incomes exceeding $100,000 per year.

Large digital platforms such as YouTube, TikTok, Instagram, Twitch, Patreon, Spotify, and Substack increasingly control audience visibility through algorithmic systems, making creators highly dependent on platform policies and recommendation algorithms.

Artificial intelligence may intensify both opportunity and competition simultaneously. While AI tools allow creators to increase productivity and lower production costs, they also contribute to massive content saturation. Economists warn that the explosion of AI-generated content could make audience attention one of the most valuable and scarce economic resources of the future digital economy.

At the same time, entirely new economical creator professions are emerging, including AI prompt engineers, synthetic media producers, AI-assisted marketing consultants, virtual influencer managers, digital authenticity analysts, and AI ethics specialists. Some advanced AI creative specialists are already earning salaries ranging from $180,000 to over $500,000 annually depending on expertise and company size.

7. Global Financial Impact

Economists project that the expansion of AI-assisted digital entrepreneurship could contribute hundreds of billions of dollars in new annual consumer spending, advertising revenue, and digital commerce by the 2030s.

Major technology companies including Meta, Google, Amazon, Microsoft, TikTok, and OpenAI are investing billions of dollars into AI-powered creator tools, digital advertising ecosystems, virtual reality platforms, and synthetic media infrastructure.

Global spending on digital advertising alone is projected to surpass $1 trillion annually during the next decade, much of which will rely on AI-generated and creator-driven content. The creator economy is therefore becoming not only a cultural phenomenon but also a major pillar of the future global digital economy.

8. Environmental and Energy Forecasts

The rapid expansion of AI systems has major environmental implications. The International Energy Agency forecasts that global electricity demand from data centers could more than double by 2030. Large AI models require immense computational resources for training and deployment.

By 2035, AI-related electricity consumption could exceed 1,600 terawatt-hours annually, placing substantial pressure on global power grids and increasing concerns about sustainability and carbon emissions.

9. Detailed Graph and Source-Based Analysis: AI Data Center Energy Consumption

A forecasted graph using published estimates from the International Energy Agency, the U.S. Department of Energy/Lawrence Berkeley National Laboratory, Goldman Sachs Research, and the Electric Power Research Institute was produced below. Figure 4 separates source-grounded base estimates from a higher-stress scenario so the reader can see both the expected path and the uncertainty around AI infrastructure growth.

1. The original 1,600 TWh point should be labeled as a high scenario, not a base forecast:
A simple line ending at 1,600 TWh in 2035 can be misleading if it is presented as the central forecast. The IEA base case projects global data center electricity consumption at around 945 TWh by 2030, and its energy-supply discussion places electricity generation to supply data centers at over 1,000 TWh in 2030 and about 1,300 TWh in 2035. A 1,600 TWh estimate is better described as a high-stress scenario that could occur if AI workloads, chip density, inference demand, and cloud deployment grow faster than expected.

2. AI is the main growth driver, but not the only one:
The electricity surge is not only from model training. Ongoing inference, cloud services, streaming, enterprise data storage, cryptocurrency activity, and edge computing also add load. However, AI change the slope because advanced

accelerators and dense AI servers require much more power and cooling than traditional server racks.

3. The U.S. is a major ne pressure point for grids and utilities:
DOE/LBNL estimates show U.S. data center electricity use increasing from 176 TWh in 2023 to between 325 and 580 TWh by 2028.

That range means U.S. data centers could consume roughly 6.7% to 12% of national electricity by 2028. EPRI extends the concern further, projecting 9% to 17% of U.S. electricity by 2030 under updated scenarios.

4. The financial impact is measured in hundreds of billions of dollars:
Electricity use of 945 TWh in 2030 would represent a massive recurring operating cost. At a conservative wholesale or industrial electricity price of $0.08 per kWh, 945 TWh equals about $75.6 billions per year in electricity expense.

At $0.12 per kWh, the same consumption equals about $113.4 billions per year. This does not include land, servers, GPUs, networking equipment, water, cooling systems, grid interconnection, backup power, or transmission upgrades.

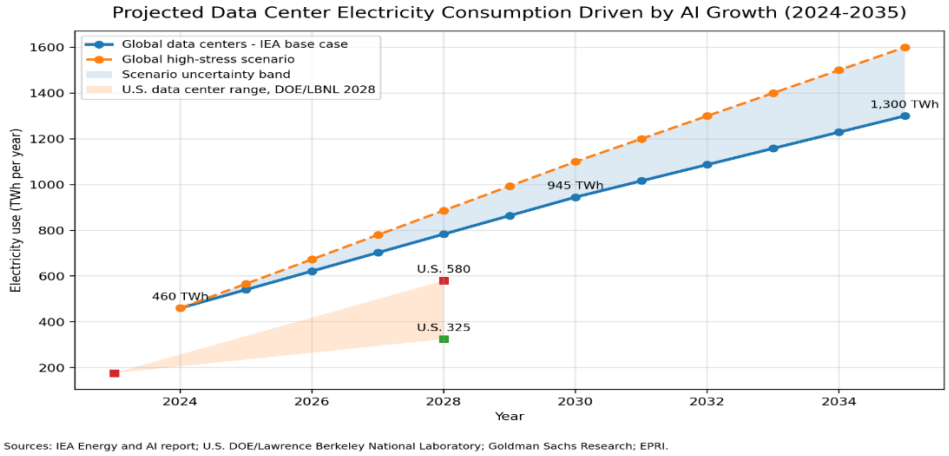
5. The environmental impact depends on the power mix:
If new electricity is supplied by renewables and nuclear generation, the carbon impact can be reduced. If marginal demand is met by natural gas or coal, emissions rise substantially (Table 3).

Goldman Sachs has warned that data center carbon dioxide emissions could more than double between 2022 and 2030 if demand growth outpaces clean electricity deployment.

6. Water and cooling are becoming strategic constraints:
Energy is only one constraint. AI data centers also require cooling, and local water stress can become a permitting issue. Regions with abundant renewable power, cooler climates, or access to reclaimed water may become more attractive for future AI infrastructure.

7. Future evolution: chips may become more efficient, but total use can still rise:
Efficiency improvements may reduce energy per computation, but total demand can still increase because AI use expands. This rebound effect is important: cheaper and faster AI often leads to more AI usage, not necessarily lower total energy consumption.

Figure 4. *Projected electricity consumption for global data centers and U.S. data center demand range. The IEA base case reaches about 945 TWh in 2030 and about 1,300 TWh in 2035; the U.S. range shows DOE/LBNL estimates for 2028.*



Source: *Grounded Data Used in the Graph.*

Table 3. *Global electricity consumption*

Estimate	Year(s)	Value	Source
Global data center electricity consumption	2024	460 TWh	International Energy Agency, Energy and AI
Global data center electricity consumption	2030	about 945 TWh	International Energy Agency, Energy and AI
Global electricity generation to supply data centers	2035	about 1,300 TWh	International Energy Agency, Energy supply for AI
U.S. data center electricity use	2023	176 TWh	U.S. DOE / Lawrence Berkeley National Laboratory
U.S. data center electricity use range	2028	325-580 TWh	U.S. DOE / Lawrence Berkeley National Laboratory
Global data center power demand growth	2030 vs. 2023	+160% to +165%	Goldman Sachs Research
U.S. data centers as share of national electricity	2030	9%-17%	Electric Power Research Institute

Source: *Own study.*

Table 4. *Economic and Financial Impact Estimates*

Scenario	Calculation	Approximate annual cost
IEA 2030 base case	945 TWh x $0.08/kWh	$75.6 billion/year
IEA 2030 base case	945 TWh x $0.12/kWh	$113.4 billion/year
IEA 2035 base case	1,300 TWh x $0.08/kWh	$104.0 billion/year

IEA 2035 base case	1,300 TWh x $0.12/kWh	$156.0 billion/year
High-stress 2035 scenario	1,600 TWh x $0.08/kWh	$128.0 billion/year
High-stress 2035 scenario	1,600 TWh x $0.12/kWh	$192.0 billion/year

Source: *Own study*

Interpretation for Table 4: These are electricity-cost estimates only. They do not represent total AI infrastructure cost. Total capital expenditure can be much larger because a large AI data center requires land, construction, power purchase agreements, transformers, substations, high-voltage transmission, backup generation, cooling, networking, and large quantities of GPUs or AI accelerators.

10. Legal Forecasts and Copyright Regulation

Legal systems worldwide are currently struggling to determine ownership rights surrounding AI-generated content, particularly as generative AI platforms increasingly rely on copyrighted artwork, music, writing, and visual media to train their models. In the United States alone, lawsuits involving AI copyright infringement already represent billions of dollars in potential liabilities.

Getty Images, for example, filed a lawsuit against Stability AI seeking damages that legal experts estimate could exceed $1 billion if copyright violations are proven at scale. Simultaneously, the European Union's AI Act and Copyright Directive are expected to impose stricter transparency requirements forcing AI companies to disclose training datasets, licensing agreements, and copyrighted materials used during model development.

Analysts from Goldman Sachs and PwC forecast that by 2030, the global market for AI-related intellectual property licensing and creator compensation could exceed $25–40 billions annually. Similar to how Spotify, Apple Music, and YouTube distribute royalties to musicians, future AI systems may implement automated micropayment infrastructures where artists, photographers, designers, filmmakers, and writers receive fractions of a cent every time their artistic styles, datasets, or creative patterns contribute to generated outputs.

If implemented globally, such royalty ecosystems could redistribute billions of dollars yearly back to creators while simultaneously legitimizing the AI industry's dependence on human-generated cultural content.

Financially, this would create entirely new revenue streams for artists but also dramatically increase operating costs for AI companies, many of which already spend hundreds of millions to billions of dollars annually on data acquisition, legal compliance, cloud computing, and copyright negotiations. Some economists predict that licensing and copyright compliance costs alone could represent 10–20% of total operational expenses for major generative AI firms by the mid-2030s.

11. Future Predictions for Creative Careers

Experts increasingly believe that the future of creativity will not involve the complete replacement of artists, designers, filmmakers, musicians, or writers, but rather an evolving collaboration between humans and intelligent systems. According to PwC's 2025 Global AI Jobs Barometer, industries with higher AI exposure are already experiencing significantly faster productivity growth and rising revenue per employee, suggesting that AI will augment many creative professions rather than eliminate them entirely.

Financial analysts from Goldman Sachs estimate that generative AI could increase global GDP by nearly 7% — equivalent to approximately $7 trillion in additional economic output over the next decade — while simultaneously transforming millions of knowledge-based and creative jobs. As a result, future creative careers are expected to evolve into highly specialized hybrid professions combining artistic creativity with technical AI fluency.

Emerging positions may include AI-assisted film directors, synthetic media producers, virtual environment architects, AI-powered advertising strategists, prompt engineers for entertainment studios, AI ethics consultants, digital authenticity verifiers, and human-AI collaboration specialists. Some of these roles are already commanding exceptionally high salaries.

Industry forecasts suggest that by 2030, advanced generative AI engineers and creative AI specialists could earn between $180,000 and over $500,000 annually globally depending on expertise and company size. Prompt engineering alone has rapidly emerged as a new profession requiring expertise in communication, creative reasoning, computational design, and AI systems. Academic research analyzing over 20,000 LinkedIn job postings found that prompt engineering roles require a unique combination of technical AI knowledge and high-level creative problem-solving skills.

Large entertainment and technology companies are already investing billions of dollars into AI-integrated content production systems. Disney, Netflix, Amazon, Adobe, Microsoft, OpenAI, Meta, and Google are collectively investing hundreds of billions of dollars into AI-generated video, advertising, gaming, music, and immersive digital media ecosystems. Analysts predict that by 2030 the global synthetic media market alone could surpass $100 billion annually as AI-generated film production, digital avatars, virtual influencers, and AI-assisted advertising become mainstream across global industries.

Simultaneously, cybersecurity and digital verification markets are expected to grow substantially as societies attempt to distinguish authentic human-created content from synthetic media and deepfakes.

Educational institutions are already restructuring curricula to prepare students for this transition. The OECD Future of Education and Skills 2030/2040 initiative emphasizes that future education systems must prepare students for jobs, technologies, and societal challenges that do not yet fully exist. Universities worldwide are increasingly expanding interdisciplinary programs that combine computer science, business, psychology, ethics, neuroscience, digital media, and visual arts into integrated AI-centered educational models. UNESCO has similarly warned that higher education institutions must rapidly adapt to artificial intelligence in order to prevent major future workforce disruptions and widening inequality gaps.

Economically, global spending on AI-related education and workforce training is projected to exceed $80–100 billion annually by the early 2030s as governments and private corporations attempt to reskill workers for AI-integrated economies. McKinsey and OECD researchers estimate that nearly 14–30% of workers globally may need significant career retraining by 2030 due to automation and AI transformation. Meanwhile, PwC reports that workers with AI-related skills are already earning measurable wage premiums compared to workers without AI competencies, reinforcing predictions that future labor markets will increasingly reward interdisciplinary technological literacy.

At the same time, experts warn that this transformation may deepen economic inequality between institutions and countries capable of funding advanced AI education and those lacking technological infrastructure. Elite universities in the United States, Europe, China, and Singapore are already investing billions of dollars into AI laboratories, computational creativity research, digital ethics programs, and AI entrepreneurship incubators. This global educational shift suggests that future creative success may depend not only on artistic talent, but also on the ability to collaborate effectively with intelligent systems, navigate digital ethics, understand machine learning processes, and preserve human authenticity in increasingly automated cultural industries.

11.1 Long-Term Economic Predictions Through 2040

By 2040, economists predict that artificial intelligence will fundamentally reshape nearly every aspect of global production, labor markets, finance, healthcare, transportation, defense, education, and consumer behavior. According to long-term forecasts from PwC, artificial intelligence could contribute approximately $15.7 trillion annually to the global economy by 2030, with cumulative AI-driven economic expansion potentially surpassing $30–40 trillion by 2040 as automation systems mature and become deeply integrated into industrial infrastructure. (pwc.com) Goldman Sachs similarly projects that generative AI alone could raise global GDP by nearly 7%, equivalent to roughly $7 trillion in additional annual global output over the next decade. (goldmansachs.com)

AI-driven automation is expected to dramatically increase productivity across industries. McKinsey & Company estimates that automation technologies could generate between $17 trillions and $26 trillion in yearly economic value globally once fully implemented at scale. (mckinsey.com) Manufacturing, logistics, banking, legal services, pharmaceutical research, and digital media production are projected to undergo the largest structural transformations. Analysts predict that autonomous supply chains, AI-managed factories, and intelligent robotic systems could reduce operational costs by 20–40% across many sectors while simultaneously eliminating millions of repetitive labor-intensive positions.

However, the economic benefits of AI are unlikely to be distributed equally. The OECD and World Bank warn that unequal access to digital infrastructure, cloud computing power, semiconductor manufacturing, and AI education may widen the economic gap between technologically advanced nations and developing countries. Countries leading AI innovation — particularly the United States, China, South Korea, Singapore, Germany, and parts of the European Union — are expected to capture the majority of AI-generated wealth. Meanwhile, nations lacking broadband access, advanced computing infrastructure, and AI-trained workforces risk losing competitiveness in global markets. According to World Bank estimates, over 2.6 billion people worldwide still lack reliable internet access, limiting participation in the future AI economy. (worldbank.org)

The semiconductor industry alone is projected to become one of the largest strategic economic sectors globally because advanced AI systems depend heavily on high-performance chips. NVIDIA, TSMC, AMD, Intel, Microsoft, Amazon, Google, and OpenAI are collectively investing hundreds of billions of dollars into AI infrastructure expansion. Analysts estimate that by the mid-2030s, annual global spending on AI data centers, advanced chips, cloud infrastructure, and AI training systems could exceed $1 trillion per year. At the same time, energy demands from AI systems are expected to increase dramatically. The International Energy Agency predicts that global electricity consumption from AI-related data centers could more than double by 2030, potentially exceeding the current electricity consumption of some industrialized nations. (iea.org)

Labor markets will likely experience one of the largest transitions in modern economic history. Goldman Sachs estimates that AI may expose the equivalent of 300 million full-time jobs globally to automation pressures, particularly in administrative, analytical, and creative industries. Yet economists also predict the emergence of entirely new professions involving AI supervision, ethics, cybersecurity, synthetic media, robotics maintenance, and human-AI collaboration. According to the World Economic Forum's *Future of Jobs Report*, nearly 44% of workers' skills are expected to change within the next five years due to AI integration. (weforum.org)

In the creative industries specifically, the long-term economic implications are especially complex. While AI-generated content may drastically reduce production costs for advertising agencies, film studios, publishers, and marketing firms, authentic human-created artwork may simultaneously become more valuable due to increasing scarcity. Economists compare this phenomenon to the luxury goods market, where handmade products maintain premium pricing despite mass industrialization. Research from Columbia Business School found that consumers valued artwork labeled as "human-created" approximately 62% higher than identical works labeled as AI-generated, suggesting that human authenticity may become a major economic differentiator in the future cultural economy. (gsb.columbia.edu)

By 2040, premium human-created art, live performances, handcrafted luxury products, and authentic cultural experiences may evolve into elite economic markets. High-net-worth collectors and investors may increasingly seek "verified human-created" works similarly to how original paintings, handcrafted fashion, rare musical instruments, and artisan goods command premium prices today. Analysts predict that authentication technologies using blockchain and AI-verification systems could themselves become multibillion-dollar industries designed to certify that artistic works were genuinely created by humans rather than synthetic systems.

At the same time, AI may democratize creativity on an unprecedented scale. Individuals without formal artistic training will increasingly gain access to powerful creative tools capable of producing films, music, books, digital art, and virtual experiences with minimal cost. This could lead to explosive growth in the global creator economy, which Goldman Sachs estimates may exceed $500 billion by 2030 and continue expanding significantly through 2040. However, the abundance of low-cost synthetic content may also saturate digital markets, making audience attention and authenticity the most valuable commodities in the future creative landscape.

Ultimately, economists believe the AI revolution may become economically comparable to — or even surpass — the Industrial Revolution and the rise of the internet combined. Whether these transformations produce widespread prosperity or deeper inequality will largely depend on government regulation, educational adaptation, infrastructure investment, ethical oversight, and society's ability to balance technological efficiency with the preservation of human creativity and cultural identity.

12. Conclusion

Artificial intelligence has rapidly evolved from a theoretical scientific concept into one of the most transformative economic and cultural forces in modern history. What began as experimental computational systems in the mid-20th century has now developed into a global technological revolution capable of reshaping industries, redefining labor markets, transforming artistic expression, and influencing nearly every aspect of human life.

The rise of generative AI in particular has accelerated this transformation at an unprecedented pace, allowing machines to generate paintings, films, music, advertisements, books, software code, and entire digital environments in a matter of seconds. As demonstrated throughout this research, the integration of AI into the creative economy represents both extraordinary opportunity and profound uncertainty.

Economically, the growth trajectory of artificial intelligence is staggering. PwC estimates that AI could contribute approximately $15.7 trillion annually to the global economy by 2030, while cumulative forecasts through 2040 suggest AI-driven technologies may generate over $30–40 trillion in additional global economic activity.

Major institutions including Goldman Sachs, McKinsey & Company, and the World Economic Forum project that AI will increase productivity across nearly all sectors of the economy, from healthcare and education to transportation, finance, defense, logistics, and entertainment. Global AI infrastructure investments are already reaching historic levels, with Microsoft, Google, Amazon, NVIDIA, Meta, OpenAI, and other technology corporations collectively investing hundreds of billions of dollars into data centers, semiconductor manufacturing, cloud computing, and generative AI systems. Analysts predict that annual global spending on AI infrastructure alone could surpass $1 trillion by the mid-2030s.

At the same time, however, the economic expansion of AI introduces significant disruption to labor markets. Goldman Sachs estimates that AI could expose the equivalent of approximately 300 million full-time jobs globally to automation pressures, while OECD and McKinsey research indicates that between 14% and 30% of workers worldwide may require substantial retraining by 2030 due to technological transformation.

The creative industries are among the sectors experiencing some of the fastest and most visible changes. Graphic design, digital marketing, animation, video editing, advertising, publishing, journalism, music production, and even film development are increasingly incorporating AI-generated content into their workflows. Studies cited throughout this paper demonstrate that creative employment indices are projected to decline steadily through 2030 as repetitive artistic tasks become automated or AI-assisted.

Yet, despite fears of complete replacement, evidence increasingly suggests that AI will augment rather than entirely eliminate human creativity. Emerging hybrid professions such as prompt engineers, AI-assisted creative directors, synthetic media specialists, digital authenticity analysts, AI ethics consultants, and computational creativity researchers are already beginning to reshape the modern workforce.

Salaries for advanced AI specialists and creative AI engineers are projected to range from $180,000 to over $500,000 annually in some sectors, demonstrating how AI literacy itself is becoming one of the most valuable economic skills of the future. Educational institutions worldwide are rapidly adapting to these changes by integrating interdisciplinary AI curricula combining computer science, ethics, psychology, business, media studies, and visual arts. Global spending on AI-related education and workforce retraining is expected to exceed $80–100 billion annually by the early 2030s.

One of the most significant themes explored in this paper is the tension between technological efficiency and human authenticity. Although AI dramatically reduces production costs and increases accessibility to creative tools, it simultaneously raises serious ethical and legal concerns regarding copyright ownership, intellectual property rights, artistic exploitation, and fair compensation. Lawsuits involving companies such as Stability AI, MidJourney, and OpenAI reveal the growing uncertainty surrounding the use of copyrighted material in AI training datasets.

Future regulations in the United States and European Union are expected to require greater transparency regarding AI training data and establish stronger compensation systems for artists whose work contributes to machine learning models. Analysts predict that AI-related licensing and royalty markets could surpass $25–40 billions annually by 2030, potentially creating entirely new micropayment ecosystems similar to those currently used in music streaming platforms.

Environmental sustainability also emerges as a major challenge associated with the AI revolution. Training and operating large-scale generative AI models require immense computational power, resulting in enormous electricity consumption and water usage. According to the International Energy Agency, global electricity demand from AI-related data centers could more than double by 2030.

Some forecasts suggest AI data center energy consumption may exceed 1,600 terawatt-hours annually by 2035, placing unprecedented pressure on global power grids and increasing greenhouse gas emissions. These environmental costs complicate the narrative of technological progress, forcing governments and corporations to confront the ecological consequences of maintaining large-scale AI infrastructure.

Socially and culturally, AI is reshaping perceptions of value, originality, and artistic identity. Research from Columbia Business School demonstrates that consumers continue to value human-created artwork significantly more highly than AI-generated works, with some studies indicating human-made art is perceived as approximately 62% more valuable when labeled as authentic. This suggests that human creativity itself may become increasingly scarce and economically valuable in the future. Similar to how handcrafted luxury goods retain prestige despite industrial mass production, authentic human artistic expression may evolve into a

premium cultural commodity in the AI era. Blockchain authentication systems and "verified human-created" certifications may become multibillion-dollar industries as consumers seek assurance regarding the origins of creative works.

Furthermore, AI expose broader concerns about inequality and global access to technology. Wealthier nations with advanced infrastructure, semiconductor production capabilities, and AI education systems are expected to capture the majority of future AI-generated wealth, while developing countries risk falling behind due to limited digital infrastructure and insufficient technological investment. UNESCO, the OECD, and the World Bank have all warned that unequal access to AI technologies may widen existing economic and educational disparities between nations and social classes. Thus, the future of AI is not only a technological issue but also a geopolitical, ethical, and humanitarian challenge.

Historically, art and technology have always evolved together. Just as photography transformed portrait painting and recorded music transformed live performance industries, artificial intelligence now represents the next major evolution in creative production. However, unlike previous technological shifts, AI possesses the ability to imitate cognition, creativity, and artistic styles at extraordinary speed and scale. This makes the current transformation uniquely disruptive because it affects not only physical labor but also intellectual and emotional forms of human expression once believed to be exclusively human domains.

Ultimately, the future relationship between AI and art will depend on how societies choose to govern, regulate, and ethically integrate these technologies. Governments will need to establish balanced legal frameworks protecting creators without suppressing innovation. Educational systems must prepare future generations for hybrid human-AI economies. Businesses must develop fair compensation models that recognize the value of human-generated cultural data. Artists themselves may need to adapt by integrating AI into their creative processes while emphasizing authenticity, emotional depth, and uniquely human experiences that machines cannot fully replicate.

Artificial intelligence therefore represents neither purely a threat nor purely a solution, but rather a transformative force capable of reshaping civilization itself. The decisions made over the next two decades regarding regulation, education, environmental sustainability, labor protection, and artistic ownership may determine whether AI becomes a tool that empowers humanity collectively or a technology that deepens economic inequality, cultural homogenization, and social instability.

Even a machines continue to evolve in their capacity to generate content, humanity may ultimately rediscover that the true value of art lies not only in the final product itself, but in the deeply human experiences, emotions, imperfections, struggles, and stories behind its creation.

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