

## ARTICLE

## Digital and AI transformation in the contemporary art industry in China

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## Abstract

This study examines the digital and artificial intelligence (AI) transformation in the contemporary art industry in China. This industry in China is undergoing a distinct digital transition and is “ahead” of other countries, having fully integrated digital technologies and AI (digiAI) into policies, regulations, organizations, and professional practices. A systematic, large-scale national integration of digiAI has led to its widespread adoption by artists and arts professionals. However, little is known about how or when this rapid and extensive integration and subsequent adoption occurred or about its impacts on professional practices. This study draws on research conducted between 2023 and 2024, including 30 interviews with contemporary Chinese visual artists, 23 interviews with arts professionals, a survey of 110 professional contemporary visual artists, and a systematic review of government policy. Findings indicate that the government began integrating digital technology into the contemporary art industry in 2016, further promoted digital technology integration in 2021, and introduced regulations to support AI usage in 2023. The data reveal a significant spike in the adoption of digital technologies by professionals between 2019 and 2020, followed by a rise in AI adoption in 2023. DigiAI has been accepted and now used across different kinds of arts professions, various types of visual artists, and several age groups. Digital and AI tools are now being applied in both creative and non-creative aspects of arts practices.

**Keywords:** Contemporary visual artists; AI; Arts professionals; Digital technologies; Digital transformation; Contemporary art industry; China

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**1. Introduction**

Digital technologies and artificial intelligence (digiAI) are reshaping professional practices across various industries. Digital transformation is transforming many industries, including art,<sup>1,2</sup> music,<sup>3</sup> hospitality,<sup>4</sup> and sports.<sup>5</sup> Discussions on this transformation typically focus on the importance of AI integration for industry development, its potential to generate economic benefits, changes in job roles, and improvements in efficiency and accuracy. For example, Glebova *et al.*<sup>5</sup> argued that artificial intelligence (AI) integration in the sports industry will transform jobs by automating routine tasks and create new roles that merge digital or AI skills with sports knowledge.<sup>5,6</sup> Similarly, AI in the hospitality industry is predicted to drive economic growth, enhance operational

capacity, and restructure work processes.<sup>7,8</sup> The integration of digiAI in contemporary art is evident in the creation process of artworks,<sup>9,10</sup> the totalizing nature of digital work for artists, given that they are always working due to promotion, sharing, and selling their work on social media,<sup>11-13</sup> and digitization of art markets.<sup>14,15</sup>

This digital transformation involves restructuring practices and production processes, with the introduction of non-human agents in the creative process. These changes emphasize dialog, iterative communication, prompting, and collaboration with nonhuman agents. DigiAI is changing how art and exhibitions are produced, as well as how artists and arts professionals work. AI provides artists with accuracy in tasks like coding and creating text or scripts. Artists feel more powerful when using digital software and AI programs because they have a digital team with them to perform tasks quicker and more accurately.<sup>16,17</sup> Hisrich and Soltanifar<sup>18</sup> argued that pervasive digitization generates new opportunities while transforming how ideas are developed and how creative tools are applied. In response, recent discussions have focused on the relationship between artists and digital technologies, particularly concerning human creativity.<sup>19,20</sup>

The pace and breadth of digiAI integration into the contemporary art industry in China are distinctive. China has taken a unique path in digital transition compared with other countries, having already established industry 5.0 and begun work on 6G internet. These rapid digital developments are driven by government policies and regulations that promote the use of digiAI among individuals and organizations. Over the past 30 years, the contemporary art industry in China has experienced rapid change, with its development intertwined with societal and policy contexts.<sup>1</sup> A driver of change was, as De Nigris<sup>21</sup> argues, governmental push for cultural institutions to assume greater financial responsibilities and to directly respond to market demands.<sup>21</sup> Similarly, today's digital transition in the art industry is interconnected with sociocultural, technological, political, and economic factors.

<sup>1</sup> The most important societal change that initiated the launch of the contemporary art industry was the rapid economic development in the 1990s. This was a time when capitalist joint ventures and private companies developed and subsequently became level with state-owned enterprises, leading to social and economic reform. Another key change in the history of the contemporary art industry was the introduction of a two-strand structure of state-owned and private companies working alongside each other, filtered into the contemporary art world, which allowed it to become an economic, commercial industry.

Much of the discourse on digital transition in the art sector has focused on the digitization of cultural heritage and museums;<sup>22,23</sup> technological affordances of virtual reality and augmented reality and the use of games for presenting digital culture;<sup>24,25</sup> separate analyses of AI and digital technologies,<sup>20,24</sup> macro-level industry and economic developments;<sup>26</sup> and analyses of changes within the industry.<sup>5-7</sup> This study provides a humanistic analysis of the contemporary art industry within a predominantly techno-deterministic discussion, emphasizing the broader societal context. When examining the digital transition in the contemporary art industry and the potential for integrating digiAI, it is essential to understand how broader societal factors contribute to creating a conducive environment for widespread integration, adoption, and acceptance. Furthermore, professional use of digiAI must be discussed and analyzed as digiAI is being increasingly used for creating artworks and exhibitions.

This research draws on 30 interviews with contemporary Chinese visual artists, 23 interviews with arts professionals from the Chinese Academy of Sciences, a survey of 110 professional contemporary visual artists, and a systematic review of Chinese government policies. This research, conducted between 2023 and 2024, addresses the following questions: (1) How has digiAI been integrated into the contemporary art industry at the national level? (2) How has digiAI been adopted and accepted by artists and arts professionals? The overarching aim is to assess the extent to which digiAI can be integrated while maintaining human creativity and innovation and explore the development potential of digital transformation.

This study presents Western and Chinese perspectives on the digiAI transition in China's contemporary art industry. It highlights the optimistic embracing attitudes of Chinese artists and arts professionals toward digiAI and contributes to ongoing discussions about the relationship between human creativity and these technologies in the arts. This study addresses how digiAI can be integrated into the contemporary art industry to enhance rather than hinder professionals' creativity. It elucidates the nature of the current digiAI transition in China's contemporary art industry, which is important given the limited understanding of how policies and widespread technological integration affect professionals' adoption and acceptance of digiAI, as well as the resulting digital creation processes. While concerns exist about the potential of digiAI to undermine human creativity, more discussion is required on how these tools can foster the development of the contemporary art industry from the perspectives of artists and art professionals. This new knowledge can serve as a guide for professionals in contemporary art industries

worldwide, assisting in the creation of policies for digiAI integration and ensuring job security and sustainability.

## 2. Data and methods

This study documented the digiAI transition in the contemporary art industry in China. It aimed to understand how these technologies have been integrated nationally and how they have been adopted and accepted by artists and arts professionals in their practices. The overarching goal was to determine how professionals can adopt digiAI while maintaining creativity and innovation and how the contemporary art industry can evolve along with this transition. The research objectives were as follows: reviewing national-level policies to understand how the Chinese government is directing the pace and breadth of digiAI integration into the contemporary art industry; surveying artists to determine when and how they adopted, accepted, and started using digiAI; and consulting with arts professionals about their views on the digital transition in the contemporary art industry, including the social factors influencing this transition, their thoughts about working with digiAI, and impacts on their practices.

This study employed a mixed-methods approach, as outlined in studies on industry development,<sup>27,28</sup> including qualitative interviews, a quantitative survey, and a systematic review of government policies. The methodology involved analyzing government policy documents and individual perspectives and combining first-hand interviews, survey data, and secondary policy data. This combination was chosen to achieve the breadth and depth of knowledge necessary to adequately address the research questions. This approach is also referred to by Edwards *et al.*<sup>29</sup> as the “breadth-and-depth method,” which allows for detailed data analysis while maintaining awareness of the societal context.

Thirty semistructured interviews were conducted with contemporary visual artists, including painters, video artists, multimedia artists, sculptors, new media artists, internet artists, and photographers. The inclusion criteria were as follows: participants were Chinese nationals currently working in the contemporary art industry in China, residing in China, and had graduated from an art school, academy, or university. Interviews were conducted between May 2023 and February 2024, covering topics such as how and when professionals adopted and accepted digital technologies in their practices, their relationships with these technologies, and their perceptions of technology use. The age range of participants was 27 – 59 years. The study sample provided a broad perspective on the use of digiAI and allowed an examination of how practices in the contemporary art industry have evolved. [Table 1](#) presents

**Table 1. Information about visual artists interviewed in this study (ages are accurate as of the interview date in 2023/2024)**

Profession	Age	Gender
Artist (public and sculpture)	31	Female
Artist (painting)	36	Female
Artist (installation/sculpture)	39	Female
Artist (sculpture)	27	Female
Artist (video) and business owner of art community	42	Male
Artist (public artist)	28	Female
Artist (sculpture)	45	Male
Artist (video and installation)	30	Male
Artist (sculpture)	33	Male
Artist (multimedia artist)	33	Male
Artist (film, drawing, and performance)	36	Male
Artist (sculpture)	59	Male
Artist (mixed-media)	30	Male
Artist/visual designer (mixed-media)	28	Female
Artist (painter) and art space director	35	Male
Artist (printmaker)	61	Male
Artist (new media, game art, and video)	28	Male
Artists (digital and internet)	25	Male
Artist (mixed-media)	20	Female
Artist (multimedia)	34	Male
Artist (video and metaverse)	39	Male
Artist (sculpture)	28	Female
Artist (multimedia)	29	Male
Artist (multimedia)	34	Female
Artist (painting)	42	Male
Artist (multimedia)	26	Female
Artist (photography)	34	Male
Artist (photography)	30	Female
Researcher/artist/curator	32	Female
Artist (sculpture and installation)	35	Male

information about the visual artists interviewed in this study.

Twenty-three semistructured interviews were conducted with arts professionals, including curators, gallery owners, art community directors, and museum workers, who worked in the contemporary art industry (as opposed to the cultural heritage industry or science museums), had graduated in their respective fields, and lived and worked in China. This population provided a broad understanding of current trends and digital practices in the contemporary art industry, allowing us to confirm and contextualize contemporary visual artists' interview

responses. These interviews were conducted between May 2023 and February 2024. In order to assess broader digital trends in the contemporary art industry, the questions posed to arts professionals differed from those posed to visual artists. Table 2 presents information about the arts professionals interviewed.

Interviews were conducted in person at the artists’ studio, art galleries, or art museums,<sup>24</sup> online through videoconferencing,<sup>21</sup> and in writing through email,<sup>3</sup> depending on the interviewee’s preference. The researchers recruited interviewees through snowball sampling. Initial contacts were made through visits to art galleries and art museums in Shanghai, where researchers were based. Conversations with arts professionals (members of staff or independent visual artists) were initiated by sharing information about the research project and asking interested individuals to participate in the research. After each interview, the researchers requested interviewees to share additional contacts of arts professionals. The researchers also reached out to art community founders to ask for contacts of potential interviewees. Initial contacts acted as gatekeepers; however, as all interviewees were from different organizations or were independent artists, no official “site” gatekeeper approval was required. All interviewees provided consent to be included and named in this paper.

Next, a survey was administered to professional contemporary visual artists in China between February and April 2024. The goal was to determine when artists started using digital technologies and when they first used AI, which digital tools and AI software they currently use, and their experiences of using AI. The survey contained 35 questions, and 110 participants completed the survey. The sample was stratified to include only professional Chinese contemporary visual artists living and working in China. The survey was distributed through social media platforms and nationwide online art groups, including Yimo art group, RaidenINST, Super Topic of Digital Art, and Super Topic of New Media Art on Weibo. The survey was shared in these online groups, forums, and super topics after permission was obtained from group administrators. Participants accessed the survey through a QR code, which directed them to an introduction page that outlined the research and its aims, explained key terms in the survey, and described the participation criteria. Participants provided consent by ticking a box. Figures 1-3 present details about the age, gender, and residence of the survey participants, respectively.

The researchers conducted a systematic review of government policies implemented between 2016 and 2023. The review covered topics such as the contemporary art

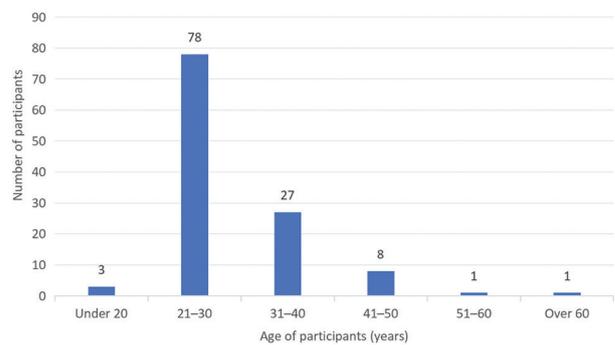


Figure 1. Age of survey participants

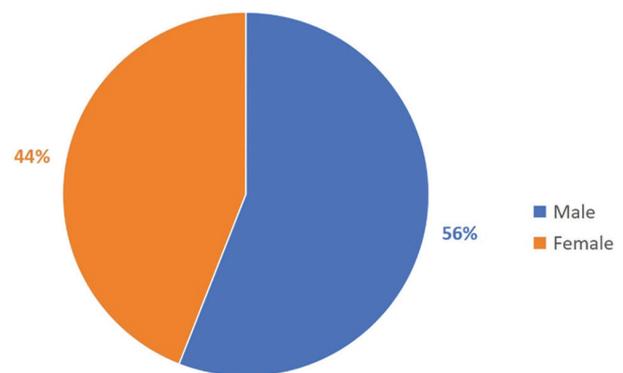


Figure 2. Gender of survey participants

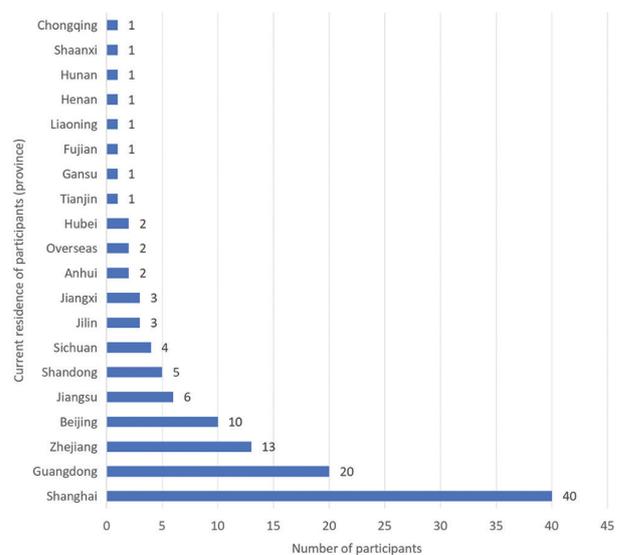


Figure 3. Residence location of survey participants

industry, cultural development, digital development, and AI. The keywords used for sorting and filtering documents included “digitization,” “cultural development,” “AI,” “digital technology,” “contemporary art industry,” “artists,”

**Table 2. Information about arts professionals interviewed in this study (ages are accurate as of the interview date in 2023/2024)**

Profession	Age	Gender
Commercial contemporary art gallery owner and director	50	Female
Contemporary art museum worker, education department	25	Female
Commercial contemporary art gallery owner and director	51	Female
Contemporary art event organizer	27	Female
Contemporary art foundation exhibition manager	24	Female
Curator	27	Male
Contemporary art gallery worker	47	Female
Contemporary art center staff, business development department	29	Female
Contemporary art gallery exhibition manager	30	Female
Art community and art business manager and founder	35	Male
Contemporary art foundation curator	32	Female
Curator	40	Male
Contemporary art museum curator	46	Female
Contemporary art museum executive vice director	45	Female
Curator	39	Male
Curator	37	Female
Curator, museum worker, and culture policymaker	31	Female
Art hub director	36	Male
Curator	24	Female
Curator at art museum	27	Female
Creator of digital art management system	28	Female
Founder and director of art gallery	45	Female
Assistant to art gallery director	40	Female

and “artwork.” Relevant documents were organized by date, section (e.g., topics such as AI, culture, integration of digital technology, and cultural development), and type (laws, policies, strategies, and 5-year plans). These documents were analyzed in relation to the aims of the research project.

Two researchers worked on the project to improve reliability in data collection and analysis. Interviews were conducted in Chinese and English to enhance data quality and to maintain ethical standards. The interviews were translated into English and cross-checked by two Chinese research assistants to improve translation accuracy. The survey was written and answered in Chinese, and the responses were translated into English by the two research assistants. Both researchers analyzed the interview data. Before analysis, the researchers discussed the research aims, objectives, and questions, which helped guide the data analysis. The researchers preprocessed the responses, filtering out invalid or erroneous questionnaires. Codes were created to organize and sort the data. After each researcher completed their individual analysis, the data

were combined and sorted, duplicates were removed, data weighting was performed, and common themes and trends were identified. A statistical analysis of the response frequencies was then conducted. Excel was used to calculate the frequency of each categorical variable in the responses for each question, allowing researchers to understand the distribution and preferences of respondents.

### 3. Digital and AI transformations in the art industry

The contemporary art industry in China has long been influenced by the country’s broader cultural, economic, and political ecosystem. As De Nigris<sup>21</sup> argues, the development of the art world relates to the nature of China’s economic development. Meanwhile, Gladston<sup>30,p.57</sup> notes that “during the last decade, 2000–2010, the CCP has been interested in contemporary forms of cultural production as a focus of economic development...the connection between what those producing and showing art and the wider economic and social context is especially close in the PRC...art is now bound up with government policy.”

Bin<sup>31</sup> discusses how AI has rapidly developed in recent years due to the government's efforts toward network technology development and science and technology innovation. These efforts have led to the emergence of AI virtual characters, AI art, new artistic forms and aesthetic forms, and expansion of existing cultural spaces and artistic expression within the art industry. While some scholars have discussed Chinese art in relation to society and life,<sup>31,32</sup> this discussion needs to be updated.

Moreover, discussions on the art industry and the integration of art and technology often focus on either the final digital artwork or the technological foundations of digital art. For instance, a significant portion of literature addresses digital aesthetics and techniques of digital art<sup>33-35</sup> or AI art.<sup>36-38</sup>

In terms of the digiAI transition in the art industry, scholars have highlighted the positive effects of digitization on culture, particularly how digital platforms serve as gateways for cultural accessibility and how digitization can unlock the economic potential of art.<sup>39,40</sup> Scholars have also examined the integrative capacity of digital art, noting its ability to connect different mediums (such as videos, paintings, and games) and industries (such as music, film, and theater). Ho<sup>41</sup> argued that digital art can integrate multiple creative forms such as movies and television programs, creating vast opportunities for economic and cultural growth in China. Paul<sup>37</sup> echoed this idea by suggesting that digital art serves as a tool and medium enabling the "seamless combination of art forms and a blurring of the boundaries between different mediums."

There are two contradicting discourses about the impact of digiAI on art and artists. A technological determinist view of human relationships with nonhuman agents posits that AI and digital technologies are sentient,<sup>42-44</sup> and capable of creativity and may eventually replace human artists.<sup>38,42,45</sup> Chatterjee<sup>42</sup> proposes that AI develops sentience through deep learning architectures, while Lavelle<sup>46</sup> and Husain<sup>47</sup> argue that sentience emerges from programming and computational power. Scholars such as Miller<sup>48</sup> further argue that AI possesses creativity, stating that as "a consequence of AI developments, machine creativity exhibits traits customarily assigned to humans." Similarly, Zeilinger<sup>38,38</sup> contends that AI is sufficiently creative to produce art after being trained on sample material to learn the core principles of artwork generation, posing a potential threat to human artists and their livelihoods. Kasparov<sup>49</sup> also claims that AI systems surpass human intelligence and can autonomously complete the creative process through deep learning and imitation of human behavior.

These theorists' conceptions of the future after the digital transition suggest that technology will directly

influence the art industry. Advances in AI have led to increased dissemination from a technological determinist perspective, following the idea that technology advances through internal logic and directly influences humans and industries.<sup>50,51</sup> However, an opposing body of literature has argued that humans have agency when interacting with digiAI. Scholars have focused on digital art practices,<sup>52-54</sup> artists' creativity in these practices,<sup>19,55</sup> the relationships between artists and AI during creation processes,<sup>20,42,55</sup> and how digiAI enhances artists' creativity, efficiency, and productivity.<sup>20,55</sup> For instance, Zhou and Lee<sup>55</sup> explore how AI fosters creativity alongside artists' abilities to produce creative outputs, noting that "ideation and filtering are necessary skills in the text-to-image process, giving rise to 'generative synesthesia'—the harmonious blending of human exploration and AI exploitation to discover new creative work processes." Mazzone and Elgammal<sup>20</sup> explain the affordances of partnering with AI for artistic creation as follows: "We advocate for a connection between machine creativity and art broadly defined as parallel to but not in conflict with human artists and their emotional and social intentions of art making. Rather, we urge a partnership between human and machine creativity when called for, seeing in this collaboration a means to maximize both partners' creative strengths." Mazzone and Elgammal<sup>20</sup> further argue that AI serves as a tool in art creation, where "the artist presides over the process." They also suggest<sup>20</sup> that research should focus on the entire creative process, not only the final images, as this *activity* highlights artists' agency and decision-making roles, such as curation and tweaking, within the creative process.

## 4. Results

### 4.1. Role of the government in promoting the integration and use of digiAI in the Chinese Academy of Sciences

Policies for the integration of digital technology into the contemporary art industry were introduced in 2016. Since then, the Chinese government has developed the cultural industry, viewing it as a crucial part of national economic development. Since the 12<sup>th</sup> 5-Year Plan period (2000 – 2005), with the ongoing application of and advancements in digital technology, the integration of digital technology into culture has progressively improved, giving rise to new modes of digital culture created using these technologies.

In its 13<sup>th</sup> 5-Year Plan (2016 – 2020), China sought to align with the global trend toward an "information society." New revolutions in technology and industry were underway, characterized by a new trend toward industrialization and information technology adoption. The 13<sup>th</sup> 5-Year Plan identified AI as essential for economic growth and

innovation-driven development, ensuring the flourishing of business start-ups and improvements in productivity. In addition, science and technology became more deeply embedded in the economy, with breakthroughs made in core technologies across key sectors.

In 2021, the Chinese government outlined the “14<sup>th</sup> 5-Year Plan for National Economic and Social Development and the Long-Range Objectives Through the Year 2035,”<sup>56</sup> emphasizing the acceleration of digital development and construction of a “Digital China.” This plan prioritized comprehensive digital transformation, reshaping production modes and fostering key industries within the digital economy, including AI, virtual reality, and augmented reality. It also aimed to establish general and industry-specific open AI platforms. The 14<sup>th</sup> 5-Year Plan states that “technology will be central to the development of the cultural industries—technology will empower the development of the cultural industry, the development of new business formats will be strong, and culture will be deeply integrated with tourism, sports, commerce, rural revitalization, and other fields.”<sup>57</sup>

In the same year, the Ministry of Culture and Tourism issued the “14<sup>th</sup> 5-Year Plan for Cultural and Tourism Science and Technology Innovation,” advocating for cultural development through technological innovation and promoting experiential technologies in the cultural field. This plan encouraged the development of technologies involving human–computer interaction and mixed reality, supporting the innovative application of intelligent technology in the culture and arts sectors. The plan also proposed the development of intelligent tools to assist in creative processes and the creation of cloud exhibitions and digital art, among other emerging developmental directions. Furthermore, the Ministry of Culture and Tourism released the “14<sup>th</sup> 5-Year Plan for Artistic Creation”<sup>58</sup> in 2021, which proposed the integration of technology into arts, music, fine arts, and drama to intensify the application of digital technology in artistic work.

In 2022, the White Paper on the Development of Beijing’s Cultural Industries stated that “cultural organizations will go through digital transformation. They should actively explore and integrate new technologies into their organization.” In addition, the paper emphasized that art and other cultural products should use digital technologies and new media platforms to present traditional culture.<sup>59</sup>

By 2023, the Central Committee of the CPC and the State Council issued an “Overall Layout Plan for the Construction of Digital China,” specifying the national strategy for cultural digitalization. This plan advanced the construction of digital culture through major

breakthroughs in digital technology innovation and international cooperation in this field. By 2035, China aims to dominate digital development globally by formulating measures to promote the high-quality development of the digital industry and building an internationally competitive digital industrial cluster. This involves constructing a national cultural big data system; forming a database of Chinese culture; establishing several comprehensive digital cultural exhibition platforms; and developing new types of cultural enterprises, business models, and consumption patterns in the cultural industry.

The Chinese government has directed national-level developments in AI since 2016.<sup>2</sup> In 2022, the Ministry of Science and Technology, along with five other departments, issued the “Guiding Opinions on Accelerating Scenario Innovation to Promote High-Quality Economic Development through High-Level Application of Artificial Intelligence.”<sup>60,3</sup> On July 13, 2023, the government issued directives regarding generative AI,<sup>61</sup> which came into effect on August 15, 2023, to promote and simplify the use of AI for individuals and organizations.<sup>4</sup>

#### 4.2. Recent adoption and use of digiAI

<sup>2</sup> For instance, the 13th 5-Year Plan (2016 – 2020) specified AI as key for achieving economic growth and the 14<sup>th</sup> 5-Year Plan (2021 – 2025) outlined a plan for continued state investment in AI. In 2017, the Government introduced a vision for the development of AI in the Next Generation Artificial Intelligence Development Plan (新一代人工智能发展规划). The Plan outlined the national strategy of using AI for socioeconomic development and creating an AI industry that positions China as the world leader in AI by 2030, with the country emerging as the global leader in defining standards for AI.

<sup>3</sup> This document proposes the creation of major AI scenarios, enhancement of AI scenario innovation capabilities, acceleration of the creation of AI scenarios, and strengthening the supply of innovative elements in AI scenarios.<sup>61</sup> The policy aims to drive the development across various industries by promoting the practical implementation of AI and fostering innovation in AI scenarios. In 2023, the Cyberspace Administration of China, along with seven other departments, jointly passed and officially released the “Interim Measures for the Management of Generative Artificial Intelligence Services.”<sup>61</sup> This regulation sets standards for cultural institutions and artistic activities that provide services using generative AI in China. The regulation actively encourages the development of generative AI on the basis of legality and compliance.<sup>61</sup>

<sup>4</sup> The objective of the Interim Measures is to regulate generative AI, which is primarily designed to generate content and promote the use of AI for national economic development, ease of use, and business and individuals’ innovation.

In the interviews conducted in this study, arts professionals recognized the direct impact of the societal context on their creative processes and acknowledged the rapid and widespread digital transformation in the arts. They felt the need to continuously adapt to new digital technologies and described how they have so far navigated the shift to a new digital environment. Ivey Lin, executive vice director of the Xi'an Qujiang Museum of Fine Arts, said, "because now the country is talking about digitalization, culture plus technology, strategically digitizing everything. This is a big strategy of the country, so it is necessary for us to do it." Jenny, a curator at the Longlati Foundation in Shanghai, highlighted China's unique approach: "In China, we have a very unique condition in terms of how the public interacts with new digital technologies [...] We have transformed much of our daily tools into virtual ones; it is advanced in global terms." Chang, exhibition manager at the Fosun Foundation in Shanghai, notes, "This willing energy is quite specific to China. You must adapt to succeed in this new digital and rapidly changing environment."

Over the past decade, the most significant spikes in the uptake of digital technologies occurred in 2020, 2022, and 2023, as shown in Figure 4. While this finding aligns with global digital transformation trends and policies related to the integration of art and technology, it is also connected to the increased use of digiAI during the COVID-19 pandemic. The pandemic allowed artists and arts professionals to familiarize themselves with digiAI, experiment with creative combinations of software and AI programs, and take online courses to develop new digital skills. Wang Yiquan,<sup>5</sup> a curator and artist, reflects: "in the past 2 – 3 years, I have learned more about and used more digital technologies, including AI. Because of COVID, the physical path was not possible."

In 2023, 21 of the surveyed artists started using AI, representing an increase compared with the previous years: 18 in 2022, 9 in 2021, and 19 in 2020.

<sup>5</sup> Wang Yiquan (b. 1987) is an artist, curator, and designer based in Shanghai. He is one of the founding partners of Acts and Pathways, which is a design company that he established in 2018 with designer Wu Jiayin. His research interests as a curator focus on the relationship between the city and art as well as the relationship between art and the economy. He has contributed to a wide range of urban spatial design and research projects in Shanghai, Beijing, and Hangzhou. Wang Yiquan received his BA in Journalism from the Beijing International Studies University. He also studied Visual Communication Design at the Central Academy of Fine Arts in Beijing and completed his MA in Narrative Environments at Central Saint Martins in London. Yiquan is originally from Beijing and now lives and works in Shanghai.

In addition, 94% of the survey respondents used digital technologies in various aspects of their creation processes. Popular software include Unity, Unreal Engine, Visual Code, Miya, and Blender. The survey respondents reported using digital technologies for a range of purposes: 19% for creating visual arts, 15% for design, 11% for clipping images, 11% for inspiration, 9% for rendering purposes, and 9% for special effects (Figure 5).

Furthermore, 87.5% of the artists and arts professionals interviewed used AI in at least one stage of the creation process. Of the 22 interviewees, seven used AI throughout their creation process, three used it for image creation, five for debugging code or creating video scripts, three for writing scripts for final art pieces (particularly video artists), and two for research. The results indicate that digiAI is being used for creative tasks such as idea generation and inspiration rather than for merely non-creative tasks such as data processing or sorting (Figure 6). Specifically, 26% of the survey respondents used AI for idea generation, 22% for inspiration, and 20% for artwork production. For

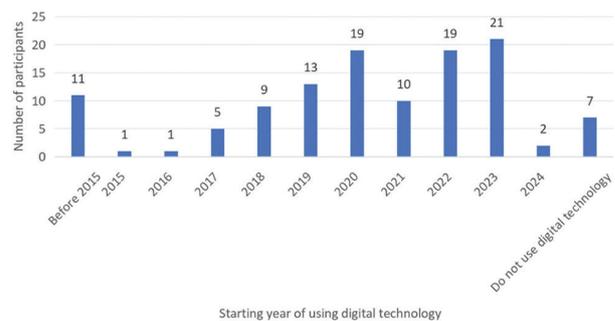


Figure 4. Starting year of using digital technology

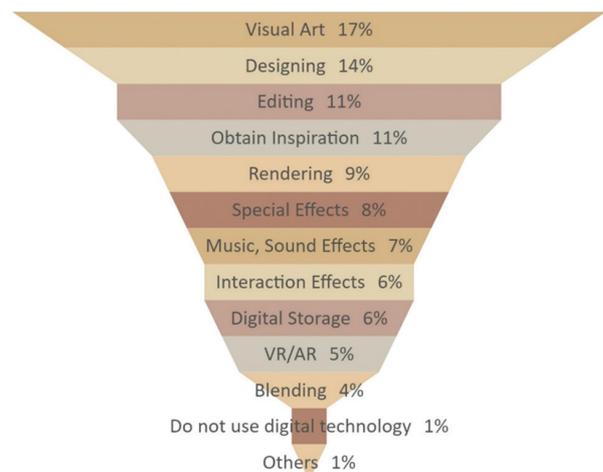


Figure 5. Participants' use of digital technology in the creation process  
Abbreviations: AR: Augmented reality; VR: Virtual reality

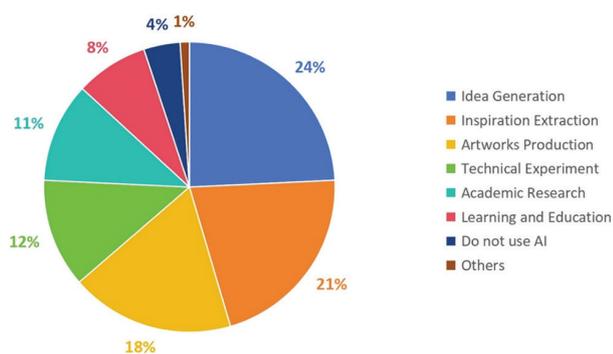


Figure 6. Participants' uses of artificial intelligence in the creation process

noncreative tasks, 12% of respondents used AI for testing and 11% for research.

The most popular AI program among surveyed artists was ChatGPT, followed by MidJourney, Stable Diffusion, Dall-E, and Sora (Figure 7). For example, artists used ChatGPT to create poems or scripts for their final artworks by inputting their code or existing text and allowing the AI to generate creative content. Many artists understood the unique capabilities of each AI program. For example, some preferred DALL-E for its ease of use, whereas others used MidJourney for its powerful processing capabilities or Stable Diffusion for the creative control it affords to the artist. As Wang Xin<sup>6</sup> said, "I use Stable Diffusion a lot because you can control it better and you can train it yourself." CHILLCHILL added, "Stable Diffusion allows you to use it as a base and you can describe the video and do some cyberpunk and punk, and then you can turn the video into another style. You can change the way and style of the video."

Artists and arts professionals often combine AI with other digital software, distinguishing between the two

<sup>6</sup> Wang Xin (b. 1983) is an artist who is based in Shanghai. Her work focuses on the topics of the status of the artist, the functioning of the art market, and the use of AI for hypnosis therapy. In 2016, Xin had a solo show at the de Sarthe Gallery, Hong Kong, titled "Every Artist Should Have A Solo Show." Some of her works include commentary about her own position in and relation to the art world, with a certain sense of humor. Her second solo show, titled "The Must-See Art Show Where You Can Find 10,000 Artists," exhibited at de Sarthe Gallery, focuses on the functioning of the art world. Both exhibitions include interactive, site-specific installations. Wang is also a certified hypnotist and has explored using hypnosis in her art with the use of AI. Wang received her BFA from China Academy of Art in 2007 and MFA from the Art Institute of Chicago in 2011. Wang is from Yichang, Hubei, and currently lives and works in Shanghai.

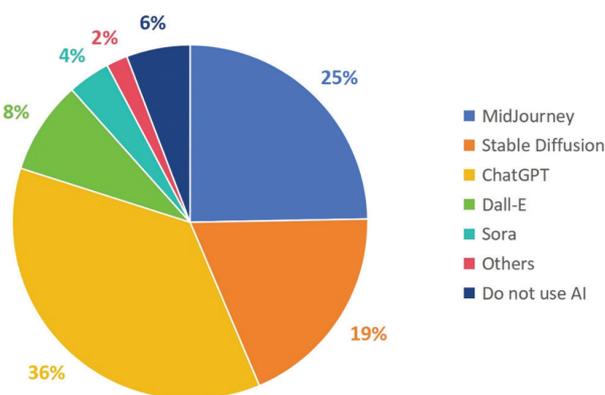


Figure 7. Usage of different artificial intelligence technologies

but recognizing how combining digital tools with AI can enhance creativity and innovation. CHILLCHILL said, "I think AI has its own beauty, aesthetic, and style, totally different than 3D software and rendering."<sup>7</sup> Maggie Chen explained, "I use machine learning for idea creation, and I use rendering and modeling for visualizing the thing. I use Blender and some mixed with Photoshop for generating the exhibition view."<sup>8</sup> Wang Xin added, "I use many digital software. I use AI for debugging my code, I use Unity for video to make a virtual reality, I use Blender used for 3D modeling, and PremierPro and Photoshop." Artists feel empowered by AI, believing it gives them more freedom and enhances their creativity. CHILLCHILL reflected, "I get more freedom because now I can add more things inside and it changed my work a lot, made more freedom. [...]. The creating part with AI and digital software is more

<sup>7</sup> CHILLCHILL (b.1990) is a digital artist and 3D animator. He also works in the club scene to exhibit his artworks. His artworks have a digital aesthetic and feature a dystopian exploration of present-day and future society. A recurring theme in his work is the "share economy," which is represented in examples of Mobike and Alipay. He graduated from Sichuan Fine Art Institute after studying Oil Painting. Several key galleries and museums have exhibited his work, including Ota Fine Arts, Shanghai. He is originally from Beihai and currently lives in Shanghai.

<sup>8</sup> Maggie Menghan Chen (Maggie) (b. 1998, Beijing) is a sculptor and mixed-media artist. She lives and works in Beijing and London. She obtained her MA in Fine Art from Chelsea College of Arts following her BA in Art History from New York University. Maggie Menghan Chen explores the growth and metamorphosis of life in her sculpture works. Chen creates surreal sculptures that combine real and nonreal elements. A lot of her inspiration comes from flora and fauna. Chen also sees her work as metaphors for the human psyche. The ferocity of beasts and fragility of flowers represent the struggle between aggression and sensitivity in the human mind.

fun to me, because I can combine image, video, music, and then it's like the whole performance. I really get used to using digital technologies.” Wang Xin agreed, “I think AI can help to make me more creative and push artists to do much more beyond what AI can do, to create something more and in a creative way.”

### 5. Discussion

Systematic review findings indicate that policies promoting the integration of digiAI into the contemporary art industry have been in place since 2016, with more recent directives emerging in 2019 and 2021. These policies focus on the integration of technology in the contemporary art industry; cultural development aligned with digital technologies; and the promotion of cloud platforms, metaverse, and immersive exhibitions. In addition, initiatives such as “Digital China” support the digitization of industries and regulate AI to promote its use among individuals and organizations. This environment has enabled the complete national integration and subsequent adoption and acceptance of digital software and AI in art creation processes. Consequently, the adoption characteristics and uses of digiAI observed in survey and interview responses align with the technological development directives outlined in these policies.

Interview findings reveal widespread adoption and acceptance of digiAI in creative processes across different types of artists (including sculptors, video artists, and painters) and age groups. While digital technologies are

primarily used for rendering and blending purposes, AI is also used for idea generation, creative collaboration, research, and code debugging. Although AI-generated esthetics can sometimes appear archetypal and bland, artists maintain their individual styles by combining AI with digital software. Artists have developed a close relationship with these tools, which enable them to enhance their creativity, gain inspiration, and achieve greater speed and accuracy. Findings also highlight the collaborative dynamics between artists and their digital partners, the new forms of creativity that emerge from these interactions, and the empowerment artists feel owing to the efficiency facilitated by these technologies.

The findings further confirm the widespread adoption of digiAI in the practices of artists and arts professionals. There has been near-total integration of digiAI methods into the processes and systems of art organizations, as well as into the creation processes of individual artists across various visual arts fields in China over the past 1.5 years. The survey results indicate that within this period, artists have experimented with both digital and AI programs, recognizing that combining the two can enhance creativity and innovation. Artists also reported that digital software and AI do not conflict with their roles or creativity; rather, they feel that digiAI enhances their work by providing companionship, speed, accuracy, power, and stimulation.

This process of digital transformation, from the national level to the individual level, is illustrated in the model presented in [Table 3](#).

**Table 3. Model of digital and AI transition in the contemporary art industry in China**

Integration →	Adoption →	Acceptance →	Adaptation
Government policy on the development of digital technologies and AI, regulations to promote ease of use by professionals and art organizations, policies on integration of digital technologies in the contemporary art industry, and Digital China. The government's priority to develop the industry for economic benefit and also provide employment opportunities. An environment in which digiAI is promoted by the government at the national, industry, organization, and individual levels. Individuals are used to digital technologies and adapt with updates in technology, given the history and nature of technological development in society.	There is increased adoption and acceptance; moreover, there is a shift toward a “digital way” in creation processes and a gradual waning of “traditional” physical creation methods. There is enthusiasm for digiAI among professionals. Individuals have gained familiarity with digital technologies owing to recent technological developments. First-hand testing of digiAI at national, organizational, and individual levels has revealed benefits. The COVID-19 pandemic allowed time to test different technologies. Individuals are enthusiastic about new developments and excited about digital-born content.	Professionals see its benefits. Professionals witness how these technologies free up their time and make their art more accurate and powerful. They are comfortable with the whole creation process being digital, i.e., digital-born and digital creation. They do not mind using AI for idea creation, employing technology for more than just noncreative tasks.	Digital technology is now used throughout creative practices, from ideation to production. AI is now not only performing noncreative tasks but also generating ideas; thus, it is creating culture. Artists' work is now about prompting, learning how to best prompt and collaborate with nonhuman agents. Relationships with digiAI boost creativity. Creativity comes from combining software and AI, different mediums, and different industries. Artists have become artist-prompters or artist-inputters.

## 6. Conclusion

This study documented the current digiAI transformation in China's contemporary art industry. In particular, we examined how digiAI has been integrated at the national level and adopted and accepted by professionals. The primary aim was to explore how professionals should integrate these technologies to ensure that human creativity and innovation can be preserved and enhanced. This research is essential in understanding the integration of digiAI and consequences of digital transition with their full adoption and acceptance.

This study presented a country-specific analysis of the integration, adoption, and acceptance of digital art partners, highlighting when, why, and how digiAI has been embraced. It documented how visual artists and arts professionals have adapted to the evolving technological and policy landscape to create art, emphasizing the rapid integration of digiAI alongside national policies promoting AI and digital technologies. An analysis of the consequences of digital transformation reveals that professionals have adopted the "digital way" in their creative practices—from the ideation stage to the production stage. It has highlighted how AI is now being used to generate ideas, transforming the work of artists into one focused on prompting, learning to prompt effectively, and collaborating with nonhuman agents. Relationships with AI and digital software and the blending of mediums, software, and industries are considered to boost creativity. Artists' roles are evolving into those of "artist-prompters" or "artist-inputters." A model of digital and AI transition was created, encompassing national-level integration of technologies into the contemporary art industry as well as organizations' and professionals' adoption and acceptance of digiAI due to its capacity to enhance speed, creativity, and innovation in workflows through total digital creation, prompting, and iterating. The total acceptance of digiAI means that artists now engage in nonhuman relationships that involve prompting and dialog with AI, allowing artists to experience renewed creativity and innovation.

This study has demonstrated that cultural and societal contexts must be a central component in the analysis of the current nature of the contemporary art industry. It has shown how a broader societal context can influence the pace, level, and spread of adoption. While scholars globally, including those in China, have connected digital art to the social context, this study has updated this discussion to reflect today's context. It does so by analyzing government policy and the impacts of national directives on technological development and the integration of art and digital technology, particularly in terms of how they affect individual artists' creation processes and influence

their thinking, work styles, speed of production, and innovation.

In addition, the study provides insight into the human perspective on this technical trend by focusing on professionals' practices. Instead of adopting the more common perspective of technological determinism or focusing solely on technical capabilities, it highlights societal factors in the digital transition and explores people's attitudes toward adopting digiAI. As a result, this analysis can offer insights into the extent to which digiAI is influencing industry practices and work processes.

The study assesses the consequences of digiAI integration, adoption, and acceptance, offering insights into other contemporary art industries globally. It illustrates how innovation can flourish with the careful integration of digiAI and creativity. Moreover, gaining a deeper understanding of human agency, creativity, and innovation through the creative process can serve as a catalyst for the development of the contemporary art industry. This study presents a way to integrate and use digiAI, which empowers and enlivens workers, thus boosting the industry's advancement. The inclusion of digiAI in art processes can empower artists to enhance efficiency and speed and create an environment in which creatives feel more empowered in their work. This study has shown how inspired artists can feel with the use of digiAI, which can potentially drive developments and new directions of innovations in the industry.

Artists believe that there is more freedom in the digiAI process, with possibilities for creative mixtures of mediums, software, styles, and industries. These new forms of communication and collaboration that are used to create art and shape the work ecosystem can act as a catalyst for the next stage of development in the industry. DigiAI integration could spark more innovation and ideas across a broad range of artists and professionals, illustrating how they will not be replaced by AI. It is important to acknowledge the sustainability of artists' jobs, and policymaking should be aimed at regulating the next stage of industry development.

Some artists and arts professionals have greater control over AI, understanding its limitations and finding solutions by compensating for its shortcomings—skills typically possessed by those with good technical knowledge or coding abilities. In addition, while localized representation adjustment files modify AI programs such as stable diffusion to generate outputs based on specific concepts like art styles, characters, or themes—which can aid creativity and innovation—there are many technical demands that artists of the current generation may not have encountered during their training. Therefore, greater collaboration

with the technology industry or national-level technical training is necessary to ensure sustainable integration and the continued development of the art industry.

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## Conflict of interest

The authors declare no conflicts of interest.

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