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The role of AI and new forms of artistic expression in shaping the art market

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Abstract: The aim of our study is to provide information on how and to what extent professionals of art institutions in Hungary and Slovakia (contemporary galleries and museums) use artificial intelligence in their work processes. Our research focuses on the extent to which these institutions use artificial intelligence in the development of the institution's operational strategy, or how they can embed the assumed usefulness of artificial intelligence in the operation of the institution, be it the creation of an exhibition, the textual processing of the professional life of an artist, or a about a tool that shapes the gallery's marketing strategy. We conducted ten in-depth interviews in the two countries, the interviewees were selected using the snowball method. The interview took place among professionals and professionally credible artists who are actively active in contemporary fine art life. The results revealed that the use of artificial intelligence as a tool in the creative work processes is not a requirement in the field of culture, neither in Hungary nor in Slovakia. All the interviewees already had professional experience with AI, 90% of those interviewed would like to deepen their knowledge of the creative use methods of AI, e.g., by creating working groups in the workplace on an experimental basis. Based on our conclusions, we can say that artificial intelligence currently has no conscious strategic use in contemporary art institutions. It can be said that creative professionals are aware of the possibilities of using artificial intelligence in their own field of image, video, and text creation, but there is uncertainty on the part of creators and curators when it comes to copyright. The in-depth interviews provided source material for the compilation of a standardized set of questions for a larger survey of 300-500 people, proportional to the sample, so our presented results are partial results of a larger research.

Keywords: market behavior of art institutions; artificial intelligence; technology in art

1. Introduction

The research starts from the assumption that artificial intelligence has transformed the user experience in the exhibition space of galleries and museums as a whole. During the research, we examined two countries, Hungary, and Slovakia. Now, we have few sources available about the user-level knowledge of professionals working in art institutions in Slovakia and Hungary about artificial intelligence as a work tool. This lack of knowledge prompted us to investigate whether the art institutions of the two countries have a vision of how to integrate artificial intelligence in the field of creative industries.

Among our motivations was the mapping of the extent to which these two Central European countries can in the future meet the predictable trend that artificial intelligence will be part of the practice of contemporary art, its influence and use will peak in the field of art creation, style analysis, data collection, in discovering stylistic

patterns in art history, or influencing the time and quality of the visitor’s time in the exhibition space.

We wanted to answer, among other things, the extent to which art institutions in Hungary and Slovakia (these can be contemporary galleries and museums) currently use artificial intelligence in the development of the institution’s operational strategy, or how they can embed the assumed usefulness of artificial intelligence in the operation of the institution, whether it is about creating an exhibition or a tool that shapes the gallery’s marketing strategy.

First, it is important to understand how the process of creation is transformed with the help of artificial intelligence, through what systems and programs an image can be created when we talk about it being created by artificial intelligence. These systems are developed to generate images using a textual description. At the heart of generators is a complex process in which artificial intelligence analyses and understands text context. The AI then uses vast databases of images and artistic styles to create unique artwork that matches the textual description. These AI generators are extremely diverse in capabilities and can work on a scale ranging from simple graphics to complex, high-resolution, human-like creations. They cover a wide spectrum of applications, from helping designers with their creative blocks to helping marketers create visual content, and even enable businesses to bring their imaginative concepts to life without involving creative professionals.

Among artists, one of the most popular programs for generative imaging is the DALL·E program and DaVinci AI. But GetIMG, LimeWire, Jasper Art, Dream by Wombo, Adobe Firefly, GAN generators were also ranked among the best. (MCFARLAND-TARDIF, 2024) “The uniqueness of DALL comes from its ability to combine linguistic and visual processing. Simply put, we provide a textual description of an image and DALL·E will create it, even if the image refers to a concept that does not exist in the real world.” (AWAN, 2021).

The formulation of creativity can be approached from several disciplines and viewpoints, f.e. according to goals and needs (see **Figure 1**). The definition of creativity is two-factor, on the one hand originality and on the other hand efficiency is required. “Originality is vital to creativity, but it is not sufficient. Ideas and products that are merely original may very well be useless (...) originality alone is not sufficient for creativity. Original things must be effective to be creative.” (Runco-Jaeger, 2012, p. 92)

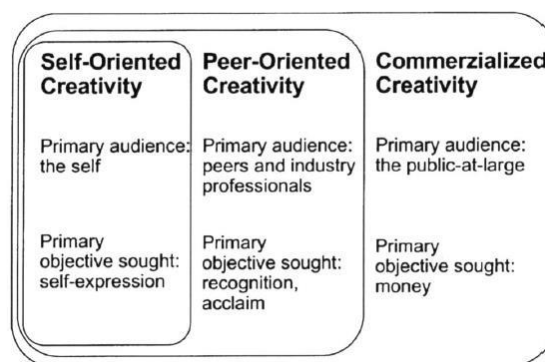


Figure 1. Types of creativity according to goals and needs.

Source: Hirschman (1983).

There is a close relationship between marketing and the fine arts, especially about the art market. The branch of marketing applied to fine arts mostly deals with areas such as research and theory development, within which it mostly affects areas such as the structure of fine arts, the relationship between industry and the market, segmentation of the fine arts market, consumer behavior and its artist-producer relationship with the “motivations behind it, learning about hedonistic experiences in customer motivation, valuation factors, opaque market movements, ‘art brand’ development, the consequences of the role of brands and associations, as well as corporate art sponsorship” (Štefko-Krajňák, 2013, p. 7).

Rhodes (1961) organized studies on creativity into four main groups. This is the basis of the “4Ps” of the creativity theory, which are as follows (see **Figure 2**):

- Product: research examining the results of creative work.
- Personality (Person/ality): research investigating the creative personality.
- Process: research mapping the mental process of creative thinking or activity(creation); we will give you the steps later.
- Environment (Place/Pressure): research showing environmental impact and pressure.” (Derecskei, 2014, p. 10)

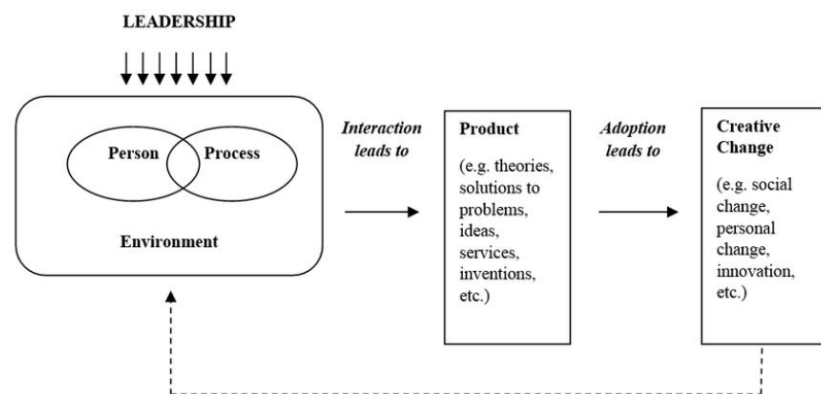


Figure 2. Creativity system model.

Source: Puccio-Cabra (2010, p. 148).

The relationship between the two disciplines can be manifested in practice in several ways:

- development of art promotion and sales strategies extended to works of art and art institutions, reaching a larger audience through online and offline marketing tools, thus improving institutional attendance.
- Marketing can play a key role during brand building, art trends and market analyses, which can help the artist understand market needs.
- It is used to develop social relations and networks. Online and offline platforms allow artists to build relationships with other artists, galleries, collectors, and art professionals. The marketing of visual art includes, for example, both commercial and professional works, which, depending on their genre, can be paintings, drawings, sculptures, graphics, public works, sketches, digital works of art (f.e. **Figure 3**).



Figure 3. Hilary Campilan’s image generated by artificial intelligence title: “Bored at home”.

Source: Hilarycampilan (2024).

2. Literature summary

Many studies have addressed the practical benefits of artificial intelligence in the field of marketing, including Davenport (2018) in “Artificial intelligence for the real world”. In his work, he writes that more people are using AI in the business sphere, however, to achieve success with it, companies must understand exactly what types of tasks artificial intelligence can solve. It highlights that in some cognitive projects 80% of the decisions will be made by the machine and 20% by the human, but there are workflows where this decision rate is reversed. Redesigning work, if companies consider the possibilities of cognitive technology, can have many advantages, especially in understanding the consumer, satisfying end-user needs and having a positive effect on the reorganization of work.

In several of Kumar’s studies, including “Influence of new-age technologies on marketing” wrote about marketing-based approaches to artificial intelligence (Davenport, 2018). Based on interviews with managers, he evaluated which technologies are the most important for companies—including AI—and in which areas they believe that the system can benefit the company. From the answers of those interviewed, it became clear that artificial intelligence is of the greatest help to the company in the production of appropriate content, and algorithms can predict the future behavior of customers with a higher percentage (Kumar, 2020). Vlačić’s study “The evolving role of artificial intelligence in marketing” proved to be a comprehensive source, in which he collects and evaluates the literature that focuses on the intersection of artificial intelligence and marketing. The listed studies are characterized by a holistic, technology-related theoretical, ethical, expert and citation-based methodological approach (Devang, 2019). On the evaluation of the impact of artificial intelligence on marketing, several English language literatures have been published, including: Hadi et al. (2019) analyzes digital advertisements in his research, in which he examines three variables: “number of clicks, number of impressions and

the click-through rate (Hadi et al., 2019, p. 43).” It concludes that the optimized algorithm can improve the frequency and relevance of advertising. This can be done in two ways: if “the keywords searched by users are not relevant, then more relevant keywords can be added to the program, and if the keywords searched by users are not relevant, then the keywords should be changed or refined to be more specific” (Hadi et al., 2019, p. 47). Hildebrand (2019) points out that we use artificial intelligence much more often than we are aware of. According to Hildebrand’s study, artificial intelligence is more than a simple technology and can create an economy operating on a new basis. Jarek and Mazurek (2019) demonstrate through collected examples that artificial intelligence affects all elements of the marketing mix, Jones’s (2018) writing focuses on understanding the use and impact of virtual assistants, according to which marketers’ attention is shifting from the product to the audience. For him, the big question is whether we understand these new types of customers (Jones, 2018).

A wide range of English-language literature talks about the imaging processes of artificial intelligence, which help to understand the creation of the image, among which the most prominent is the writing of Elkhova and Kudryashev, in which “it deals with the philosophical analysis of the creative process of systems with artificial intelligence” (Elkhova et al., 2017, p. 135). There have been various positions regarding the creative abilities of artificial intelligence. Goodman’s writing is that “No one in the art world really considers AI an artist.” (Goodman, 2020), but German artist Klingemann shares the same opinion: AI is “horrible art from an aesthetic point of view. You have to put some work into it to call it art (Flynn, 2018).” This is in stark contrast to the statement of Caselles-Dupré, Fautrel and Vernier, who focused on discovering the relationship between creation and artificial intelligence during the application of the GAN or ‘generative adversarial network’ program (Christie’s, 2018). Oksanen deals with the role and possibilities of AI in the cultural sector, with what kind of tool it can be used, e.g., when organizing an art event, or whether works created by AI can be considered art. Among other things, the experiment also revealed that the participants began to devalue the works of art after it was revealed that they were created with the help of AI. In his study, he concludes that “the practical applications of AI in the field of art are vast and include the production, distribution and consumption of art (Oksanen et al., 2023, p. 9).”

3. Methodology

For our exploratory research, we chose the qualitative methodology, we conducted 10 in-depth interviews in Hungarian, and we raised questions such as how much the pandemic has to do with the digital breakthrough of contemporary art, how much the use of artificial intelligence can be considered an expectation in organizational behavior in Hungary and Slovakia in the field of culture, how much impact of digitalism on the consumption of art products. We expanded the questions in a broader sense, and we were also interested in what professionals think about the development of technology in the art world, what connections they see between art marketing and the use of artificial intelligence. What do experts from the two countries concerned think about whether the image produced by the algorithm can be considered a work of art.

We turned our questions into a structured set of questions. Our method captured the nuanced details of subjective experiences, perspectives, and contexts. The interviewees included a curator, art historian, patron, head of institute, head of design studio, multimedia artist, and restorer. The subjects were selected using the snowball method. It was an important aspect that the interview should take place between professionals and professionally credible artists who are actively active in contemporary fine arts life. At the start, a relevant professional was first selected who was an expert in the field, an expert in the formulated process and who had expressed himself in professional circles related to the topic. Through the interlocutors, we got in touch with people who others think know the situation and problems of artificial intelligence in the creative industry.

During the in-depth interview, we properly informed the research participants about the objectives of the research, its nature, and the use of the extracted data. We assured them that participating in the research posed minimal risk to them, guaranteed their anonymity, and ensured data protection. We considered the criteria of social responsibility, so that the survey does not cause any negative effects to the participants or the wider community. During the in-depth interview, we tried to create conditions where the participants could answer the structured questions honestly and without limitations.

4. Results

Three contemporary artists, a patron, the head of an architectural studio, a restorer, a media design specialist and three art historians participated in the research (Figure 4). Of these, four are active in Slovakia and six in Hungary.

Field of expertise	GENDER	ERA	COUNTRY
Contemporary artist	male	25-35	Hungary
Contemporary artist	female	25-35	Hungary
Contemporary artist	female	35-45	Slovakia
Patron	male	60-80	Slovakia
Architectural studio manager	male	34-45	Slovakia
Restaurateur	male	35-45	Hungary
Media designer	male	35-45	Slovakia
Art historian	male	35-45	Hungary
Art historian	female	35-45	Hungary
Art historian	female	35-45	Slovakia

Figure 4. Demographic distribution among the interviewees.

Source: Own editing.

During the research, we were primarily interested in the extent to which it is expected in Hungary and Slovakia today that the staff of art institutions have knowledge about the use of AI. All the interviewees stated that this is not currently a

basic requirement in the contemporary art life of the region, and the technical equipment is not adequate for the galleries in the region to be able to present the art works generated with different software. The artists stated that they often must provide the technical equipment to be able to present their digital works.

“I’ve never been to a gallery that can provide the technical conditions (...) it’s all very strange. The galleries do not deal with it, rather they create separate institutions, e.g., a digital museum where these types of exhibitions can operate.”

Contemporary artist I.

The majority of those in the profession answered the question, based on their experience so far, how open they think the audience is to view an exhibition where artificial intelligence is present, or whether the given exhibition was created with the help of artificial intelligence.

“What I see in Hungary is that digital exhibitions are becoming more and more popular. They want spectacular, digital exhibitions, but I do not know if they (people) want an exhibition created with AI, because the use of the word itself is very wrong. In addition, Hungarians and people living in our area cannot identify with things where they have to do something, and not just watch.”

Contemporary artist I.

“Artificial intelligence strives for perfection, but people also have to understand this perfection (...) I don’t think this environment (a certain exhibition space in Dunaszerdahely) would be interested in an opening where we asked for the help of artificial intelligence in the works.”

Media designer

“Abroad, they were more open to digital art, already five years ago.”

Contemporary artist II.

Despite this, in most cases the experts interviewed did not question the usefulness of AI in the visual arts.

“(Art) institutions could be made much more informal, e.g., if (artificial intelligence) could adapt to the age of the visitor and formulate the professional texts in the language of the given target group, they could be asked. It would help the understanding of the works much better.”

Contemporary artist I.

“It would be a big help in recognizing the attributes.”

Restaurateur

“I don’t think that galleries would really use artificial intelligence here, perhaps for collecting materials and writing texts.”

Contemporary artist II.

In most cases, the professionals interviewed were able to associate many positives with the use of artificial intelligence in their field of expertise. There is no longer a clear answer to the question of whether artificial intelligence can take care of the entire creative process and provide a higher quality output.

“You can help in planning an exhibition, e.g., which image should be paired with what, where should they be placed, but if we entrust the whole work to artificial intelligence, I don’t know if it would result in a positive or negative end result. The human factor remains completely outside. That may not be good.”

Media designer

“Artificial intelligence does not know the profession better than humans. These are punched data; fine art is aesthetics. This must be “seen” rather than using the data of a stored knowledge to judge the end result.”

Restaurateur

“I would be interested to see how the same exhibition would be put together by a human and an artificial intelligence, because then we would really see if (AI) can do it.”

Restaurateur

“I would be interested in how artificial intelligence would “paint” a vintage parade. It can work well with a painting because we attach feelings to it, we know what a vintage parade means - a good wine, family, friends, fun, country life. I would be curious if artificial intelligence could generate the same feelings that we associate with a vintage parade.”

Restaurateur

In the in-depth interview, we also asked about the position of the interviewees in following legal and ethical rules. The art historians, the media design specialist and one of the contemporary artists drew attention to the fact that the relevance of the data must be viewed critically. Contemporary artists treat the issue of AI and ethical and legal regulation with utmost importance.

“It’s a question of how much we want a specific space to collect information about the specific visitor (...) how we can preserve our personal data.”

Contemporary artist I.

“I like to use technology in my everyday life as well as in my work, but it also makes me vulnerable. How does excessive digitization and excessive presence affect the personality? The fact that we are present in five places at the same time means that we are always available for everyone. We leave our digital footprint there. This adds up to a digital mass that can be both useful and depressing at the same time.”

Contemporary artist II.

The knowledge of the interviewees about the right to use images created with the help of AI was incomplete, none of them could give a precise answer in this regard. Each of them expressed their own position on the issue.

“If there was an exhibition where works created by AI were presented, and let’s say you didn’t like it, I wouldn’t blame the creator, but the artificial intelligence. (...) I don’t think it’s the work of the artist.”

Media designer

“It is just a tool to express ourselves, like a painting. It is not good or bad, but a tool, and what we use it for depends on what the message will be. I partially agree with this. The content with which someone fills a medium is especially important, but we cannot forget the properties of the medium itself. The medium has its own characteristics, we must not forget that.”

Contemporary artist II.

Among the interviewees, we also asked what kind of connection they see between the pandemic and the advancement of the use of AI in the creative industry. The art

patron, the head of the architectural studio and the restorer did not see a close connection between the pandemic and the advance of AI. According to the art historians and the two multimedia artists, the use of AI in the creative sector is not mutually exclusive, but they undoubtedly influenced each other (**Figure 5**).

The development of AI is not a consequence of the pandemic, however, the pandemic functioned as an incentive for more artists to try out the software, even on an experimental basis, to start experimenting with it. This is how he was able to spread in a brief time in the world of contemporary art. The media design specialist thought he had discovered close connections between the pandemic and the advance of AI, according to him, the number of artists and professionals who started using artificial intelligence in the profession, even on an experimental basis, has increased.

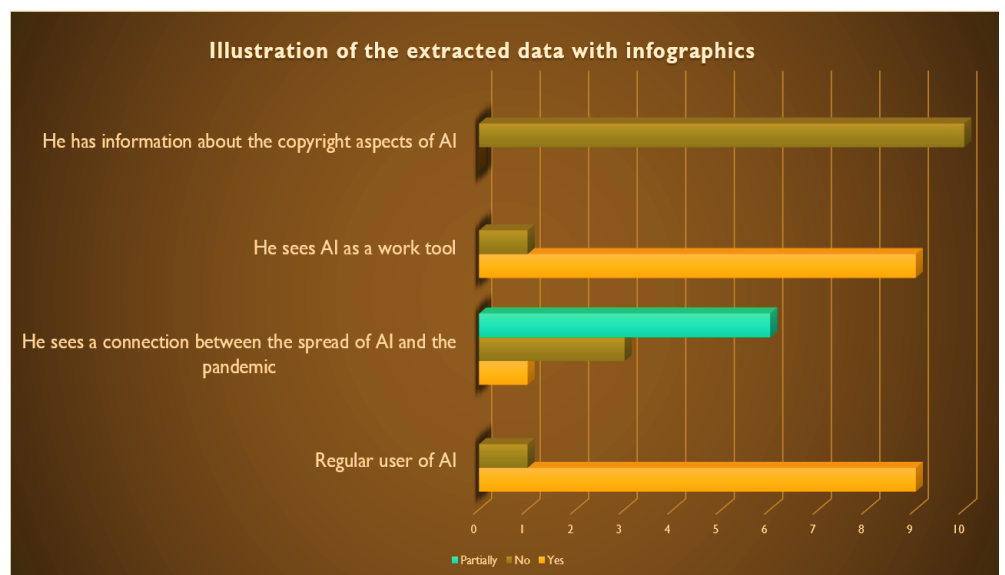


Figure 5. Illustration of the extracted data with infographics.

Source: Own editing.

In our research, we also discussed how the interviewees as a whole view digital changes in the creative sector. Those interviewed expressed a unanimous opinion that currently those active in the contemporary art world regularly monitor social media platforms to follow the works of visual artists or to get to know new visual artists. Five of the interviewees elaborated on the importance of social media platforms in contemporary art. One person thought that websites are becoming obsolete because they are difficult to manage and take time to update, unlike an Instagram profile. Two of the multimedia artists stated that they or other artists they know have already been contacted through their Instagram profiles, and they even personally know artists who adjust the dimensions of their artworks to the Instagram image gallery before starting the work, so that it is visually compatible when photographed in its finished state be with your platform (**Figure 6**).

There were nine unanimous responses from the interviewed subjects that a presence on social media can launch an artistic career, but there were conflicting answers as to whether the social media interface alone can make an artist successful. Seven of them believed that social media cannot in any case make the artist recognized and successful in the long term. To be recognized, it is necessary to enter the artistic

canon that shapes taste and has significance, because a young up-and-coming artist will be recognized by institutions and persons capable of canonization.

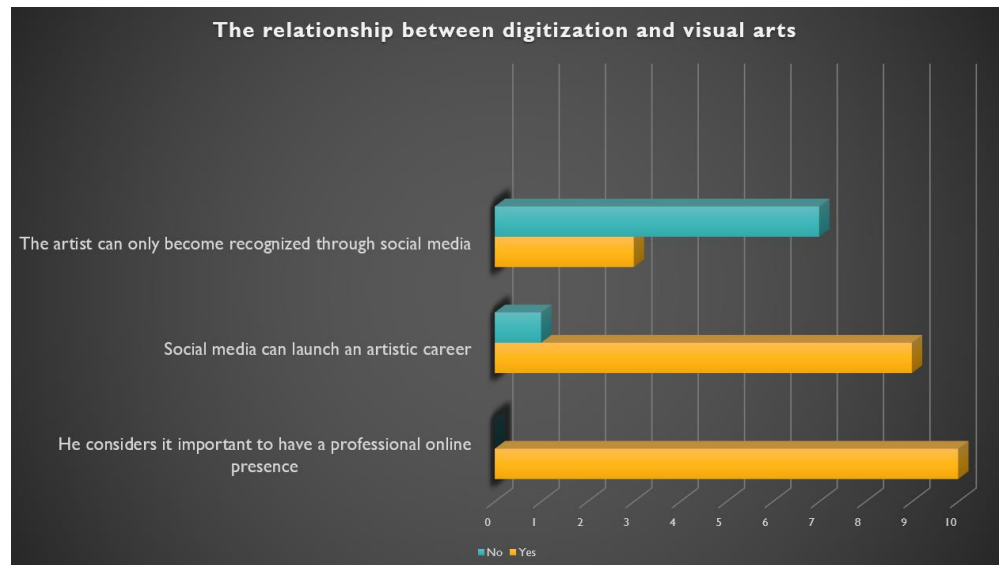


Figure 6. The relationship between digitization and visual arts.

Source: Own editing.

5. Conclusions and recommendations

The AI imaging process has many advantages, including efficiency, creativity, personalization, and accessibility. Such programs can quickly and efficiently create images based on textual descriptions, saving time, cost and resources compared to traditional image creation methods such as manual graphic design or photography. They can interpret and visualize abstract or complex concepts that would be difficult or time-consuming for artists to render. This can potentially push the boundaries of creativity and art. AI images can democratize access to visual content to create unique visual content. However, the creative industry also faces a number of challenges when it comes to the imaging possibilities of artificial intelligence. Among them are unpredictability, the issue of intellectual property, and content moderation. The programs generate images based on a set of images already available on the Internet, so copyright concerns may arise. Based on the data obtained from the interviews, the following conclusions can be drawn regarding the two countries examined:

(a) It can be said that creative professionals are aware of the possibilities of using artificial intelligence in their field of expertise.

(b) There is currently no conscious marketing strategy use of artificial intelligence in contemporary art institutions.

(c) The online representation of the artist is becoming increasingly important.

(d) The interviewees in both countries see AI as a potential work tool, but their visions or fears about it are not known.

(e) Creators and curators are characterized by uncertainty regarding copyright in the field of image, video, and text creation. Various positions are typical.

(f) Social media, although it can launch an artistic career and make an artist recognized, it cannot take over the role of professional canon institutions.

The results of the research can encourage contemporary galleries so that their employees are just as aware of digital trends as their artists and can apply them at the institutional level.

Art marketing professionals may look to the source of artificial intelligence as a valuable tool in the future. It can be effective not only in text creation and data collection, but it can also collect information about the public's visits to the cultural institution and optimize the visitation of the exhibition. At the same time, the spread of the use of artificial intelligence in the creative industry raises a series of fine art problems for which the Hungarian art scene is not currently prepared. Among them, the solution of ethical dilemmas is urgent, but the question of devaluation of works of art considered traditional, designed for the offline space, made exclusively with manual tools, may also put pressure on the profession in a brief time. And the exhibition designers of the institutions must prepare even more for the transformation of the reception experience. In addition, we must not forget that the use of artificial intelligence and other digital software can make the recipient vulnerable and lead to a sense of disappointment in the viewer, which can cause confusion at the level of perception. In the future, it will be important for institutions to prepare for the presentation of digital works of art and to be able to represent their artists in the offline space. The impact of artificial intelligence on the contemporary art market as a whole is currently still uncertain. The focus of our scientific research is precisely this question, and how this process will influence art marketing and the development of the art market in the future.

Our upcoming research steps include expanding the group of participants involved in interviews for the qualitative phase in each country. Additionally, we intend to enhance this phase by incorporating quantitative research, where we aim to develop a questionnaire that includes a set of structured, standardized questions. In the series of questions, we would ask about the answers given in the interviews in greater detail. We are targeting the art universities, cultural institutes, museums, and galleries of the two countries to achieve the appropriate occupancy rate.

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References

- Awan, A.A. What is DALL-E? (2023). [online]. [cit. 2024.03.06.] <https://www.datacamp.com/blog/what-is-dall-e>
- Davenport, T. H., - Ronanki, R. Artificial intelligence for the real world. *Harvard business review*, 2018. 96(1), 108-116.
- Derecskei, A. (2014) *A szervezeti kreativitás és az azt befolyásoló tényezők a magyar vállalatok körében*, Szegedi Tudományegyetem, Budapest
- Devang, V., Chintan, S., Gunjan, T., & Krupa, R. (2019). Applications of artificial intelligence in marketing. *Annals of Dunarea de Jos University of Galati. Fascicle I. Economics and Applied Informatics*, 28-36.

- Elgammal, A. What the Art World Is Failing to Grasp about Christie's AI Portrait Coup (2018). [online]. [cit. 2024.03.06.]: <https://www.artsy.net/article/artsy-editorial-art-failing-grasp-christies-ai-portrait-coup>
- Elkhova, O.I. – Kudryashev, A.F. (2017). The creative ability of artificial intelligence. *Dirbtinio intelekto kūrybiškumo gebėjimas. Creativity studies*, 10(2), 135–144.10.3846/23450479.2017.1348396
- Flynn, M. A (2018).19-Year-Old Developed the Code for the AI Portrait That Sold for \$432,000 at Christie's, *Washington Post*
- Goodman, S, M. How Does AI Change the Way We Perceive Art? (2020). [online]. [cit. 2024.03.06.] <https://www.artnews.com/art-in-america/features/ian-cheng-simulation-ai-art-1202675838/>
- Hadi, S., et.al (2019). Digital marketing optimization in artificial intelligence era by applying consumer behavior algorithm. *Asian Journal of Entrepreneurship and Family Business*, 3(1), 41–48.
- Hildebrand, C. (2019). The machine age of marketing: How artificial intelligence changes the way people think, act, and decide. *NIM Marketing Intelligence Review*, 11, 10–17.
- Jarek, K.-Mazurek, G. (2019). Marketing and artificial intelligence. *Central European Business Review* 8.2 10.18267/j.cebr.213
- Jones, V. K. (2018). Voice-activated change: Marketing in the age of artificial intelligence and virtual assistants voice-activated change: Marketing in the age of artificial intelligence and virtual assistants. *Journal of Brand Strategy*, 7, 239–251.
- Kumar, V., Ramachandran, D. & Kumar, B. (2020). Influence of new-age technologies on marketing: A research agenda. *Journal of Business Research* <https://doi.org/10.1016/j.jbusres.2020.01.007>
- McFarland A., Tardif A., (2024) A 10 legjobb mesterséges intelligencia-generátor (2024. április), [online]. [cit. 2024.03.06.]: <https://www.unite.ai/hu/ai-art-generators/>
- Vlačić, B., Corbo, L., Costa E Silva, S., & Dabić, M. (2021). The evolving role of artificial intelligence in marketing: A review and research agenda. *Journal of Business Research*, 128, 187–203.