The Impact of Technology on Creativity & The Arts

Mayisha Delwar, Faculty Mentor: Professor Philip Baldwin
Department of Art, Stony Brook University

Abstract

This paper investigates the impact of developing technologies on creative boundaries in the art industry and the effect of technology on human creativity. The author proposes that technology can enhance art by promoting originality and boosting creativity in humans, creating new opportunities for exploration. The intersection between technology and art is a new fold that emphasizes the importance of understanding the impact of technology on the human mind. As creativity and imagination are key factors in innovation, this paper shows that technology and art can go hand in hand. The relevance of technologies such as artificial intelligence generated art, 3D printing services, the metaverse, and virtual reality, among others, is discussed alongside literature and research analyzing the impact of technology on art and creativity. The increasing use of technology in the art industry and human dependence on technology further highlights the importance of this subject area.

Background

With the introduction of new tools and mediums, the art industry has been undergoing a technological revolution. Advancing technologies such as artificial intelligence, 3D printing, and virtual reality allow artists to be able to explore new creative possibilities and push the boundaries of traditional art forms. This intersection between art and technology has given rise to a new field that heavily emphasizes the use of technology to create art and artistic experiences.

These developments have sparked an ongoing debate about the impact of technology on the art industry and human creativity. Some argue that technology enhances creativity by providing new tools and mediums for artists to experiment with, while others suggest that technology may stifle creativity by encouraging a reliance on algorithms and predetermined outcomes.

Given the growing importance of technology in the art industry, it is essential to understand the impact of technology on creative boundaries and human creativity. This paper aims to explore the relationship between developing technologies and art, as well as investigate people's perceptions of how technology will continue to affect human creativity. By examining current literature and conducting a survey, this paper will contribute to a better understanding of the potential benefits and drawbacks of technology in the art industry, and its impact on human creativity.

Research Questions

1. How do developing technologies impact creative boundaries in the art industry?
2. Do people think that the advancement of technology will continue to help or hinder the creativity that exists in humans?

Methodology

The methodology for this research involves a comprehensive literature review of existing papers and articles that focus on the impact of developing technologies on the art industry and human creativity.

In addition, a survey will be conducted to gather data and insights from communities knowledgeable in technology, art, or both. The survey will be distributed to various networks, including the Women in Science and Engineering (WiSE) community at Stony Brook University, THR103 and THR216 classes taught by Professor Baldwin under the Department of Theatre Arts, and relevant public Discord communities/servers. The survey will be structured to elicit responses that address the research questions, and the data collected will be analyzed using both qualitative and quantitative methods.

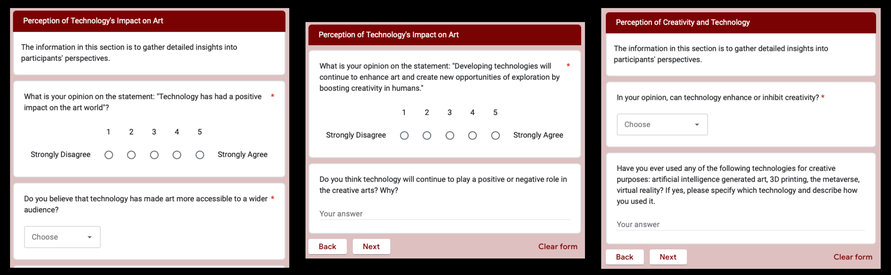

Fig 1.1, 1.2, 2.0: Some of the questions participants will be asked in the survey

Survey Questions & Analysis

The main sections of the survey include the following: Demographics, Technology Use, Creativity, Art Industry, and Opinion Questions. The purpose of the demographics section is to collect information that can help to better understand the characteristics of the participants of the study. The Technology Use, Creativity, the Art Industry, and Opinions sections aim to collect information that can be used to understand how participants' experiences might influences their responses to the questions. Participants' brief background in technology or art will be recorded on the survey.

Results

The survey distribution and collection of data is still in progress. However, the expected outcome is to see that participants agree that developing technologies allow humans to enhance their creativity and to push boundaries. Historically, new technologies have opened doors and allowed for the creation of art that otherwise may never have existed or been explored. However, the intersection between technology and art is multifaceted and ultimately the impact comes down to the intentions of one's usage of technology, as well as the methods in which they are utilized. Past studies have shown that people often use existing technologies to aid in new experiences , but also that the tools can either aid in promoting or decrease the motivation of creativity depending on the technologies used.

Preliminary Conclusion

The rapid development of technology has been transforming various aspects of society, including the art industry. The intersection of the two fields has opened up new avenues for creativity and exploration in the arts. There are debates about the impact of technology and whether it stifles or enhances creativity. However, as a new and growing field of study, more research is needed to understand the impact of technology on creative boundaries in the art industry and on human creativity. Our ongoing survey seeks to contribute to this growing body of literature, and we hope that future research will yield more concrete answers as to the relationship between technology and art.

Future Directions

Future steps for this research involve data cleaning and cross-analysis of the information collected through the survey. Moreover, to gain a deeper understanding of the varying opinions regarding the impact of technology on creativity, unique survey questions tailored to the participants' backgrounds can be added. For example, the community categories could be based on whether participants predominately have a technology or art-based background or based on primary use of the technology in its application, such as as a student or as a full-time worker in the industry. By examining the relationship between participants' community affiliations and their opinions, this research can further explore how different communities are impacted by technology in their own unique ways.

Acknowledgements

I would like to thank Professor Philip Baldwin for his mentorship and allowing me the opportunity to conduct this research.
Thank you to Doreen Aveni for your continued support, guidance, and insight.

References

[1] Anadol, Refik. "Art in the age of machine intelligence." TED, 2020, https://www.ted.com/talks/refik_anadol_art_in_the_age_of_machine_intelligence.

[2] Chen, Yi-Ching, Yu-Shan Chang, and Meng-Jung Chuang. "Virtual reality application influences cognitive load-mediated creativity components and creative performance in engineering design." Journal of Computer Assisted Learning 38.1 (2022): 6-18.

[3]Mazzone, Marian, and Ahmed Elgammal. "Art, creativity, and the potential of artificial intelligence." Arts. Vol. 8. No. 1. MDPI, 2019.