

User Agency and Autonomy in AI Decision-Making Interfaces

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Abstract

The increasing adoption of AI-powered content creation tools in various domains, including digital marketing, raises critical concerns regarding user agency and autonomy. This research aims to investigate the impact of AI content creation tools on user decision-making and the ethical implications of their recommendations. I will conduct a comprehensive study to address the following research questions:

- How do AI content creation tools shape user decision-making in digital marketing?
- What mechanisms can be implemented to ensure that AI content creation tools enhance rather than undermine user agency in digital marketing?
- What ethical considerations should be taken into account when designing and deploying AI content creation tools for use in digital marketing?

Introduction

AI content creation tools, such as automated writing assistants and image generators, are transforming how users interact with digital platforms. These tools offer convenience and efficiency, but they also raise questions about the balance between convenience and control. The use of AI content creation tools in digital marketing can have a significant impact on user choices and business strategies. These tools can be used to generate creative content, such as blog posts, social media posts, and email campaigns. They can also be used to personalize marketing messages and target specific audiences. However, the use of AI content creation tools can also raise ethical concerns. For example, these tools may be used to create misleading or deceptive content. They may also be used to manipulate user behavior (Goglin et al. 2023).

Literature Review

A nascent understanding of the complex relationship between AI content creation tools and user agency is emerging. While promising empowerment, concerns remain regarding "AI agency" and its potential to manipulate user choices (Kang & Lou, 2022). To mitigate these risks, human goals must be central to AI design, ensuring alignment with user intentions (Popa, 2021). Furthermore, effective redress mechanisms are crucial for safeguarding user agency and fostering trust in AI tools (Fanni et al., 2023). Human-centered AI design that respects user autonomy is paramount, as advocated by Väänänen et al. (2021) and aligned with calls for ethical frameworks and responsible development (Floridi, 2023; Diakopoulos, 2019). Further research, particularly within specific domains like digital marketing, is necessary to deepen our understanding of this complex and evolving relationship.

Research Objectives

This research aims to investigate the impact of AI content creation tools on user agency and autonomy within decision-making interfaces. I will explore how these tools influence user decisions and the ethical implications of their recommendations.

Concrete Steps

1. Research Design

The research will be conducted in two phases:

- Phase 1: Analyze user interactions with AI content creation tools in digital marketing. This will involve conducting surveys, interviews, and usability testing.
- Phase 2: Develop guidelines for ethical AI design in the context of digital marketing. These guidelines will be based on the findings of Phase 1.

2. Data Collection

Data will be collected from a diverse sample of users who interact with AI content-creation tools in digital marketing. The data will be collected using a variety of methods, including surveys, interviews, and usability testing. For example, *Amazon Mechanical Turk* or *Prolific* to recruit participants and administer online surveys and experiments. I may also use *Zoom* or *Skype* to conduct remote interviews and observations, or *Google Analytics* or *Hotjar* to track and analyze user behaviour and engagement with AI interfaces.

3. Data Analysis

The data will be analyzed using qualitative and quantitative methods. Qualitative methods will be used to understand user experiences and perceptions of AI content creation tools. Quantitative methods will be used to identify patterns and trends in user behavior. Application of advanced analytical techniques, such as structural equation modelling, thematic analysis, and causal inference will be done, to derive insights into the influence of AI on user agency and decision-making. Software such as SPSS, NVivo, and R to perform the analysis and visualization will be used.

4. Expected Outcomes

The expected outcomes of this research are:

- A deeper understanding of the impact of AI content creation tools on user agency and autonomy in digital marketing.
- Guidelines for ethical AI design in the context of digital marketing.
- Recommendations for how to design and deploy AI content creation tools in a way that respects user agency and autonomy.

5. Ethical Considerations

The research will thus address ethical considerations, such as privacy, consent, bias, and accountability, in the research process and the design of AI interfaces. It will also seek to establish best practices for responsible AI design that empowers user agency and respects user values. Other innate ethical considerations will be observed such as the research will be conducted in accordance with ethical principles, including respect for privacy, consent, and non-discrimination. All participants will be informed about the research and will have the opportunity to opt-out.

Significance

This research is significant because it addresses a critical gap in our understanding of the impact of AI content creation tools on user agency and autonomy. The findings of this research will have implications for the design and deployment of AI content-creation tools in a variety of domains. By the end of this research, I anticipate contributing to the ongoing dialogue on ethical AI design, user agency, and autonomy, fostering impactful, user-centric AI-human interactions that respect and enhance user agency and autonomy.

References

- Goglin, C. The Ethics of Artificial Intelligence: Review of Ethical Machines: Your Concise Guide to Totally Unbiased, Transparent, and Respectful AI by R. Blackman; Ethics of Artificial Intelligence: Case Studies and Options for Addressing Ethical Challenges by B.C. Stahl, D. Schroeder, and R. Rodrigues; and AI Ethics by M. Coeckelbergh. *J Bus Ethics* 188, 623–627 (2023). <https://doi.org/10.1007/s10551-023-05538-2>
- Hyunjin Kang, Chen Lou, AI agency vs. human agency: understanding human-AI interactions on TikTok and their implications for user engagement, *Journal of Computer-Mediated Communication*, Volume 27, Issue 5, September 2022, zmac014, <https://doi.org/10.1093/jcmc/zmac014>
- Popa, E. Human Goals Are Constitutive of Agency in Artificial Intelligence (AI). *Philos. Technol.* 34, 1731–1750 (2021). <https://doi.org/10.1007/s13347-021-00483-2>
- Fanni, Rosanna et al. “Enhancing human agency through redress in Artificial Intelligence Systems.” *AI & society* vol. 38,2 (2023): 537-547. doi:10.1007/s00146-022-01454-7
- Väänänen, Kaisa et al. “Editorial: Respecting Human Autonomy through Human-Centered AI.” *Frontiers in artificial intelligence* vol. 4 807566. 26 Nov. 2021, doi:10.3389/frai.2021.807566
- Floridi, L. (2023). *The Ethics of Artificial Intelligence*. Oxford University Press.
- Diakopoulos, N. (2019). *Algorithmic accountability: Journalistic investigation of computational power structures*. Rutgers University Press.