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Blockchain-Enabled Transparency in AI-Driven Innovation: A NeuroIS Study on Trust and Emotional Engagement

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The integration of large language models (LLMs) into creative processes, such as content creation and innovation, has raised concerns about content ownership, transparency, and trust in AI-generated output. While LLMs can assist in generating innovative ideas, the lack of verifiable ownership attribution may reduce trust and confidence in their outputs, potentially limiting adoption by innovators. Blockchain technology, with its decentralized and immutable nature, provides a potential solution by offering transparent, verifiable attribution of ownership and content creation, which is crucial from the innovator's perspective.

This study specifically explores the impact of blockchain-enabled transparency on innovators' trust, cognitive load, and emotional engagement during AI-assisted innovative writing tasks. By focusing on the innovator's perspective, we aim to investigate how blockchain verification of AI-generated content enhances their confidence and sense of control over the creative process, rather than addressing audience-related concerns. The study employs a NeuroIS approach, using neurophysiological tools such as EEG (electroencephalography) to measure cognitive load and GSR (galvanic skin response) to gauge emotional engagement. Participants will engage in creative writing tasks using LLM-generated content, with one condition incorporating blockchain verification for content ownership and another without.

We hypothesize that blockchain transparency will enhance trust in AI-generated content for innovators by providing clear ownership attribution, reducing uncertainty and cognitive load, and increasing emotional engagement. These effects are expected to improve creative outcomes by enabling innovators to engage more deeply and confidently with AI-driven tools. By comparing user responses in blockchain-verified and non-verified conditions, we seek to provide empirical evidence on the role of transparency in fostering innovative thinking and collaboration with AI.

This research contributes to NeuroIS by focusing on how blockchain technology can support innovators in AI-driven processes, enhancing trust and engagement in creative industries. The study offers practical insights into the design of AI-powered platforms that prioritize the innovator's need for transparency and ownership in fostering creativity and innovation.

References

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