

**Question:**

What are the ethical concerns associated with black-box AI models in digital marketing? in english

**Evaluation:****i. Accuracy and Relevance of the AI-Generated Output**

NotebookLM's contextual Q&A function demonstrates a high degree of factual accuracy and topical relevance. In response to queries such as "*What are the ethical concerns associated with black-box AI models in digital marketing?*", the tool effectively identified major issues including erosion of consumer trust, information asymmetry, bias, lack of accountability, privacy violations, and diminished consumer autonomy. These insights were clearly grounded in the uploaded sources. The system's use of scholarly terminology—such as "*control paradox*," "*moral hazard*," and "*dark patterns*"—further highlights its contextual awareness and alignment with academic discourse in marketing ethics and AI governance.

**ii. Usefulness in Academic Workflows**

This functionality is particularly valuable for exam preparation, exploratory research, and academic writing. By providing focused, evidence-based responses, it helps students navigate dense or complex texts efficiently. The structured format, often grouped by thematic concerns, mirrors the logic of academic paragraphing and supports the development of well-organized arguments. In practice, this feature enhances workflows such as clarifying abstract topics, refining research questions, preparing discussion points, and retrieving references to support academic arguments. Because answers are tied directly to the uploaded content, the tool encourages source-based inquiry while reducing the time and effort spent searching for relevant material.

**iii. Limitations or Concerns**

Despite its advantages, the contextual Q&A tool raises important concerns around academic engagement and critical thinking. Over-reliance on AI-generated answers can lead to a passive learning approach, where students substitute questioning for close reading. This may result in superficial understanding or failure to engage with diverse viewpoints present in the original texts. Additionally, the well-polished nature of responses may discourage further investigation, increasing the risk of students accepting the content uncritically or using it without proper citation. While the tool generally avoids hallucination when using curated sources, its concise responses can oversimplify complex debates and inadvertently promote one-dimensional perspectives. Educators and students alike must approach this functionality as a support tool—one that facilitates, but does not replace, rigorous independent analysis.

**Evidence:**

What are the ethical concerns associated with black-box AI models in digital marketing? in english

The ethical concerns associated with "black-box" AI models in digital marketing primarily stem from their lack of transparency and explicability, making it difficult to understand how they arrive at decisions or recommendations 1 .... The existence of a 'black box' in ride-sharing companies has been identified as an immense threat 4.

Here are the key ethical concerns:

• **Erosion of Consumer Trust and Increased Skepticism**

• A lack of clarity regarding why ads are shown and how consumer data is used can lead to a significant decline in trust 5 6.

When consumers don't understand the algorithms behind personalized advertising or recommendations, it can foster skepticism and a negative perception of the brand 5 6. Trust is a psychological state reflecting a consumer's willingness to accept vulnerability based on positive expectations of a brand or platform, and its absence leads to ad avoidance and negative brand perception 5.

• To counteract this, "ethical AI" should include algorithms that explain why users are seeing specific ads, providing transparency and helping to build trust 7. Explicable AI can inform consumers about data usage methods and how AI applications arrive at solutions or decisions 3.

• **Information Asymmetry and Unfair Advantage**

• AI systems, especially conversational AI and those used for consumer profiling and predictive analysis, can gather vast amounts of consumer data, creating an "information imbalance" or "asymmetrical redistribution of power" 3 .... This disparity gives companies an added advantage, potentially leading to "moral hazard" where 9 10. [Chuyển xuống dưới cùng](#)

### NotebookLM result:

The ethical concerns associated with "black-box" AI models in digital marketing primarily stem from their lack of transparency and explicability, making it difficult to understand how they arrive at decisions or recommendations. The existence of a **'black box' in ride-sharing companies has been identified as an immense threat.**

Here are the key ethical concerns:

- **Erosion of Consumer Trust and Increased Skepticism**

- A lack of clarity regarding why ads are shown and how consumer data is used can lead to a significant decline in trust. When consumers don't understand the algorithms behind personalized advertising or recommendations, it can foster skepticism and a negative perception of the brand. Trust is a psychological state reflecting a consumer's willingness to accept vulnerability based on positive expectations of a brand or platform, and its absence leads to ad avoidance and negative brand perception.
- To counteract this, **"ethical AI" should include algorithms that explain why users are seeing specific ads**, providing transparency and helping to build trust. Explicable AI can inform consumers about data usage methods and how AI applications arrive at solutions or decisions.

- **Information Asymmetry and Unfair Advantage**

- AI systems, especially conversational AI and those used for consumer profiling and predictive analysis, can gather vast amounts of consumer data, creating an **"information imbalance" or "asymmetrical redistribution of power"**. This disparity gives companies an added advantage, potentially leading to "moral hazard" where suppliers can influence customer perceptions due to this information asymmetry.
- Companies might exploit these vulnerabilities to maximize profits through behavioral biases, deception, or even addiction generation. For instance,

AI-driven algorithmic pricing can charge different prices to individual consumers based on their needs and demands, raising concerns about price discrimination. The misuse of data could lead to overcharging or nudging consumers, raising ethical concerns about information asymmetry.

- **Bias and Discrimination**

- Intelligent advertising and algorithmic decision-making are often centered on **bias**, which can stem from input data and be reflected in the outcomes provided by AI applications. This approach can inadvertently discriminate against consumers whose consumption patterns do not align with the product.
- Addressing bias is critical for responsible AI. Researchers suggest that bias could be reduced with human monitoring and better-quality data.

- **Lack of Accountability and Reliability**

- While AI systems can make decisions based on algorithms, they are **not trained to make judgments**, raising questions about assigning responsibility to firms when developing these algorithms. The main issues with algorithmic decision-making include a **lack of reliability, lack of accountability, and lack of human involvement**.
- This concern extends to AI in service, where issues arise about whether robots should be considered legal entities responsible for their actions.

- **Privacy and Data Protection Issues**

- The collection, misuse, or leakage of consumer data is a frequent cause of trust erosion in digital advertising. AI applications heavily depend on data, making data governance issues crucial. Ethical issues arise when AI systems collect information beyond immediate requirements to build comprehensive customer profiles.
- Companies must prioritize **data privacy and security**, ensuring compliance with regulations like GDPR and CCPA to maintain trust and minimize legal risks. Even with consent, data use should be strictly for business purposes, and companies should avoid collecting excessive or unnecessary data.

- **Loss of Consumer Autonomy and Manipulative Practices**

- The "control paradox" in AI marketing entails a loss of consumer autonomy when AI makes decisions on behalf of consumers. Examples include "over-targeting" or "creepy personalization" that feels invasive (e.g., mentioning products discussed in private conversations).
- Dark patterns in user interfaces (e.g., hidden unsubscribe buttons) and non-consensual data sharing with third parties further erode trust. Additionally, humanizing chatbots can lead consumers to believe they share the same moral values as humans, introducing potential expectation distortion and enabling persuasion through human-like dialogue.