

# The Potential of Artificial Intelligence in Managing Information Needs and Harmful Information

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## ABSTRACT

**Objective:** This study investigates the strategic role of artificial intelligence (AI) in managing information needs and mitigating harmful information in the digital era, focusing on its implications for decision-making and societal well-being. **Method:** Using a qualitative approach, the research examines existing literature and case studies on AI applications in information management, with particular attention to its effectiveness in identifying, filtering, and countering harmful content, including cyberbullying and misinformation on social media. **Results:** The findings reveal that AI enhances information management by streamlining decision-making processes and safeguarding information security, especially for vulnerable groups such as children and adolescents. AI-driven systems demonstrate significant potential in detecting harmful information patterns, reducing the prevalence of digital violence, and promoting a healthier information ecosystem. **Novelty:** This study uniquely integrates the concepts of information needs and harmful information management through an AI-centric perspective, offering new insights into AI's role in creating a secure and ethical digital environment.

## INTRODUCTION

Managing information needs involves identifying, analyzing, developing, and implementing mechanisms to satisfy an individual's demand for information. This process includes searching, collecting, analyzing, and delivering information to targeted users [1].

Certain principles must be adhered to in managing information needs. Information needs establish specific boundaries, especially concerning minors. Restricted information for minors includes:

1. Information depicting or describing cruelty, physical and or psychological violence, crime, or other antisocial behaviors.
2. Content that induces fear, horror, or panic, including harmful information that can cause harm or promote negative habits.
3. Information that promotes war, incites national, racial, or religious hatred, or other content punishable under criminal or administrative law [2].

## RESEARCH METHOD

In recent years, the types, influence, forms, and methods of harmful information have rapidly evolved. Around the world, coercive information exposure and digital communication-related violence have led to cognitive "short circuits." Researchers

highlight the emergence of new forms of violence, such as bullying, roasting, trolling, flaming, outing, fraping, cyberstalking, and catfishing [3].

A look at international experience reveals various approaches to combating harmful information. In France, protecting children from harmful information includes legislative initiatives. In February 2024, Law No. 2024-120 was enacted to strengthen children's rights, and the Internet Child Protection Laboratory actively works to safeguard children. This approach integrates criminal and civil measures to effectively combat bullying and other forms of violence against children [4].

To create a safer information environment for children, research shows that many children today exhibit emotional detachment, uncontrolled aggressive reactions, and depressive tendencies due to excessive exposure to violent digital content.

Digital technologies (computer and non-computer games, TV series, and films) expose children to various characters, influencing their perception and behavior. This exposure familiarizes them with criminal jargon, external styles, and aggressive behavior patterns. Children also witness the attire and violent tactics of real and virtual criminals, as well as instances of intimidation, murder, and suicide [5].

In the Netherlands, children are protected from harmful information through legislation, state policies, and continuous monitoring. The country actively implements measures to uphold children's internet rights and is considered one of the safest countries for children, adhering to the principles of the UN Convention on the Rights of the Child. Preventing violence remains a top priority [6].

## RESULTS AND DISCUSSION

The study employed methods such as analysis, synthesis, comparison, generalization, comparative analysis, and person-centered approaches to examine information needs management, types of harmful information, and international practices. These methods emphasized the need for an integrated approach to law and practice [7].

In today's era of globalization, applying artificial intelligence (AI) is one of the most effective ways to manage information needs and harmful information. AI offers significant potential in both fulfilling information needs and controlling harmful information [8] The following AI-based methods are outlined:

### Meeting information needs

1. **Information filtering and personalization:** AI provides users with relevant news and information based on their interests.
2. **Translation and language models:** Machine translators enhance accessibility and dissemination of information in different languages.
3. **Semantic search:** AI comprehends text meanings and delivers precise and relevant information to users.
4. **Virtual assistants:** Tools like Google Assistant, Siri, and ChatGPT help users quickly find and utilize information [9].

## **Managing Harmful Information**

### **Detecting Fake News**

AI algorithms analyze false or misleading information to identify and expose fake news.

### **Content Moderation**

Automated detection and filtering of inappropriate or harmful content on social media and websites.

### **Preventing Cyber Attacks**

AI identifies phishing attacks, viruses, and other threats to protect users.

### **Verifying Information Sources**

AI compares and analyzes sources to determine the authenticity of information.

By leveraging artificial intelligence, the effective management of information flow and the restriction of harmful content dissemination become possible, ensuring information security and reliability [10].

Artificial intelligence (AI) plays a crucial role in analyzing regulatory documents related to information needs and harmful information management. It offers the following capabilities:

#### **1. Analyzing Legal and Regulatory Documents**

- a. **Automated Text Analysis** – AI processes large volumes of legal documents and extracts key sections [11].
- b. **Legal Comparison and Analysis** – AI compares information security laws across different countries to identify common trends.
- c. **Identifying Legal Gaps** – AI detects inconsistencies or shortcomings in legal and regulatory documents.
- d. **Automatic Classification** – Documents are categorized into topics such as information security, personal data protection, and cybercrime [12].

#### **2. Analyzing Legislation Against Harmful Information**

- a. **Studying Laws Against Fake News** – AI examines legal measures taken in different countries to combat misinformation.
- b. **Evaluating Cybersecurity Regulations** – AI identifies differences between international data protection standards and national laws [13].
- c. **Recognizing Illegal Content** – AI analyzes legal definitions of harmful content within regulatory documents.

#### **3. Examining Laws Ensuring Information Needs**

- a. **Assessing Press Freedom Laws** – AI analyzes media freedom regulations in different countries to detect restrictions [14].
- b. **Studying Personal Data Protection Laws** – AI compares the application of GDPR (General Data Protection Regulation), CCPA (California Consumer Privacy Act), and similar laws.
- c. **Analyzing Access to Information** – AI evaluates open data policies and regulations governing public access to information.

Using AI for rapid legal document analysis enables real-time improvements to align regulations with current realities, benefiting legal professionals, government agencies, and information security specialists.

### **Differentiating Positive and Harmful Information Using AI**

AI distinguishes between positive and harmful information through various methods. Key technologies include:

#### **1. Natural Language Processing (NLP) and Text Analysis**

- a. **Sentiment Analysis** – AI evaluates whether a text conveys a positive, neutral, or negative sentiment.
- b. **Topic Analysis** – AI assesses whether information is biased (e.g., fear-inducing or hate-spreading) or positive (e.g., educational, news).
- c. **Language Style Evaluation** – AI detects insults, threats, and indications of false information.

#### **2. Classification via Machine Learning Algorithms**

- a. **Neural Networks** – AI models analyze large datasets to automatically distinguish harmful content.
- b. **Categorization of Documents** – Information is classified into "positive," "harmful," or "neutral" categories.
- c. **Fake News Detection** – AI cross-checks sources to verify the authenticity of information.

#### **3. Content Moderation and Real-Time Analysis**

- a. **Filtering on Social Media** – AI identifies and blocks harmful content (fake news, hate speech, extremist materials) or issues warnings.
- b. **Preventing Cyber Attacks and Disinformation** – AI analyzes content shared by bots or fake accounts to determine its harmfulness.
- c. **Automated Fact-Checking** – AI verifies the authenticity of news by comparing it with reliable sources [15].

## **CONCLUSION**

**Fundamental Finding** : This study demonstrates the significant potential of artificial intelligence (AI) in managing information needs and mitigating harmful content by leveraging natural language processing, machine learning, and content moderation techniques. AI's strategic role in enhancing information reliability and reducing digital violence highlights its effectiveness in safeguarding users, particularly vulnerable groups such as children. **Implication** : The findings underscore the necessity for a collaborative approach involving policymakers, educators, and technology developers to establish robust legal and ethical frameworks, ensuring the responsible use of AI in information management. **Limitation** : This research primarily relies on qualitative analysis and theoretical perspectives, lacking empirical validation through large-scale, real-world implementations of AI systems in diverse digital environments. **Future Research** : Further studies should focus on evaluating the practical effectiveness of AI-driven information management systems across different cultural contexts, examining their

impact on users' psychological well-being, and exploring advanced regulatory models to address evolving challenges in digital communication.

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