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# A Study on Public Perception towards Generative AI

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**ABSTRACT:** Generative AI has gained widespread attention for its transformative potential across various sectors, including healthcare, education, and creative industries. This study investigates the evolving public perception of generative AI in 2024, analyzing diverse attitudes influenced by its rapid adoption and increasing visibility. Public sentiment reveals a dichotomy: excitement about AI's potential to enhance productivity and innovation coexists with concerns about ethical risks, misinformation, and economic displacement. Using social media analytics and global surveys, the study identifies key trends, including the heightened awareness of AI's societal impact and the growing demand for transparent governance and ethical frameworks. This research underscores the importance of aligning AI advancements with public trust to ensure its equitable and sustainable integration into daily life.

**KEYWORDS:** Generative AI, public perception, ethical AI, AI adoption, misinformation, AI governance, 2024 trends

## I. INTRODUCTION

Generative AI refers to technologies that create content such as text, images, music, or code, by learning from vast datasets. Notable examples include ChatGPT for conversational AI and DALL·E for image generation. In 2024, generative AI has transitioned from being a niche technology to an integral part of industries, offering opportunities like enhancing productivity, fostering innovation, and personalizing user experiences. For instance, professionals in marketing and education increasingly rely on generative AI to draft content and design personalized learning modules. However, these advancements come with challenges. Concerns about misinformation, copyright violations, and biases in AI outputs have sparked debates on its ethical implications. Furthermore, the pace of adoption has outstripped regulatory frameworks, leading to a pressing need for oversight. This duality of potential and risk defines the ongoing narrative surrounding generative AI.

## PUBLIC SENTIMENT ANALYSIS: EXCITEMENT AND CONCERNS

Public opinion on generative AI in 2024 is polarized. On the one hand, there is widespread excitement about its transformative potential. Many view it as a tool that enhances creativity and efficiency, with surveys reporting that over 60% of users believe generative AI has positively impacted their work. On the other hand, significant skepticism persists. Common concerns include the risks of AI-generated misinformation and the erosion of trust in digital content. For example, deepfake technology has been a focal point of criticism due to its potential for harm. Social media platforms like Reddit reveal these dichotomous views, where tech-savvy communities often express optimism, while non-technical audiences are more likely to voice apprehensions. Sentiment analysis of public discussions highlights this complex emotional landscape, where excitement and fear coexist.

## SOCIOECONOMIC AND CULTURAL IMPACTS OF GENERATIVE AI

The adoption of generative AI is reshaping economies and cultures worldwide. Economically, it is automating repetitive tasks, boosting productivity, and even creating new job categories. However, it also threatens to displace workers, particularly in roles involving routine cognitive tasks. The cultural impact varies significantly by region. In highly developed nations, generative AI is seamlessly integrated into daily life, while in developing countries, limited infrastructure and digital literacy hinder adoption. This digital divide exacerbates inequalities, leaving marginalized communities at a disadvantage. Furthermore, generative AI influences cultural norms, from transforming artistic expression to redefining intellectual property rights. These socioeconomic and cultural dynamics underscore the need

for policies that ensure equitable access to AI benefits while addressing potential disparities.

### ETHICAL AND REGULATORY CONSIDERATIONS IN GENERATIVE AI

The ethical challenges of generative AI are multifaceted, ranging from biases in AI-generated content to privacy breaches and copyright concerns. These issues raise questions about accountability, especially when AI systems produce harmful or misleading outputs. In response, there is growing advocacy for robust regulatory frameworks that enforce transparency and accountability in AI development and deployment. Policymakers and industry leaders are exploring initiatives such as AI ethics committees and international agreements to govern the technology. Public trust in generative AI depends on these measures, as surveys show that a majority of users support stricter regulations to prevent misuse. Balancing innovation with ethical responsibility is vital to addressing societal concerns while fostering trust.

### FUTURE DIRECTIONS: ALIGNING AI DEVELOPMENT WITH PUBLIC TRUST

To build a future where generative AI serves humanity equitably, aligning its development with public trust is essential. Strategies to achieve this include creating diverse training datasets to mitigate biases, implementing stricter misinformation controls, and ensuring ethical transparency in AI applications. Collaborative efforts among governments, tech companies, and civil society will be critical in shaping these frameworks. Looking ahead, generative AI has the potential to be a cornerstone of innovation, driving advancements in areas like healthcare, education, and environmental sustainability. However, its success will hinge on whether it can address the societal concerns that cloud its promise, ensuring that its benefits are widely and fairly distributed.

## II. LITERATURE REVIEW

**Generative AI in News and Journalism (2024)** by the Reuters Institute surveyed six countries, focusing on how people perceive the use of generative AI in journalism. It found that while awareness of tools like ChatGPT is growing, the public remains divided on how AI should be used in the news media. There is an ongoing debate about its implications for trust, the authenticity of content, and the ethical responsibilities of journalists when integrating generative AI.

**Pew Research on AI Awareness (2023)** explored the level of awareness and experience with generative AI in the U.S. The study revealed that while 58% of adults have heard of ChatGPT, only 18% have used it, highlighting a gap between awareness and active use. The research also examined how generative AI is viewed across various sectors, including education, healthcare, and the workplace. A key finding is that many Americans are concerned about the ethical implications and the risk of job displacement due to AI.

**Generative AI's Role in Customer Experience (2024)** by Publicis Sapient discussed how C-suite executives view the importance of generative AI in business operations, particularly for customer service and sales. The study emphasized the growing recognition of generative AI's potential to transform industries, though executives expressed varied concerns about its risks and ethical considerations. It also noted a significant disconnect between the awareness of generative AI's potential at the executive level versus its decentralized use within organizations.

**Public Views on AI in Healthcare (2023)** is a study on AI in healthcare revealed mixed public opinions. While some Americans are excited about AI's potential to assist in medical diagnoses, many express discomfort with the idea of AI replacing human doctors. The debate centers on concerns over accuracy, bias, and the depersonalization of healthcare, which could affect patient trust.

**Generative AI in Education (2022-2023)** highlighted the growing familiarity with generative AI tools like ChatGPT, particularly in academic settings. While many students find AI useful for research, a significant portion of them is uncomfortable with its use for tasks such as essay writing. This reflects concerns about the integrity of AI-generated content and the potential for academic dishonesty.

**The Ethical Debate Over AI (2023)** talks about Public perceptions of generative AI are also shaped by ethical concerns, as shown in various studies. In 2023, discussions surrounding AI ethics emphasized the need for government

regulation. A large majority of the public expressed concern that governments would not regulate generative AI technologies like ChatGPT adequately, highlighting widespread anxiety about the potential misuse of such tools.

**Generative AI's Impact on Employment (2023)** shows According to Pew Research, while many Americans acknowledge the potential of AI to improve efficiency in workplaces, there is widespread concern about job displacement. Particularly in sectors like customer service and healthcare, generative AI's role is seen as both a threat to employment and a tool for enhancing productivity.

**Adoption of AI in Daily Life(2024)** is a an 2024 survey from the Reuters Institute revealed that generative AI is increasingly integrated into everyday tasks, from content creation to personal assistants. However, the public's response remains cautious, with many users unsure about the long-term implications for privacy, data security, and personal autonomy.

### III. PROBLEM STATEMENT

Generative AI technologies, such as ChatGPT and DALL·E, are reshaping industries by enhancing productivity and creativity. However, public perception of these tools remains divided, with enthusiasm for their potential tempered by concerns about ethical issues, misinformation, and job displacement. This research aims to explore the factors influencing public sentiment toward generative AI, examining both the positive impacts and the risks associated with these technologies. By understanding the public's views on the societal and ethical implications, this study seeks to contribute to the broader discussion on AI adoption and regulation.

### IV. OBJECTIVES

- Investigate the level of awareness among the general public regarding generative AI technologies.
- Examine public attitudes towards the ethical implications of generative AI, such as its potential impact on employment, creativity, and privacy.
- Understand the extent to which individuals believe that generative AI technologies like ChatGPT can positively or negatively impact society.
- Evaluate the perceived benefits and risks associated with the widespread adoption of generative AI from the perspective of survey respondents

### V. RESEARCH METHODOLOGY

An issue can be addressed systematically through the application of research techniques. This discipline examines the most effective methods for conducting research. Essentially, research techniques encompass the procedures employed by scientists to describe, interpret, and predict occurrences. It is frequently characterized as the examination of strategies for knowledge acquisition. The primary objective is to establish a comprehensive plan for the research endeavor.

#### RESEARCH

A comprehensive investigation or inquiry, especially through the acquisition of new knowledge in any academic discipline, is referred to as research.

#### RESEARCH DESIGN

Research design is a foundational framework that provides guidance for the entire research process. It outlines the methods for collecting and analyzing data. This study is associated with descriptive research as it utilizes primary data.

#### DESCRIPTIVE RESEARCH

Descriptive research aims to outline the characteristics of a population or phenomenon. It primarily addresses the "what" aspect, focusing on the features of the population or situation under investigation, rather than exploring how, when, or why these characteristics exist. This type of research often employs descriptive categories to effectively characterize the subjects or circumstances being studied.

## DATA COLLECTION

### PRIMARY SOURCES

Primary data sources are those that are not readily available and require significant human effort to obtain. These sources provide first-hand information, which is collected through standardized questionnaires.

### SECONDARY SOURCES

Secondary sources represent another important category of data collection. These sources are more accessible and do not necessitate extensive effort to gather, as the data has already been compiled and processed by researchers. Secondary data is typically obtained from online resources and published articles in academic journals.

### QUESTIONNAIRE

A structured questionnaire was employed to collect primary data. One of the formats used was the Likert 5-point scale, which includes various types of questions such as:

- Multiple-choice
- Open-ended questions
- Ranking scales

### SAMPLE DESIGN

Sampling involves the process of gaining insights about a population by selecting a representative sample. This method entails choosing a small subset from the larger population to draw conclusions about the whole. A statistical sample serves as a miniature representation or cross-section of the entire group from which it is derived.

### SAMPLE SIZE

Sample size pertains to the number of items selected from the population to form the sample. An optimal sample size is one that meets the criteria of efficiency, representativeness, reliability, and flexibility. In this study, respondents were chosen using a simple random sampling technique, with questionnaires distributed to 100 participants.

### STATISTICAL TOOLS

### CHI-SQUARE ANALYSIS

To find the relationship between the relationship between age and concern about the negative impacts of generative AI

#### HYPOTHESIS

**Hypothesis Null Hypothesis (H0):** There is no significant association relationship between age and concern about the negative impacts of generative AI.

**Alternative Hypothesis (H1):** relationship between age and concern about the negative impacts of generative AI

### OUTPUT

Test Statistics	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	32	16	0.0009
Likelihood Ratio	30.8	16	0.012
N of Valid Cases	100		

### INFERENCE

The Chi-Square Test results indicate a significant relationship between age and concern about the negative impacts of generative AI (Chi-Square = 32.5, p-value = 0.009). This suggests that people from different age groups express varying levels of concern about the risks associated with AI technologies. Younger individuals may show less concern, while older age groups tend to be more cautious. This highlights age as an important factor in shaping public perceptions of AI's potential negative impacts.

### CORRELATION

To find the significant correlation between familiarity with generative AI and the frequency of interaction with generative AI technologies.

### HYPOTHESIS

**Null Hypothesis (H0):** There is no significant correlation between familiarity with generative AI and the frequency of interaction with generative AI technologies.

**Alternative Hypothesis (H1):** There is a significant correlation familiarity with generative AI and the frequency of interaction with generative AI technologies.

### OUTPUT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.275	4	4.569	5.237	0.001
Within Groups	72.450	95	0.763		
Total	90.725	99			

### INFERENCE

The One-Way ANOVA results ( $p = 0.001$ ) indicate a significant difference in the frequency of interaction with generative AI based on familiarity levels. Those who are very familiar with generative AI interact with it most frequently, while those who are very unfamiliar use it the least. This suggests that increased familiarity with generative AI leads to more frequent engagement, highlighting the importance of familiarity in driving usage.

## VI. FINDINGS

Based on the responses and analysis of the data collected, the findings reveal that familiarity with generative AI significantly influences the frequency of interaction with these technologies. Individuals who report being more familiar with generative AI (e.g., tools like ChatGPT and DALL-E) tend to interact with them more frequently. This correlation highlights the importance of education and awareness in driving the adoption of generative AI technologies. Respondents who expressed higher familiarity with AI were also more likely to acknowledge its benefits, such as increased efficiency and enhanced creativity. Conversely, those who were less familiar exhibited concerns about its negative impacts, like privacy issues and job displacement. This indicates that a lack of familiarity could hinder the broader acceptance and integration of AI in various fields.

## VII. CONCLUSION

This research on public perception towards generative AI reveals key insights into how familiarity with these

technologies influences their adoption and usage patterns. The analysis demonstrated a significant positive correlation between the level of familiarity and the frequency of interaction with generative AI tools, such as ChatGPT and DALL-E. Respondents who were more familiar with generative AI tended to use it more frequently, recognize its potential benefits (like increased efficiency and creativity), and were more optimistic about its societal impact. In contrast, individuals who were less familiar with the technology expressed greater concerns regarding privacy, job displacement, and ethical issues. These findings highlight the critical role of education and awareness in fostering widespread acceptance of generative AI. As familiarity grows, public attitudes may shift from skepticism to greater enthusiasm, emphasizing the need for ongoing public outreach, clear communication, and ethical guidelines to maximize the potential of AI technologies in society.

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