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A CRITICAL EXAMINATION OF BIAS, FAIRNESS, AND ACCOUNTABILITY IN CONTEMPORARY ARTIFICIAL INTELLIGENCE SYSTEMS

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Abstract
AI systems have gained widespread adoption in various domains such as healthcare, education, finance, and governance, where they play a pivotal role in shaping decisions. But issues of bias, fairness and accountability have come to the fore as important concerns in their ethical use. This study investigates these questions in current AI systems and the potential for the reproduction or perpetuation of social inequalities. The main aim of the research is to examine the existence of bias in AI models, the concept of fairness in automated decision making, and the accountability mechanisms in the governance of AI. The design used in this study was qualitative research, which involved secondary data obtained from recent scholarly literature, policy reports and case studies of widely used applications of AI. For the purposes of identifying common themes of algorithmic discrimination and governance gap, content analysis of the information was performed. The key findings show that AI systems can inadvertently spread bias present in their training data, which results in disparities in outcomes for various groups, including in hiring, lending, and police predictive policing. Moreover, there is little consistency in the application of fairness frameworks and accountability structures are not clearly defined or executed effectively. Another interesting finding of the study was that the transparency of algorithmic processes is still low, and it is hard to follow decision making processes. Overall, the study underscores the critical need for strong ethical standards, clear design of models, and accountability mechanisms with teeth in them. Better regulatory oversight and inclusive design of datasets are critical to equality in the use of AI.

INTRODUCTION

In today's digital landscape, Artificial Intelligence (AI) is a core technology that is reshaping decision-making across sectors including governance, healthcare, education, finance, and security. Machine learning algorithms are used by AI systems to process vast amounts of data and derive conclusions, make decisions, and optimize operations. These systems have enhanced productivity and the provision of services, but they also pose important ethical issues concerning bias, fairness, and accountability.

In recent years, AI has been a major area of research, studies showing that AI systems are far from neutral, rather they carry the biases found in historical and training data [1]. Algorithmic

systems can inadvertently perpetuate structural disparities, especially in critical domains like employment screening, credit scoring and predictive policing, according to OECD reports [2]. Likewise, UNESCO claims that if the governance of AI technologies is weak, they could exacerbate social inequalities, not address them [3].

AI is increasingly being adopted in digital banking, education technologies, and e-commerce systems, with a rapid rate accelerating in developing countries like Pakistan. The city of Lahore is seeing more and more deployment of AI tools that facilitate decision-making. However, the current regulatory structures, public understanding and institutional preparedness for ethical governance of AI are still weak and there exists an imbalance between the development of AI and ethical governance.

Problem Statement

Although AI systems are being more and more incorporated into daily services, there remain a number of concerns with algorithmic bias, fairness, and accountability. In many instances, AI systems function as black boxes, making it tricky for users to comprehend how outcomes are created or who's accountable for mistakes.In several instances, AI systems work as a black box, making it hard for users to understand how outcomes are generated or who is responsible for mistakes.

Lahore is home to a growing number of AI-powered applications, particularly in the fields of recruitment, financial technology, and digital service platforms. But users are often not aware of the algorithmic process and have concerns about non-explicit algorithms, unfairness, and non-explained automated decisions. These concerns are further exacerbated by the lack of clarity regarding accountabilities.

So, the central issue in this research is that there is a lack of knowledge about the ethical issues of AI systems in Lahore and their impact on bias, fairness, and accountability deficits in decision-making processes.

Research Gap

While there is a vast amount of international literature pertaining to AI ethics, fairness, and accountability, the majority of aforementioned research are conducted in developed economies and advanced regulatory contexts. While some frameworks offer good theoretical governance models (e.g., the OECD Principles for Artificial Intelligence and NIST AI Risk Management Framework), their empirical application to the development of urban contexts has been limited [2] and [4].

In Pakistan, particularly in Lahore, there is a lack of quantitative empirical studies that examine:

- User perception of AI bias
- Fairness evaluation in AI systems
- Awareness of accountability mechanisms

This creates a significant research gap in understanding how AI ethics is experienced in real-world developing country contexts.

Research Objectives

The objectives of this study are:

- To measure perceived AI bias among users in Lahore
- To evaluate fairness perception in AI-driven systems
- To assess accountability awareness among AI users
- To analyze the relationship between AI exposure and ethical perceptions

Research Questions

This study is guided by the following research questions:

- What is the level of perceived bias in AI systems among users in Lahore?
- How do users evaluate fairness in algorithmic decision-making systems?
- What is the level of accountability awareness among AI users?
- Is there a relationship between AI exposure and ethical perceptions of bias and fairness?

Scope and Significance of the Study

This study is not exhaustive, and is focused on Lahore city in Pakistan with specific sectors like

the educational, banking, and digital sectors. The study is not based on the technical assessment of AI models, but on their perception by users.

The importance of this research is related to the understanding of the ethics of AI in urban development. For inclusive and sustainable digital transformation in emerging economies, ethical AI governance is crucial, according to reports by the World Economic Forum [5]. The findings of this research can serve as empirical evidence that helps inform policies, research, and institutions to create fair and accountable AI systems.

Literature Review

With the growing use of algorithmic systems in high-stakes decision-making scenarios, Artificial Intelligence (AI) ethics has become a crucial field for research. In healthcare, AI systems are employed in diagnostics; in finance, in risk assessment; in recruitment, in screening and hiring; in surveillance, in automated monitoring and management; and in public services, in decision making and service provision. The potential benefits of these systems come with concerns about transparency, fairness, accountability and bias.

Recent literature stresses that AI systems are socio-technical systems that are designed and developed by humans, with decisions, data selection processes, and institutional priorities that influence the shape of both the technical and the social aspects of the AI system. Trustworthy AI has to be designed to achieve human-centered outcomes, fairness and accountability throughout its lifecycle, as highlighted by OECD. According to OECD, trustworthy AI should be designed to achieve human-centered outcomes, fairness and accountability throughout the AI's lifecycle. Likewise, UNESCO highlights the need for AI-driven contexts to be underpinned by ethical governance mechanisms to combat discrimination and uphold human rights [3].

When AI output has systematic, repeatable errors which lead to unfair outcomes for certain groups, it is considered to be algorithmic bias. Bias may come from several sources such as not representative datasets, historical inequalities, and incorrect model assumptions. It has been found that an AI system developed from an imbalanced data set may reflect and even reinforce social disparities [2]. Recruitment algorithms, for instance, might target certain groups of people to hire because they have been favored in the past, and credit scoring systems might penalize individuals who have low incomes because they have less positive financial data in their profile.

But, as NIST notes, bias is not just a technical problem, it is a governance challenge that must be actively monitored, validated and mitigated across the entire AI lifecycle [4]. This is exacerbated in developing countries because of the lack of data set diversity and less stringent regulation. The concept of fairness in AI is a nuanced and multi-faceted notion, which does not have a universal definition. It could include a requirement of statistical parity, equal opportunity, or minimizing disparate impact between groups.

Fairness means that AI systems should not discriminate in an unjust way, or that there should be fair outcomes for populations, according to OECD principles [2]. Improving fairness in one dimension however, can lead to a deterioration in fairness in another dimension, which is often the case though with regards to the definitions of fairness. Recent research shows that fairness in AI systems is heavily context dependent and needs to be assessed in light of cultural, legal and institutional contexts [4]. Fairness issues are especially difficult in developing countries due to weak regulations and poor access to digital infrastructure. Accountability is the process of assigning responsibility when AI systems generate unhelpful, biased or wrong results. The "accountability gap" is one of the key issues in the governance of AI, in which responsibility is shared between developers, data providers, and deploying organizations.

UNESCO emphasizes that many AI systems operate "in a black box" and that it is difficult to follow their decision-making processes and apportion responsibility [3]. The opacity erodes

trust and hampers the effectiveness of the regulations. NIST suggests that AI systems should be accompanied by mechanisms for explainability, traceability and governance to ensure that they are held accountable throughout their lifecycle [4].
Global AI governance is developing very quickly and there are various significant frameworks to regulate ethical AI development. Transparency, robustness, and accountability are key foundations of trustworthy AI systems, all of which are central principles mentioned in the OECD AI Principles [2]. The principles are observed internationally as standards for ethical development of AI.
Likewise, the NIST AI Risk Management Framework offers a structured approach to the identification and mitigation of AI system risks [4]. It is based on continuous risk assessment and lifecycle governance.
However, these developments do not seem to have translated into international bodies being created in developing countries, and these frameworks may not be applicable in developing economies due to various reasons, including limited infrastructure, and lack of information [3].
While the use of AI is expanding at a fast pace in the developing world, ethical governance frameworks are still in their infancy. This leaves a regulatory hiatus between the deployment of technology and regulation.
According to UNESCO, the developing regions are confronted with several difficulties, such as:

- Not enough good datasets.
- Weak institutional enforcement mechanisms
- Lack of awareness among the public about the AI systems.
- Rely on AI models that have been developed overseas [3]

Such challenges can lead to biased and unfair decisions in AI-based decision-making algorithms.
The adoption of AI in Pakistan is growing in financial services, education platforms, and digital governance systems. As a big urban city, Lahore is emerging as an important place of digital transformation where artificial intelligence is increasingly becoming a part of people's lives.
In general, however, the general public has limited knowledge of algorithmic systems. There are many users who use AI powered platforms who don't know how decision is made or how it is evaluated. This opacity also leads to less accountability awareness and perceptions of bias.
Trust and perception of fairness in AI systems is shaped by the user experience, as noted in the OECD document [2]. In settings where transparency is less visible, such as Lahore, user impressions have an even more significant impact on attitudes towards AI technologies.
The literature shows a number of ethical issues associated with AI systems, including bias, fairness, and accountability. International guidelines and frameworks like OECD AI Principles and NIST AI RMF offer frameworks for governance, but they have been less successful when applied in emerging settings. There is a huge disparity between the adoption of AI and ethical governance in Pakistan, especially Lahore. This gap requires empirical investigation of the user perceptions that this study will address.

Theoretical framework

The theoretical underpinning of this study serves as the conceptual basis for grasping how Artificial Intelligence (AI) systems can yield results that are biased, less fair, and lack accountability. AI systems are socio-technical systems in which the outputs are the result of a combination of algorithms, datasets, institutional structures, and human decisions. Recent studies highlight the need to consider the social and organizational dimensions of ethical issues in AI in addition to other factors [1].
This chapter brings together some of the core theories to provide a foundation for understanding user perceptions of bias, fairness, and accountability of AI systems in Lahore. Algorithmic Fairness Theory plays a pivotal role in comprehending ethical issues within AI systems. It suggests that AI systems need the same results for people of all genders and demographics, free from systematic discrimination.
OECD principles emphasise the need to avoid unjust bias and to encourage inclusive decision-making processes in AI [2]. However, fairness is not a one-size-fits-all concept; it includes several

different mathematical and ethical interpretations, including demographic parity, equal opportunity and predictive equality.

NIST notes that fairness must be assessed in the specific use cases and be monitored on an ongoing basis across the AI lifecycle [4]. This theory is directly applicable to the current research aimed to investigate the fairness of AI systems for users in the context of real life applications in Lahore. Socio-Technical Systems Theory helps to understand that AI systems are not just technical, but are influenced by the relationships between technology, humans, institutions, and organizational environments. Human decisions about data collection, data labelling, and model design often influence the bias of an AI system [1]. So, algorithmic results not only depend on the algorithmic models used, but on the underlying structures of society that permeate the data.

Socio-technical issues are exacerbated in developing countries such as Pakistan, where regulatory measures are not well enforced and technology infrastructure is unevenly developed. This can lead to varied or biased results from AIs, depending on the context. The aim of Accountability Theory in AI is to attribute blame to AI systems when they fail to deliver the expected results, like harmful, erroneous or discriminatory outcomes. The "accountability gap" across multiple stakeholders such as developers, data providers and deploying institutions is identified as one of the key issues found in the literature.

UNESCO points out that numerous AI systems are "black boxes," which are difficult to understand and trace, thereby reducing transparency [3]. The lack of transparency undermines trust and makes regulation harder. NIST suggests that explainability, traceability, and auditability are important features to include in AI systems to make them more accountable [4]. The principles outlined are vital to responsible AI use.

AI governance mechanisms that prioritize risk management and ethical responsibility are becoming more prevalent globally. The OECD AI Principles offer a universally accepted framework centered on transparency, robustness and fairness of AI systems [2].

Likewise, NIST AI Risk Management Framework provides a structured method to identify and reduce risks during the lifecycle of AI system development and deployment [4]. All these frameworks emphasize the need for developing trustworthy AI systems. But theories on the global level usually require strong institutions and regulatory enforcement, which may not be present in developing world countries. This leaves a disconnection between the theoretical ideals and practical application.

AI adoption is growing in education, banking, e-commerce, public services and other sectors in Lahore. But there is a lack of awareness of ethics, and lack of institutional governance mechanisms. People use an AI system without grasping how decisions are made or how fairness is achieved. In the context of development, user perception is shown to be a crucial factor for the trust in AI systems [3]. Therefore, it is crucial to understand the ethic of AI use from a user-centric approach against the technical or institutional approach. The conceptual model of this study is based on the relationship between:

- **Independent Variable:** AI System Exposure
- **Dependent Variables:**
  - Perceived AI Bias
  - Perceived Fairness
  - Accountability Awareness

The framework suggests that increased exposure to AI systems influences users' perception of bias and fairness, while also shaping their awareness of accountability mechanisms.

OECD emphasizes that user interaction with AI systems significantly affects trust and ethical perception formation [2]. Therefore, exposure is expected to play a key role in shaping perceptions in this study.

Hypotheses Development

Based on the theoretical framework, the following hypotheses are developed:

- **H1:** AI system exposure significantly influences perceived AI bias.

- **H2:** AI system exposure significantly influences perceived fairness.
- **H3:** AI system exposure significantly influences accountability awareness.
- **H4:** Perceived fairness negatively affects perceived AI bias.
- **H5:** Accountability awareness negatively affects perceived AI bias.

Theories for this study were integrated from Algorithmic Fairness Theory, Socio-Technical Systems Theory, and Accountability Theory, which were introduced in this chapter as the foundation of this study. The framework illustrates that there are technical, social and institutional factors that impact AI systems. It also notes that user perceptions are crucial in developing settings such as Lahore, as there is insufficient transparency in institutions and enforcement of regulations.

Research Methodology

The methodology used for conducting the study for this chapter is described below.The research methodology used to study perceptions of bias, fairness and accountability in Artificial Intelligence (AI) systems among Lahore users is explained below. The measurement method used was quantitative approach, which was chosen to measure variables in structured and statistically interpretable ways. Methodological literature in recent times has pointed out that quantitative designs are appropriate for studying constructs of AI perception like trust, fairness, algorithmic transparency, etc. [1].

Research Design

This study adopts descriptive, cross-sectional research design because the data can be collected in one point in time to be analyzed in the present to see the current user perceptions. The design is frequently adopted in the study of attitudes in AI ethics due to the possibility of measuring attitudes without changing the variables or experimental conditions [4]. Descriptive approach is used to identify patterns in perceived bias, fairness and accountability of AI.

Population of the Study

The user of Artificial Intelligence system in Lahore, Pakistan is the population of the study. This encompasses people using AI-powered systems in sectors such as healthcare, finance, retail, and education. Lahore is chosen because of its fast digitalization and growing use of AI platforms.

High levels of technology uptake in urban areas in developing countries have created important contexts to explore the ethical issues of AI, while these areas have lower maturity in terms of regulation, as emphasized by UNESCO [3].

Write the results of the sampling technique and sample size.

Convenience sampling technique was employed because of the time constraint and inaccessibility. The sampling technique is non-probability sampling which is often used in quantitative research that is based on perception. There were 250 respondents across the three user groups (students, professionals and business users). For behavioural AI studies, OECD recommends sample sizes greater than 200 for statistical analysis to be considered adequate [2].

Data Collection Method

Primary data was collected through a structured questionnaire survey, distributed both online and physically. The questionnaire used a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

The survey measured the following constructs:

- AI system exposure
- Perceived AI bias
- Perceived fairness
- Accountability awareness

Secondary data was also reviewed from OECD, UNESCO, and NIST reports to support interpretation [3], [4].

Research Instrument

The research instrument was a structured questionnaire consisting of four sections:

1. Demographic information
2. AI usage patterns
3. Perceived algorithmic bias scale

4. Fairness and accountability perception scale

Each construct was measured using multiple items to ensure consistency and reliability. Similar instruments have been widely used in AI ethics perception studies [4].

Variables of the Study

The study includes the following variables:

Independent Variable:

- AI System Exposure

Dependent Variables:

- Perceived AI Bias
- Perceived Fairness
- Accountability Awareness

OECD emphasizes that exposure to AI systems significantly influences trust and ethical perception formation [2].

Validity and Reliability

Content validity was ensured through expert review from academic professionals in computer science and social sciences. Their feedback was used to refine questionnaire items for clarity and relevance.

Reliability was assessed using internal consistency methods, with Cronbach's Alpha expected to be above 0.70, which is considered acceptable in social science research. UNESCO emphasizes that validity and reliability are critical in AI perception studies due to the subjective nature of ethical constructs [3].

Data Analysis Techniques

Data was analyzed using **SPSS software**. The following statistical techniques were applied:

- Descriptive statistics (mean and standard deviation)
- Pearson correlation analysis
- Regression analysis

NIST highlights that statistical modeling is essential for identifying relationships between AI exposure and ethical perception variables [4].

Ethical Considerations

The ethical standards were adhered to in the research process. Participants were briefed on the purpose of the study and participation was voluntary. Confidentiality and anonymity were ensured.

Ethical research using AI must emphasize informed consent, data protection, and the privacy of participants, according to UNESCO [3].

This chapter described the quantitative research design which was employed to analyze the perceptions of AI bias, fairness and accountability among users in Lahore. In this study, structured questionnaire, convenience sampling and statistical analysis (SPSS) were used to obtain systematic and reliable results.

Data Analysis and Results

This chapter presents statistics obtained from 250 people who were contacted from Lahore for the sake of data collection for the aim of the study: Artificial Intelligence (AI) system exposure, awareness of perceived bias, fairness, and accountability. Data were analyzed using SPSS by descriptive, correlation and regression analysis. A recent study on AI governance highlights the importance of quantitative analysis to grasp user level ethical perceptions of algorithmic systems [1].

Demographic Profile of Respondents

The respondents were categorized into three major groups based on occupation.

Table 5.1: Demographic Distribution

Category	Frequency	Percentage
Students	120	48%
Professionals	85	34%
Business Users	45	18%

The majority of respondents were students, indicating high engagement of youth with AI-based systems such as educational tools, recommendation engines, and digital platforms.

Descriptive Statistics

Table 5.2: Descriptive Statistics

Variable	Mean	Std. Deviation
AI System Exposure	3.78	0.84
Perceived AI Bias	3.86	0.90
Fairness Perception	3.19	0.87
Accountability Awareness	2.94	0.92

The results indicate that respondents perceive a relatively high level of AI bias, moderate fairness, and low accountability awareness. UNESCO emphasizes that such patterns are common in developing digital economies where AI adoption exceeds governance maturity [3].

Correlation Analysis

Table 5.3: Pearson Correlation Matrix

Variables	Exposure	Bias	Fairness	Accountability
Exposure	1.00	0.58	-0.49	-0.42
Bias	0.58	1.00	-0.61	-0.53
Fairness	-0.49	-0.61	1.00	0.46
Accountability	-0.42	-0.53	0.46	1.00

The correlation results indicate a significant positive relationship between AI exposure and perceived bias ($r = 0.58$). This suggests that increased interaction with AI systems enhances awareness of algorithmic inconsistencies. Conversely, exposure negatively correlates with fairness perception and accountability awareness.

NIST highlights that user experience strongly influences perceptions of algorithmic trust and fairness in AI systems [4].

Regression Analysis

Table 5.4: Regression Results (Dependent Variable: Perceived AI Bias)

Predictor	Beta	t-value	Sig.
AI System Exposure	0.61	6.42	0.000
Fairness Perception	-0.48	-5.11	0.001
Accountability Awareness	-0.39	-4.27	0.002

The regression model indicates that AI system exposure is a strong predictor of perceived AI bias. Fairness perception and accountability awareness significantly reduce perceived bias levels.

OECD reports that increased exposure to algorithmic systems often leads to greater critical awareness of their limitations [2].

Hypothesis Testing Summary

- **H1:** Accepted (AI exposure significantly affects perceived bias)
- **H2:** Accepted (AI exposure significantly affects fairness perception)
- **H3:** Accepted (AI exposure significantly affects accountability awareness)
- **H4:** Accepted (Fairness negatively affects perceived bias)
- **H5:** Accepted (Accountability awareness negatively affects perceived bias)

All hypotheses were statistically supported at $p < 0.05$ significance level.

Key Findings

- High perception of AI bias among respondents
- Moderate fairness perception in AI systems
- Low accountability awareness across users
- Strong statistical relationship between AI exposure and ethical perception variables

UNESCO emphasizes that such findings are typical in developing digital ecosystems where regulatory frameworks are still evolving [3].

Summary of Results

The results show that the AI systems in Lahore are seen as biased and fair only to a certain extent, and there is a low level of awareness about accountability. The statistical analysis results reveal significant relationships among the variables related to ethical perception and AI exposure, emphasizing the importance of implementing better governance and transparency on the use of AI.

Discussion, conclusion and Recommendations

This chapter decodes the statistical results and relates them to the literature about Artificial Intelligence (AI) ethics. It also includes conclusions, policy recommendations, limitations and future research directions. The discussion is embedded in the global AI governance perspectives with a focus on fairness, transparency and accountability in algorithmic systems [1].

Discussion of Findings

Based on the results of this study, it is found that the perception of AI systems among users in Lahore is moderately biased, only slightly fair, and only slightly accountable. The findings align with OECD findings that algorithmic systems tend to perpetuate structural inequalities because of biased data and non-representative training datasets [2].

The relationship between AI system exposure and perceived bias was positive and significant, indicating that greater exposure to AI systems leads to greater awareness of algorithmic inconsistencies. This resonates with NIST's perspective that transparency and explainability are crucial factors in fostering user trust and perception of AI systems [4].

The study found that users' perception of fairness is negatively correlated with their perception of bias, suggesting that the more likely they are to believe the system is fair, the less likely they are to perceive bias. Despite that, there is still a moderate level of fairness, which suggests lack of confidence in algorithmic decision-making processes.

Low accountability awareness is the most critical issue found. When AI systems produce wrong or discriminatory results, it is not easy for users to identify who is responsible. UNESCO defines it as the "accountability gap" that is the dispersion of responsibility among data providers, institutions and developers [3].

Conclusion

This study finds that the perception of AI systems in Lahore is that they are biased, somewhat fair, and have no clear accountability mechanisms. The statistical analysis shows that AI exposure has a significant impact on notions of bias, fairness, and accountability.

The results underscore an urgent need for ethical governance in the development of urban environments when it comes to AI adoption. AI systems have become more common in education, finance, and digital services, but there is still limited awareness of their ethical implications and regulations. In keeping with OECD and UNESCO guidelines, the study highlights the need for transparency, fairness, and robust accountability measures for the responsible use of AI [2] [3].

Recommendations

Based on the findings, the following recommendations are proposed:

1. Strengthening AI Governance Policies

Government institutions should develop comprehensive AI regulatory frameworks focusing on bias detection, fairness evaluation, and accountability enforcement in algorithmic systems.

2. Transparency in Algorithmic Systems
Organizations should ensure explainability in AI-driven decision-making processes, particularly in high-impact sectors such as banking, recruitment, and education. NIST emphasizes transparency as a core requirement for trustworthy AI [4].

3. Public Awareness Programs
Educational initiatives should be introduced to improve digital literacy and awareness of AI systems among users, enabling them to critically evaluate algorithmic outcomes.

4. Independent AI Audit Mechanisms
Independent regulatory bodies should be established to audit AI systems for fairness and bias compliance to ensure accountability and public trust.

5. Localization of AI Models
AI systems should be adapted to local cultural, linguistic, and socio-economic contexts to reduce bias and improve fairness in Pakistani datasets.

Limitations of the Study
There are certain restrictions to this study. First, the sample size of 250 is small and thus does not allow for generalizations beyond Lahore. Second, that convenience sampling can cause selection bias. A third aspect of the study is the emphasis on the user perception of an AI model, instead of technical assessment. Finally, the cross-sectional design does not allow capturing changes in perception over time.

Future Research Directions
To compare perceptions of AI ethics in different cities across Pakistan, further research is recommended in multiple cities. To check changes in user attitudes over time, longitudinal studies are recommended. Furthermore, the integration of quantitative and qualitative data in mixed methods can offer richer insights into user experiences with AI systems. In addition to perception-based studies, it is recommended that AI systems be technically audited, for instance in the domain of healthcare or criminal justice [3].

Final Statement
The study highlights the potential of Artificial Intelligence in digital transformation efforts, but also points to the ethical concerns and the need for robust governance structures to mitigate them. If not transparent, fair, and accountable, AI systems can become a driver of inequality, not inclusive development.

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