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Artificial Intelligence and the Generational Divide: A Study on Trust and Acceptance

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ABSTRACT

As artificial intelligence (AI) is becoming so much integrated into daily life, such as education, healthcare, and business, public trust remains a crucial factor for its extensive acceptance. This study explores the generational and cultural factors that shape trust in AI, focusing on how different age groups perceive and interact with AI. Using a review study based on PRISMA guidelines, 32 peer-reviewed articles published between 2020 and 2025 were analyzed to identify psychological, cultural, and contextual variables affecting AI adoption. The Uses and Gratification Theory (UGT) served as the theoretical framework, enabling a deeper understanding of the motivations behind AI use across age groups. Findings disclose significant generational divides: Generation Z shows higher trust and more usage of AI tools like ChatGPT for cognitive and social gratifications such as learning and productivity. Cultural values further entangle these beliefs, with Western users highlighting transparency and individual gain, while Eastern cultures emphasize contextual fairness and collective well-being. Additionally, individual traits such as cognitive style, technological affinity, and proclivity to trust play important roles in shaping AI acceptance. The study underlines the importance of designing culturally adaptive and demographically sensitive AI systems that align with users' expectations, values, and needs. Without such contemplation, AI technologies risk isolating key user segments and restricting their societal impact. This research contributes to the ongoing debate on ethical AI expansion by offering insights into how trust can be cultivated through targeted education, inclusive design, and policy reforms.

INTRODUCTION

Artificial Intelligence (AI) has become an important part of modern technological systems, influencing various sectors such as healthcare, finance, education, and human resource management. Its capability to automate tasks, make complex decisions and generate personalized results has prompted extensive interest and investment. However, the rapid integration of AI into everyday life has also lifted up critical questions regarding public trust, especially around generational and cultural divides (Nguyen & Connolly, 2025; Han et al., 2024).

Trust is recognized as a key determinant in the acceptance and effective use of AI systems. Traditional technology acceptance models, such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), highlight perceived usefulness. Yet, more recent frameworks highlight that trust; both in the system's technical reliability and its ethical and transparent behavior; is central to user acceptance (Hasija & Esper, 2022; Shin, 2021; Vorm & Comb, 2022). Trust in AI encompasses perceptions of fairness, transparency, explainability, and contextual appropriateness (Choung et al., 2022).

A growing body of literature suggests that trust in AI is not steady but it varies notably based on demographic and cultural factors. Generational groups differ in their digital literacy and experiences with technological change. Generation Z, for example, shows a high level of awareness and comfort with AI, often using tools like ChatGPT for learning and productivity (Chan & Lee, 2023; Baki & Yusri, 2025). In contrast, Generation X and Baby Boomers are more aware, often showing concerns about data privacy, job displacement, and the opacity of algorithmic decisions (Sell et al., 2025; Dioszegi, 2024; Sarker et al., 2022). These generational divides expand to education, where older educators show hesitancy in adopting AI tools, while younger students embrace them for their convenience and responsiveness (Barbul & Bojescu, 2023; Holkkola et al., 2025).

Cultural factors more complicate this dynamic. Western societies mostly conceptualize fairness in AI through universalist frameworks, relying on statistical equality and equalized odds. In contrast, Eastern cultures focus on relational and contextual fairness, based on philosophical traditions like Confucianism (Han et al., 2024). These different perspectives influence how accountability, fairness, and trustworthiness in AI are perceived. If AI systems do not align with culturally rooted fairness norms, users may perceive them as illegal, regardless of their technical effectiveness.

Moreover, psychological traits such as proclivity to trust, affection for technology, and cognitive style significantly shape trust in AI systems. Individuals with high affection for technology and receptiveness to innovation tend to show higher levels of trust and dependence on AI advice, whereas those with strong task expertise or a high need for cognition exhibit more disbelief and critical evaluation of AI outputs (Küper & Krämer, 2025).

These variations underline the necessity of designing culturally adaptive, demographically sensitive AI systems that consider how different groups interpret fairness, reliability, and ethicality. Without such contextual tailoring, AI systems risk alienating key segments of users, restricting their effectiveness and acceptance.

PROBLEM STATEMENT

Despite the growing integration of AI in critical sectors, trust remains a major barrier to its widespread acceptance. Trust in AI varies significantly across age groups and cultures, yet many systems are designed without considering these differences (Nguyen & Connolly, 2025; Han et al., 2024). Younger generations tend to be more accepting of AI due to digital familiarity, while older users express concerns related to privacy, fairness, and job security (Baki & Yusri, 2025; Sell et al., 2025). Similarly, Western approaches emphasize statistical fairness, whereas Eastern perspectives prioritize relational and contextual fairness, leading to mismatches in perceived legitimacy (Han et al., 2024). Psychological traits such as propensity to trust and technological affinity further shape reliance behaviors (Küper & Krämer, 2025). Current AI models often overlook these socio-cultural and psychological factors, resulting in reduced trust and adoption. This study aims to fill the significant knowledge gap by surveying literature on trust in AI and its acceptance among age groups, its perceived risks and benefits. Moreover, the concerns of older generation in accepting AI. Review approach is used to provide an overview on this contemporary academic research.

RESEARCH OBJECTIVES

O1. To examine the relationship between **age groups** and **trust in AI**.

O2. To identify key factors that contribute to AI acceptance or skepticism.

O3. To explore generational differences in perceived **risks and benefits of AI**.

O4. To provide insights that can help improve AI adoption strategies across age groups.

RESEARCH QUESTIONS

RQ_1. How does trust in AI vary among different age groups?

RQ_2. What factors (e.g., AI exposure, education, perceived risks) influence AI trust across

generations?

RQ_3. Do younger generations have a significantly higher willingness to use AI than older generations?

RQ_4. What are the main concerns that prevent older individuals from fully accepting AI?

METHODOLOGY

This study adopts a review-based approach using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) model to ensure transparency, replicability, and methodological rigor. Aim of this study is to explore cultural and generational differences in trust toward AI technologies, with an emphasis on psychological and contextual factors that influence AI adoption. For this research the theoretical lens is the Uses and Gratification Theory (UGT), which posits that individuals actively choose technologies to fulfill specific personal, cognitive, or social needs (Chan & Lee, 2023; Baki & Yusri, 2025). This framework allows for interpreting trust in AI not merely as a byproduct of exposure but as an intentional, motivation-driven process shaped by generational and cultural expectations.

TABLE 1: -INCLUSION AND EXCLUSION CRITERIA

Criteria Type	Inclusion Criteria	Exclusion Criteria
Publication Type	Peer-reviewed journal articles, conference proceedings, and preprints with empirical or theoretical analysis	Editorials, opinion pieces, blog posts, or articles without methodological clarity
Time Frame	Studies published between 2020 and 2025	Studies published before 2020
Language	English	Non-English language articles
Focus Area	Studies on AI trust influenced by psychological, cultural, or generational factors	Studies solely focused on technical development of AI without user perception data
Population	Human subjects categorized by generation (e.g., Gen Z, Millennials, Gen X, Boomers), or cultural/geographic identity	Animal studies or AI training datasets without human participant analysis
Themes	Includes analysis of trust, fairness,	Articles that do not explore any element

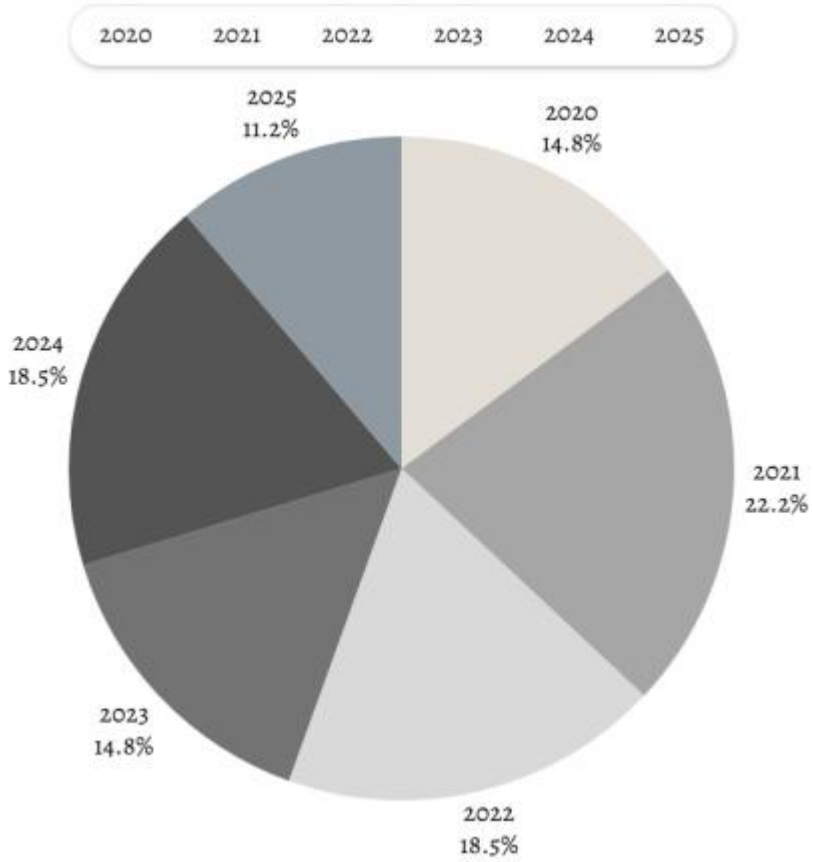
	explainability, transparency, ethics, or user perceptions of AI	of trust or human-AI interaction
Data Type	Empirical data (quantitative or qualitative), systematic reviews, or theoretical models (e.g., UGT)	Studies lacking data or conceptual grounding relevant to trust or user context

PRISMA-BASED REVIEW PROCEDURE

Following the PRISMA guidelines, the review process was conducted in four stages:

1. Identification: Relevant studies were identified using keywords such as "trust in AI," "generational differences," "cultural trust," "AI acceptance," "technology adoption," and "psychological traits and AI trust." Academic database Google Scholar was searched for peer-reviewed articles published between 2020 and 2025.
2. Screening: After removing duplicates, titles and abstracts were screened to ensure relevance to the research questions. Studies focusing solely on technical aspects of AI without user perception or trust dimensions were excluded.
3. Eligibility: Total 98 records were screened then 75 records were excluded. Articles were selected based on their empirical focus on human-AI interaction, cross-generational or cross-cultural analyses, and discussion of psychological or contextual influences on trust.
4. Inclusion: A final set of 23 studies was selected for synthesis, all of which met the inclusion criteria and aligned with the research objectives.

FIGURE 1: - PUBLICATION YEAR DISTRIBUTION (2020–2025)



DATA EXTRACTION AND THEMATIC ANALYSIS

Data was extracted focusing on key constructs such as: age group or generation, cultural setting, perceived benefits and risks, psychological predispositions (e.g., propensity to trust, task expertise), and contextual trust factors (e.g., fairness, transparency). Thematic coding was used to organize findings under UGT dimensions: cognitive (information-seeking), affective (entertainment or engagement), social integrative (social connection), and personal identity (self-fulfillment) (Chan & Lee, 2023).

APPLICATION OF UGT AND CONTEXTUALIZATION

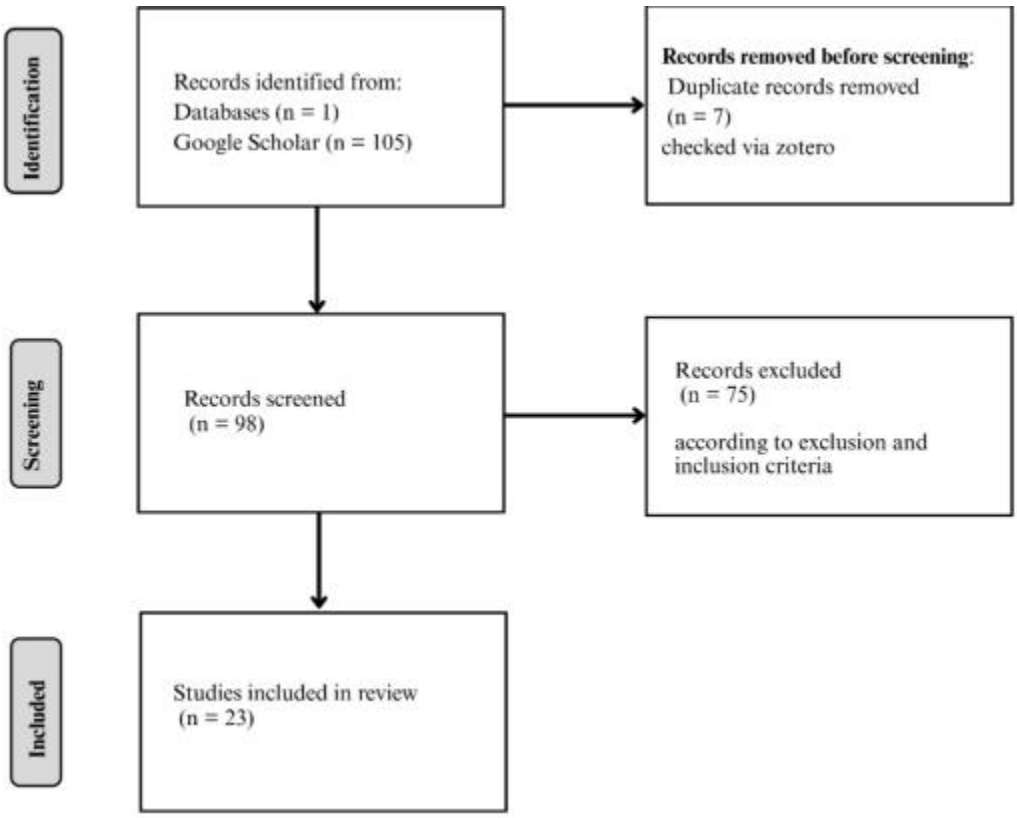
The UGT framework provides insight into how generational cohorts interact with AI based on gratifications they seek. For example, Gen Z engages with AI primarily for productivity and efficiency, aligning with cognitive and social gratifications (Baki & Yusri, 2025; Barbul & Bojescu, 2023). Conversely, older generations show more concern for data privacy and autonomy, indicating a stronger desire for personal control and safety (Sell et al., 2025; Dioszegi, 2024). Cultural differences further compound these perceptions. In collectivist

cultures, fairness and group trust significantly influence AI acceptance, whereas in individualist cultures, transparency and personal benefit play a larger role (Nguyen & Connolly, 2025; Han et al., 2024).

ETHICAL SCREENING AND REVIEW QUALITY

All included studies were screened to ensure ethical compliance, particularly regarding participant consent and data handling. Special attention was given to studies using sensitive demographic variables such as age and gender, ensuring responsible reporting and interpretation.

FIG 2: - PRISMA FLOW DIAGRAM



REVIEW OF SELECTED STUDIES

TRUST IN AI AND ITS ROLE IN TECHNOLOGY ACCEPTANCE

The term "Trust in artificial intelligence" plays a crucial role in developing a user acceptance of new technologies. As we all know that Artificial Intelligence is becoming more usable in our daily life and we understand that how trust influences adoption is important. This thing tells us the importance of trust in applying and implementing technology acceptance among the people. It is derived from RQ_1 "How does trust in AI vary among different age groups?"

"Trust" plays an integral role in the acceptability of AI technologies. While other models like TAM and UTAUT were more focused on perceiving usefulness and ease of use, recent research emphasizes trust as a key determinant of AI adoption. (Hasija and Esper, 2022) found that organizational strategies, such as transparent communication and employee involvement, helps in building trust and improving AI acceptance in supply chain settings. (Kim et al., 2021) showed that accurate numerical information from AI systems can be beneficial in gaining trust and acceptance among consumers by signaling accuracy and confidence. Trust defines how consumers respond to AI recommendations and it is influenced by the presentation style and perceived reliability of the system. (Shin, 2021) introduced the concepts of explainability and causability, which was there to clear the explanations and improve users' understanding and emotional confidence in AI. Explainability increases perceived fairness, transparency, and accountability, all of which nurture trust. Trust is a fundamental factor in the acceptance and adoption of new technologies, including AI. According to (Choung et al., 2022), trust in AI is a multidimensional construct that includes both human-like trust (e.g., perceptions of fairness, transparency) and functionality trust (e.g., reliability, safety). Their study found that trust significantly influences users' intentions to adopt AI technologies, mediated by perceived usefulness and ease of use. However, the unique characteristics of AI i.e its "autonomy" and "black-box" nature, introduce additional complexities that can affect user's trust (Choung et al., 2022). Trust and transparency are important factors influencing the acceptance of intelligent systems such as AI, robotics and machine learning technologies. (Vorm & Comb, 2022) highlight that these technologies offer transformative potential across fields like healthcare, finance and defense; their complexity often makes traditional validation methods ineffective. This thing can lead to disbelief and hostility from both industries and individuals, especially when system decisions carry high-risks, real-world consequences.

TABLE 2: - TRUST IN AI AND ITS ROLE IN TECHNOLOGY ACCEPTANCE

Sources	Journal	Country	Description	Methodology
Hasija, Esper (2022)	J of Business Logistics	Columbus, OH, USA	The paper defines the role of organizational factors in restoring harmony in the differences between the	1) An inductive analysis of marketing materials from 27 AI solution companies to identify themes in how they can promote AI adoption and to

			potential supply chain management (SCM) benefits of artificial intelligence (AI) and its actual acceptance and use within firms.	implement them. 2) Epistemological interviews with 7 practitioners and leaders with firsthand experience managing AI deployments in supply chain operations.
Vorm & Comb, (2022)	International Journal of Human–Computer Interaction	Washington, DC, USA	The paper discusses the importance of clearness and trust in the acceptance of intelligent systems and proposes an Intelligent Systems Technology Acceptance Model (ISTAM) that implies transparency and trust as the main elements of the Technology Acceptance Model (TAM).	Reviews existing models and frameworks
Kim et al., (2021)	Psychology and Marketing	Seoul, Korea	The paper examines how the correct information presented in AI-generated recommendations affects consumer trust and acceptance of those recommendations, finding that accurate information leads to higher trust and more	The studies used between-subjects experimental designs with online participants, manipulating the accuracy of AI-generated information and measuring of the dependent variables like, purchase intention, product evaluation, and trust in a quantitative manner. Mediation and moderation analyses were also

			favorable evaluations and behavioral intentions toward the AI system.	conducted to test these relationships.
Choung, H., David, P., & Ross, A. (2022).	International Journal of Human–Computer Interaction	Michigan State University	The paper examines the role of trust as a complex relation within the Technology Acceptance Model (TAM) framework to understand the acceptance of AI technologies.	The methodology used in this study involved two online survey studies. Study 1 had a convenience sample of 312 college students, while Study 2 had a nationally representative sample of 640 participants. Both studies measured constructs from the Technology Acceptance Model (TAM), including gained ease of use, perceived usefulness, attitude, and behavioral intention to use AI technologies. Trust was also measured, with Study 1 using 4 custom trust items and Study 2 using two dimensions of trust, human-like trust and functionality trust. Path analysis was used to test the hypothesized relationships between the TAM constructs and trust.
Shin, (2021)	International Journal of	Abu Dhabi, United	The paper examines the effects of explainability and	350 participants recruited online and offline, Participants viewed algorithm-based news

	Human-Computer Studies	Arab Emirates	causability on user beliefs, trust, and acceptance of AI systems.	for 1-2 hours in a media lab, Participants were briefed on FATE concepts related to algorithms, Participants completed surveys with 21 measurement scales and these Scales were developed from human-computer interaction and user experience research

GENERATIONAL DIFFERENCES IN AI PERCEPTION AND ADOPTION

Believes and thoughts about AI and its acceptability often vary across generations. Factors like technological familiarity, trust and experience also influence how different age groups interact with AI. This section explores these generational differences in AI adoption. It is generated from RQ_2"What factors (e.g., AI exposure, education, perceived risks) influence AI trust across generations?"

Generational gaps play a significant role in how AI technologies are perceived and adopted. the latest generation "Gen-Z', the first generation to grow up with constant access to digital technology, is generally more open to adopting AI tools like ChatGPT for educational purposes (Chan & Lee, 2023). They view AI as the only source to enhance productivity, efficiency, and personalized learning. Contradictory, Gen X and Millennial teachers, who have experienced the transition from traditional to technology-based educational settings, are more dangerous. Generational differences significantly influence how individuals perceive and adopt artificial intelligence (AI). Generation Z are more comfortable and reluctant about AI, often viewing it as a tool for productivity and innovation due to their exposure to digital environments from an early age (Baki & Yusri, 2025). On the other hand, Generation X tends to be more doubtful, concerned with issues such as data privacy, job loss, and the rapid pace of change. Older adults are often cliched as resistant to technology, yet research shows they actively engage with AI when it aligns with their needs for analysis and functionality (Sell et al., 2025). Their adoption is influenced by different motivators than younger users, who may be drawn to features like anthropomorphic design (Holkkola et al., 2025). Workplace tensions arise from differing digital competencies, which can hinder the collaboration unless addressed through intergenerational training programs (Sarker et al., 2022). Economic research also

highlights that older generations are more likely to view AI as a threat to job security, while younger cohorts see it as complementary (Dioszegi, 2024). (Barbul & Bojescu, 2023) further highlight that while Gen Z students are more likely to embrace AI for its convenience and efficiency, they also recognize its limitations, such as the potential for generating inaccurate or biased content.

TABLE 3:- GENERATIONAL DIFFERENCES IN AI PERCEPTION AND ADOPTION

Sources	Journal	Country	Description	Methodology
Nebgen, Kurz (2025)	Journal of Next-Generation	Malta	The paper examines the role of Generation Z in the adoption and integration of AI in German organizations, analyzing their technological affinity, the perspectives on ethical issues, and the measures required for successful AI implementation, while also exploring whether companies can remain competitive without AI-supported systems.	The study used a mixed-methods approach that are combination of quantitative data from two online surveys with a review of relevant scientific literature. The surveys were conducted on LinkedIn, with one survey focused on the role of Generation Z in AI integration (n=202) and another on the competitiveness of companies without AI (n=345). The data was collected over a 7-day period in December 2024, and the researchers

				also reviewed its scientific publications and reports to provide additional context.
Baki & Yusri, (2025)	Journal of Public Administration and Governance	Malaysia	This paper provides a methodical review of the growing intergenerational digital tensions between Gen-X, Millennials, and Zoomers in the workplace, particularly during the periods of rapid digitalization, and explores the key themes, the causes, and potential solutions to these problems.	Systematic literature review following the PRISMA guidelines, the Extensive literature search using various databases and AI-powered research tools , Use of specific inclusion and exclusion criteria to select relevant studies and the Detailed search of strings developed which are based on keywords and the selected databases
Sell et al., (2025)	Hawaii International Conference on System Sciences	United States	This paper introduces a mini track that aims to betterment the understanding of age and generational features in technology acceptance and its use,	Not mentioned (the paper does not describe a specific methodology, but rather provides a conceptual overview of the importance of

	addressing the limitations of old research and the potential issues uprising from age and generational stereotypes, especially with the increasing integration of AI in everyday life.	studying age and generational aspects in technology acceptance and use, and calls for future research in this area)

ETHICAL AND PEDAGOGICAL CONCERNS IN AI INTEGRATION

The integration of AI into different fields has raised important ethical and educational challenges. problems and issues; such as bias, privacy, and the impact on teaching practices are affected by it. This section discusses the key ethical and pedagogical concerns in AI adoption. It is generated from RQ_3"Do younger generations have a significantly higher willingness to use AI than older generations?"

The integration of artificial intelligence (AI) in education presents substantial ethical and pedagogical challenges that demand critical attention. AI is offering unprecedented potential to personalize learning, enhance creativity, and solving administrative tasks; however it concerns regarding equity, bias, academic integrity, and the erosion of human-centered learning remain central. Several studies emphasize the urgent need for AI ethics education that begins in primary and secondary schools and continues into higher education. Zhang (2025) proposes a socio-scientific issues (SSI) framework for embedding AI ethics into curriculum to cultivate students' critical thinking, social responsibility, and interdisciplinary literacy. Similarly, Nguyen (2024) underscores the necessity of establishing AI use with foundational academic principles. Institutions must enforce policies that preserve academic integrity by clearly outlining the acceptable use of generative AI tools such as ChatGPT and DALL·E or MID JOURNEY. While these tools can cultivate creativity and assist with writing, summarization, or coding tasks, its addiction may hinder independent thinking and result in plagiarism. Therefore, educators are urged to promote critical thinking by requiring students to analyze and refine AI-generated outputs, rather than accept them uncritically (Nguyen, 2024). Al-Omari et al. (2025) further elaborate its impact on governance and ethical

frameworks in higher education. They argue that transparent AI systems and clearly defined accountability structures are essential to ease the risks associated with algorithmic opacity and biased outcomes. In their view, ethical AI integration must include continuous auditing, interdisciplinary collaboration, and inclusive policy development. Legal concerns, especially those related to data privacy and intellectual property, also call for adaptive and regionally sensitive regulatory frameworks to prevent misuse and protect student rights (Al-Omari et al., 2025). Despite these efforts, disparities in institutional capacity, particularly between developed and developing regions, exacerbate implementation challenges. Many institutes are lacking in the resources or expertise to carry out AI audits or enforce ethical guidelines. Moreover, resistance from educators has fueled by concerns about job security and pedagogical autonomy, highlighting the need for comprehensive training and stakeholder engagement (Al-Omari et al., 2025).

Collectively, the literature suggests a multi-pronged approach: lodging ethics in curriculum design, promoting AI literacy, ensuring equitable access to AI tools, and maintaining human-centered pedagogy. This balanced strategy supports not only the responsible adoption of AI but also the cultivation of thoughtful, critically engaged learners.

TABLE 4:- ETHICAL AND PEDAGOGICAL CONCERNS IN AI INTEGRATION

Sources	Journal	Country	Description	Methodology
Chakraborty (2024)	IPE Journal of Management	Mumbai, India	The paper discusses the ethical considerations in planting AI and data-driven technologies for adaptive education, including concerns around data privacy, algorithmic bias, and accessibility, and provides recommendations for educators, researchers, and policymakers to address these issues.	Secondary data analysis of literature and policy documents, Case studies of real-world and AI-driven adaptive learning technologies, Thematic analysis, ethical evaluation, and comparative analysis to explore ethical issues
Al-Omari et	Journal of	Pakistan	The paper discusses the	It's a conceptual paper

al., (2025)	Ecohumanism		opportunities and challenges of using artificial intelligence (AI) in higher education, emphasizing the need for strong governance frameworks, capacity building, and international cooperation to enable the successful and ethical adoption of AI technologies.	discussing the need for governance and ethical frameworks for ai integration in higher education, rather than describing a specific experimental study or research methodology.
Zhang (2025)	US-China Education Review A	Beijing, China	The paper proposes a curriculum framework for integrating socio-scientific issues (SSI) into AI ethics education across primary, secondary, and tertiary education levels to cultivate students' ethical awareness, critical thinking, and sense of social responsibility towards the development of AI technology.	Designing a curriculum framework for applying socio-scientific issues (SSI) into AI ethics education across different education level, Evaluating the impact of the curriculum on students' ethical awareness and sense of responsibility, Aligning the curriculum content and teaching methods with the logical development stages of students, Engaging

				students in active exploration of real-world AI ethical issues based on their personal experiences, Fostering students' multi-disciplinary thinking and research capabilities to address complex AI ethical issues
Nguyen (2024)	Journal of Academic Ethics	Hanoi, Vietnam	The paper discusses the opportunities and challenges of integrating generative AI tools in higher education, and proposes ethical and pedagogical principles to guide their responsible use.	conceptual review paper

THE ROLE OF AI IN PERSONALIZED LEARNING AND FEEDBACK

AI has transformed education by enabling more personalized learning experiences and real-time feedback. By adapting to individual needs, AI supports more effective and engaging learning. This section explores AI's role in enhancing personalized education.

The integration of Artificial Intelligence (AI) in education has significantly reshaped traditional pedagogical models, offering new pathways for personalized learning and dynamic feedback mechanisms. As outlined in the review by Ayeni et al. (2024), personalized learning supported by AI technologies emphasizes tailoring instructional content, pace, and assessment to meet the unique needs of individual learners. This approach moves beyond the conventional "one-size-fits-all" paradigm, fostering more inclusive and effective educational experiences. Udeh (2025) reports that GenAI-powered adaptive platforms can lead to a 20% increase in student engagement and a 15% improvement in retention. However, the integration of such

tools also brings forth ethical and pedagogical considerations, including data privacy, algorithmic bias, and the need to preserve human-centric elements in teaching. The study stresses that responsible deployment of GenAI requires a balanced approach that complements traditional pedagogies rather than replaces them.

MindCraft addresses these through strategic platform design and community partnerships, ensuring adaptability and sustainability. Meanwhile, in higher education, integrating GenAI must be accompanied by ethical governance and transparent algorithms to maintain trust and efficacy in academic contexts (Udeh, 2025).

TABLE 5:- ROLE OF AI IN PERSONALIZED LEARNING AND FEEDBACK

Sources	Journal	Country	Description	Methodology
Ayeni, 2024	GSC Advanced Research and Reviews	Nigeria, UAE, UK	A comprehensive review on the integration of Artificial Intelligence (AI) in education with a focus on personalized learning and educational technology. Discusses the benefits, applications, challenges, and ethical concerns surrounding AI in learning environments.	Literature review of prior research, trends, and case studies related to AI in education. Emphasizes content analysis and synthesis of findings from over 50 cited academic sources.
Udeh, 2025	World Journal of Advanced Engineering Technology and Sciences	Poland	The burgeoning field of Generative Artificial Intelligence has profoundly transformed the landscape of higher education, particularly in the domain of personalized learning. This comprehensive investigation examines the multifaceted role of GenAI tools in higher education, scrutinizing their capacity to	a mixed-methods approach, incorporating both quantitative and qualitative analysis.

	amplify student engagement, deliver customized content, and enhance learning outcomes.

CULTURAL AND CONTEXTUAL FACTORS INFLUENCING AI TRUST

Trust in AI is formed by cultural values, social norms, and specific contextual experiences. Different backgrounds may lead to varying levels of trust and acceptance. This section examines how cultural and contextual factors impact trust in AI. It is generated from RQ_4

"What are the main concerns that prevent older individuals from fully accepting AI?"

Ismatullaev and Kim (2022) highlight the significant role of cultural factors in forming trust and acceptance of AI-infused systems. Their review showed that the users from communalistic cultures are more influenced by social norms and public opinions, which can strongly impact their perceived usefulness and willingness to adopt AI technologies. The study emphasizes that cultural background affects how users perceive risks, privacy, and control, making it essential to consider these factors when designing and implementing AI systems across diverse populations.

Trust in AI systems is formed notably by cultural norms, psychological traits, and contextual beliefs about fairness. Nguyen and Connolly (2025) found that perceptions of fairness—distributive, procedural, and informational—strongly influence trust in AI used for performance evaluation. Their cross-cultural study showed that in Eastern cultures, gender differences affected trust formation, while in Western cultures, such differences were minimal. Cultural values such as power distance and collectivism have shaped how fairness was interpreted and, consequently, how much trust users placed in AI systems. Han, Kaas, and Wang (2024) argue that Western AI fairness models often rely on universal mathematical definitions, while Eastern cultures emphasize contextual and relational fairness rooted in Confucian ethics. This mismatch can reduce investors trust if AI systems fail to align with local fairness beliefs. They highlight the need for culturally adaptive designs that reflect community-specific expectations of transparency, accountability, and ethical behavior. Küper and Krämer (2025) have explored psychological factors that are affecting trust in AI, while identifying traits like propensity to trust, technological affinity, and task expertise as key. People with high affinity for technology or a strong general tendency to trust are more likely to rely on AI. in the countary, those with high task expertise or a strong need for cognition often scrutinize AI

decisions more critically, affecting appropriate reliance and trust levels.

Overall, trust in AI is not a universal phenomenon but it is mediated by cultural expectations, psychological profiles, and perceptions of fairness and transparency. Designing trustworthy AI requires aligning systems with the cultural and personal contexts of users to develop appropriate reliance and acceptance.

TABLE 6:- CULTURAL AND CONTEXTUAL FACTORS INFLUENCING AI TRUST

Sources	Journal	Country	Description	Methodology
Küper and Krämer (2025)	International Journal of Human–Computer Interaction	Germany	Research in AI-enabled decision support mostly focuses on technological factors influencing reliance on AI. However, the end-users of AI systems are individuals with diverse personalities which potentially lead to differences in collaborative human-computer interaction, resulting in harmful under and over confidence.	Study I was a quantitative online study providing data to uncover the impact of psychological traits on the appropriateness of confidence. Study II was of a qualitative think-aloud study that we have additionally conducted to explore the individuals' understanding and reasoning behind trusting and following AI advice, thereby gaining additional insights into and deeper understanding of decision-making, confidence in the decision, and trust in AI.
Ismatullaev,	Human Factors	South	It is asystematic	Systematic literature

2022	Korea	review that identifies and synthesizes the behavioral, technological, and human factors affecting user acceptance of AI-infused systems across application domains like autonomous driving, robotics, and healthcare.	review using the PRISMA model. 85 people have reviewed articles that were analyzed from IEEE Xplore, Springer Link, and Google Scholar using specific inclusion and exclusion criteria.

DATA ANALYSIS

25 studies were finalised and then analyzed thematically using a hybrid deductive-inductive coding approach. Deductive themes were generated from Uses and Gratification Theory (UGT), while inductive themes were generated from critical patterns related to generational and cultural trust in AI.

Data was categorized under the following UGT-based themes:

COGNITIVE GRATIFICATIONS

Studies revealed that younger users (e.g., Gen Z) use AI tools like ChatGPT primarily for learning, decision-making, and productivity gains (Chan & Lee, 2023; Barbul & Bojescu, 2023). Cognitive utility was also tied to AI's perceived reliability and explainability (Shin, 2021).

AFFECTIVE GRATIFICATIONS

Emotional confidence in AI—especially through the transparent interfaces—was noted as a trust-building mechanism (Hasija & Esper, 2022). Gen Z and Millennials appreciated emotionally responsive AI systems, whereas older adults emphasized predictability and low ambiguity (Nguyen & Connolly, 2025).

PERSONAL INTEGRATIVE GRATIFICATIONS

People above 25 were more concerned with identity-relevant issues such as autonomy, fairness, and privacy. These themes emerged strongly in studies on procedural justice and algorithmic transparency (Sell et al., 2025; Dioszegi, 2024).

SOCIAL INTEGRATIVE GRATIFICATIONS

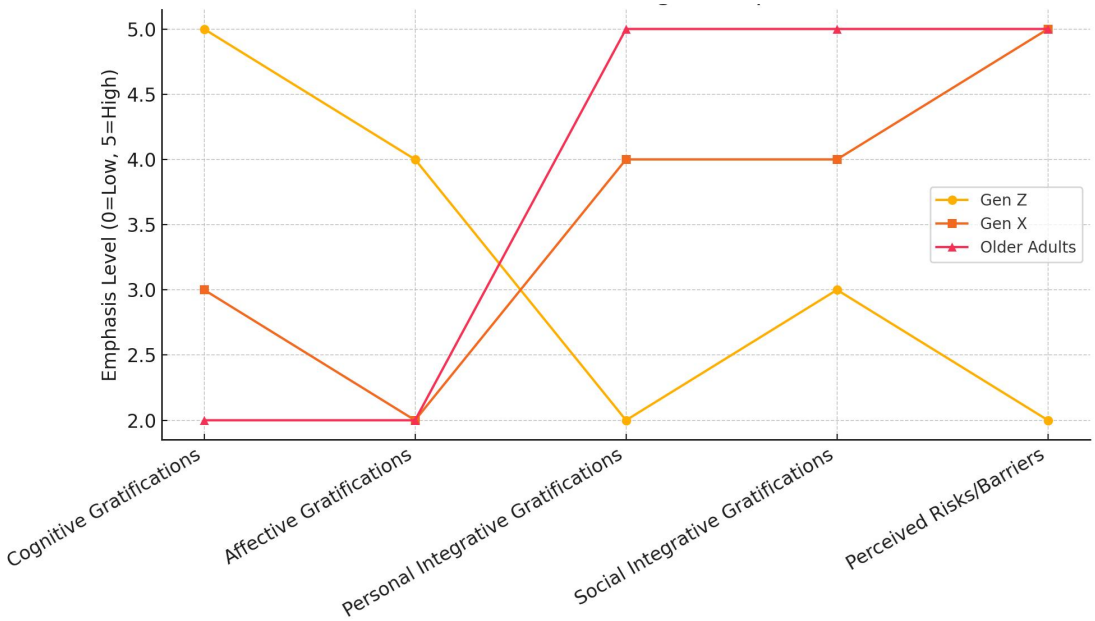
Trust in AI was swayed by cultural values such as collectivism and power distance. In Eastern contexts, fairness and social alignment of AI outputs were key trust drivers, while Western users prioritized control and individual benefit (Han et al., 2024).

PERCEIVED RISKS AND BARRIERS

Older people often cited ethical concerns, data misuse, and job displacement (Nguyen, 2024; Al-Omari et al., 2025). On the other hand, younger users balances optimism with caution regarding bias and content reliability (Baki & Yusri, 2025).

The final analytical framework integrated both generational psychology and socio-cultural positioning to explain variance in AI trust, consistent with the goals of UGT and the literature.

FIGURE 2:- UGT DIMENSIONS ACROSS AGE GROUPS IN AI TRUST



Here is a visual diagram showing how different age groups emphasize each dimension of the Uses and Gratification Theory (UGT) when it comes to trusting and using AI:

1. **Gen Z** prioritizes **Cognitive** and **Affective Gratifications**; focusing on AI for productivity, learning, and engagement and infotainment.
2. **Gen X** balances **Cognitive and Social Gratifications** but also shows rising concern in **Personal Integrative** areas. such as privacy.
3. **Older Adults** place high emphasis on **Personal**, **Social Gratifications**, and **Perceived Risks**, showing concern about fairness, autonomy, and safety.

DISCUSSION

This study confirms that trust in AI is not a massive concept but varies across generations. Younger generations, particularly Gen Z, are tend to express higher trust in AI systems due to their digital upbringing and greater exposure to emerging technologies (Baki & Yusri, 2025; Chan & Lee, 2023). This generation often uses AI for cognitive and affective gratifications, including learning enhancement, productivity, and convenience (Barbul & Bojescu, 2023). In contrast, older people are more focused on issues like data privacy, fairness, and job displacement, placing higher emphasis on personal and social gratifications (Sell et al., 2025; Dioszegi, 2024).

Cultural values further shape how individuals interpret trust. Western frameworks often prioritize quantitative fairness and transparency, whereas Eastern philosophies emphasize contextual fairness grounded in interpersonal relationships and ethical traditions such as Confucianism (Han et al., 2024). This difference is leading towards mismatches in user expectations and AI system design, particularly in cross-cultural deployments (Nguyen & Connolly, 2025).

Moreover, trust is influenced by psychological traits like technological affinity and cognitive style. Users with high trust propensity or comfort with digital tools tend to rely more on AI, while those with higher task expertise are more critical and cautious (Küper & Krämer, 2025). Therefore, AI design must not only consider technical performance but also user profiles, including age, cultural background, and psychological traits.

To find the support necessity of integrating trust-enhancing features such as explainability, personalization, and fairness feedback mechanisms (Shin, 2021; Hasija & Esper, 2022). Especially Educational settings, must adopt strategies that promote AI literacy and ethical awareness across age groups to avoid resistance and misuse (Zhang, 2025; Al-Omari et al., 2025).

CONCLUSION

RECOMMENDATION BY SELECTED STUDIES

Trust is central to the adoption of AI technologies, but it is not perfectly distributed across demographic or cultural lines. This study reveals that generational cohorts approach AI with different expectations, driven by diverse life experiences, needs, and risk perceptions. While Gen Z is more accepting of AI as a tool for self-enhancement and learning, older generations emphasize ethical safeguards and relational fairness. Cultural context further moderates these

perspectives, necessitating locally adapted, user-centered AI design.

TABLE 7:- RECOMMENDATIONS

Author	Year	Recommendation
Kim, Giroux, & Lee	2021	Present AI-generated information in a precise format to enhance consumer trust and acceptance; trust mediates this effect. Precision increases perceived reliability of AI recommendations.
Choung, David, & Ross	2022	Trust in AI should be treated as a multidimensional construct (human-like and functionality trust) and integrated into the Technology Acceptance Model (TAM) to better predict and support AI adoption.
Abhinav Hasija & Terry L. Esper	2022	Organizations must build trust in AI through strategic upskilling and scaling (pre- and post-deployment), "twinning" AI with supply chain environments, and organizational support.
Nguyen Viet Khoa	2024	Establish clear AI policies, integrate AI ethics in curriculum, train faculty, ensure a fair access to promote human-AI collaboration to uphold academic integrity and critical thinking.
Chinemelum Goodness Udeh	2025	Integrate GenAI into programs with ethical governance; personalize learning while safeguarding academic integrity and promoting balanced pedagogical approaches.
Arihant Bardia & Aayush Agrawal	2025	Use AI for personalized learning and mentorship in rural areas; address the digital divide with scalable and latest solutions like MindCraft that support offline access and multilingual content.
Nordahlia Umar Baki & Ahmad Baihaqie Mohd Yusri	2025	Organizations can implement tailored training programs to foster inclusive digital environments to reduce intergenerational digital tensions.

Nebgen & Kurz	2025	Companies should leverage Generation Z's tech affinity for AI integration, ensure ethical and transparent use, and implement structured training and change management to maximize acceptance and mitigate risks.

Future systems must be inclusive, transparent, and responsive to the specific needs of different populations if they are to earn and gain trust and develop a meaningful human-AI collaboration.

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