Research Article

AI and Generation Z: Exploring Perceptions, Attitudes, and Usage Intentions

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ARTICLE INFO	ABSTRACT
	Generation Z refers to the cohort born after 2000, during a time of rapid technological advancement. The contemporary era is recognized for its widespread utilization and familiarity with technologies such as artificial intelligence. While substantial global research on Generation Z exists across various topics, studies examining this generation's perceptions and attitudes towards artificial intelligence within the Indian context are lacking. As India is projected to become the world's third largest digital economy by 2024, understanding Generation Z's views in this critical market is important. To address this gap, primary research was conducted through a survey of 470 respondents in India. Generation Z's attitude towards and intention to use AI were found to be significantly influenced by their perceptions of AI's usefulness and ease of use, trustworthiness, technological innovativeness, and perceived risk, as revealed by path analysis and structural equation modeling (SEM). The study also focused on TAM, ABI, UTAUT, GAAIS, ATTARI-12, and AIAS-4 models in terms of Generation Z's AI use in India. **Keywords:** Generation Z, Perception, Ease of Use, Usefulness, Attitude, Intension, Technological Innovativeness, Trustworthiness, Risk.

Introduction

The world is undergoing a revolutionary transformation due to the rapid progress of technology and the emergence of groundbreaking technologies such as machine learning (ML) and artificial intelligence (AI). India is set to become the world's third largest digital economy by 2024, trailing only China and the United States. This growth has sparked a surge in Indian startups focusing on intelligent automation, artificial intelligence (AI), machine learning (ML), and big data, as highlighted in a 2019 report by KPMG India on media and entertainment.[19] According to a report by NITI Aayog on AI, 2022, India is becoming an increasingly technology-driven society as the growth with AI-driven technology is deeply ingrained in various facets of everyday life.[34] AI is transforming sectors ranging from agriculture to education by reengineering lifestyles both metaphorically and literally across India. AI is profoundly shaping society and daily life. Like other transformative technologies, AI is drastically changing consumer behavior.

The term Generation describes a group of people born around the same time. The business landscape comprises multiple generations, including Baby Boomers, Generation-X, Generation-Y and Generation-Z, the newest generation.[5] Recognized for their inclination towards individualism and independence, Generation Z embraces a do-it-yourself attitude, multitasking capabilities, complex thinking, and unique logic that set them apart.[50,10,35] Jayatissa, K (2023) has reviewed the various literatures and identified Multi-tasking, Tech Savvy and Adaptability characteristics among Generation Z population worldwide.[20]

Davis conceptualized Technology Acceptance Model (TAM) Davis in 1989, is an influential theoretical structure for understanding user acceptance and usage behavior toward information technology.[13] According to Theory of Reasoned Action given by Fishbein and Ajzen in 1975, TAM examines how beliefs, attitudes, intentions, and behaviors predict and explain technology adoption.[2] By focusing on key factors that drive acceptance, TAM provides important insights into what makes users likelier to adopt and embrace emerging technologies.

The people's attitudes toward embracing advanced technology were influenced by how useful the technology is and easy to use of the technology is and how they perceived it to be. In addition to TAM, other widely recognized model, the Unified Theory of Acceptance and Use of Technology (UTAUT), assesses individuals' intentions to utilize or embrace technology.[47] ABI model. GAAIS and ATTARI-12 and AIAS-4 also has contributed and developed constructs to test perception for AI among various users. [31, 39, 44, 18]

The present study aims to understand how Generation Z perceives certain factors that may influence their adoption of AI, including usefulness, ease of use, innovativeness, trustworthiness, technological orientation, risk perception, attitude, and intention to use. A review of literature was undertaken to delve deeper into how these elements contribute to Generation Z's embrace of AI as modern consumers.

Literature Review and Hypothesis

Artificial Intelligence has been integral part of our daily lives, from virtual assistants to recommendation systems. Its impact has been particularly significant among Generation Z, the cohort born after 2000. Generation Z in India is highly receptive to the utilization of Artificial Intelligence for various work and activities. They perceive AI-enabled applications and online activities cultivate a positive disposition towards these platforms as well as activities. This perception is driven by their tech-savviness, digital connectivity, and education in technology, and hence it will be interesting to study perceptions of Generation Z towards Artificial Intelligence. Generation Z in India generally has a positive perception of Artificial Intelligence. They views AI as powerful tools which enhances online experience and provides personalized content and recommendations. This positive perception is attributed to their exposure to AI technologies from a young age and their belief in the potential of AI to simplify their lives and provide convenience. Generation Z in India also recognizes the potential of AI in improving productivity and augmenting job performance. They see AI as a beneficial and innovative technology that can improve efficiency, decision-making processes, and overall user experience. This attitude is driven by their desire for convenience, effectiveness, and staying up-to-date with the latest technological advancement.[9] Furthermore, Generation Z in India perceives AI as a tool that can assist them in their daily activities and help them navigate the digital world.

In addition to their positive perceptions and attitudes towards Artificial Intelligence, Generation Z in India also exhibits a strong intention to actively engage with AI technologies. They are eager to explore and adopt AI-based solutions that cater to their preferences and make their lives easier. This intention is fueled by their inclination towards innovation, adaptability to new technologies, and the desire for seamless digital experiences.[21] Overall, Generation Z in India has a positive perception of Artificial Intelligence and demonstrates a favorable attitude towards its use.

Generation Z in India sees AI as a gateway to discovering new opportunities, expanding their knowledge, and enhancing their skill sets. Individuals are driven to use AI in multiple facets of their lives, such as education, entertainment, and professional advancement. Furthermore, this generation recognizes the capacity of artificial intelligence to tackle societal challenges and contributing to meaningful advancements in diverse domains.[11]

It is evident that Generation Z in India exhibits not only a positive perception and attitude towards Artificial Intelligence but also a strong intention to actively participate in the AI-driven evolution of society.[22] This inclination shapes their approach to integrating AI into various facets of their lives, positioning them as key drivers of AI adoption and innovation in the Indian context. Generation Z in India recognizes the potential of Artificial Intelligence to improve productivity and augment job performance.[15] They are open to embracing AI technologies in the workplace and believe that it can enhance their efficiency, decision-making skills, and overall professional growth.

Based on the literature reviewed, Generation Z has shown a greater willingness to engage with robots and AI compared to Generation Y. This attitude is not simply due to different factors.[11] It is not solely based on loneliness but rather stems from Generation Z's need for personal contact and their desire for convenience,

effectiveness, and staying up to date for the most recent technological innovation.[23] Moreover, the research highlights a significant difference that is often overlooked in international literature, emphasizing the importance of understanding the motivations and the inclinations of Generation-Z toward AI and robots.[32, 37] Therefore, that could be inferred the Generation-Z in India holds a favorable perception and attitude toward Artificial Intelligence. Given the research presented, it can be concluded that Generation Z in India has a positive perception and attitude towards Artificial Intelligence.[45] They view for AI as a tool for innovation, learning, and addressing societal challenges. This positive perception and attitude towards AI among Generation Z in India suggests that they are likely to embrace and adopt AI technologies on different aspect of their lives, like education, entertainment, and career development.[15] Generation Z in India holds a favorable view of AI, which could make them significant influences with the adopting and advancement of AI technologies within the country. In summary, Generation Z in India has a positive perception and attitude towards Artificial Intelligence. This positive perception and attitude towards AI positions Generation Z in India as key drivers of AI adoption and innovation in the country, contributing to meaningful advancements in diverse sectors and shaping the future of AI-driven society.[7]

Artificial Intelligence has undeniably become an integral part of our ever-evolving digital landscape, and its influence on Generation Z in India is particularly noteworthy. As discussed earlier, Generation Z has displayed a positive perception of AI, considering it as a powerful technology that enhances their online experience and provides personalized content and recommendations. This favorable sentiment is accompanied by a strong intention to actively engage with AI technologies.[15] Generation Z in India perceives Artificial Intelligence as a tool for innovation, learning, and addressing societal challenges.[4]

Reviewing the attitudes and intentions of Generation Z towards AI reveals an eagerness to explore and adopt AI-based solutions that cater to their preferences and make their lives more convenient.[17] This inclination is driven by their openness to innovation and adaptability to new technologies, making them enthusiastic participants in the AI-driven evolution of society.[22] Furthermore, Generation Z in India recognizes the potential of AI in shaping their careers and future prospects.

It is worth noting that Generation Z in India not only perceives AI as a gateway to new opportunities and skill enhancement but also recognizes it's potential in addressing societal challenges and contributing to meaningful advancements across domains.[12] This positive outlook positions Generation Z as crucial drivers of AI adoption and innovation in the Indian context.

Furthermore, the literature suggests that compared to Generation Y, Generation Z has exhibited a greater willingness to engage with robots and AI. This inclination is attributed to their desire for personal contact and the convenience offered by these technological advancements.[33] Understanding the motivations and preferences of Generation Z regarding AI and robots is crucial, as it underlines the significant influence this generation holds in shaping the future of AI technology within the country.

In summary, the vibrant and tech-savvy Generation Z in India displays a positive perception, favorable attitude, and strong intention towards AI, positioning themselves as influential proponents of AI adoption and innovation. This profound impact calls for a continued exploration of the interaction between Generation Z and AI, paving the way for meaningful advancements and shaping the future of AI-driven society in India.

After review the available literature on perception, attitude, intension to use, Artificial intelligence or technology, there is a gap in the studies. Few researchers have conducted and applied Technology Acceptance Model to understand the perception of Artificial Intelligence. The perception for artificial intelligence among Generation Z is not studied yet by any researcher. Based on the literature studies, following **hypotheses** were formulated.

1. Generation Z's Perceived Usefulness of AI has significant impact on attitude towards use of AI.
2. Generation Z's Perceived Ease of Use of AI has significant impact on attitude towards use of AI.
3. Generation Z's Perceived Trustworthiness of AI has significant impact on attitude towards use of AI.
4. Generation Z's Perceived technological innovativeness of AI has significant impact on attitude towards use of AI.
5. Generation Z's Perceived Risk of AI has significant impact on attitude towards use of AI.
6. Generation Z's Attitude towards use of AI has significant impact on Intension to use AI.

Purpose of the Study

This research study has the key objective of examining the perception of Generation Z for Artificial Intelligence and its impact on the formation of attitudes toward artificial intelligence and the intention to use artificial intelligence. Further, it investigates the scale developed for the perception of Artificial Intelligence and checks the interrelationship with reliability and validity. For sustainable development, knowing Generation Z's attitude development process and intention to use Artificial Intelligence one of the key technology in current scenario is of significant importance.

Research Methodology

For this study, the survey method was used for data collection. A grand total of 470 participants were reached through the utilization of the online questionnaire methodology. The survey utilized a non-probability sampling strategy to reach out to the respondents. This approach ensures that the survey captures the diversity within the population of interest by doing it in many locations and at different times. Probability sampling is often avoided in business and management research due to its high costs and difficulties. Instead, researchers commonly use a strategy that ensures a high response rate. In this method, the population being studied is unknown and infinite.52

Reviewing demographic of Generation Z is necessary to understand their behavior. Freire Filho and Lemos classified Generation Z as the Digital Generation, also known as the Online Generation, Internet Generation, or Dot Com Generation. Generation Z, born after 2000, has grown up in the midst of what is known as the Fourth Industrial Revolution. This revolution is characterized by advanced technological processes, including artificial intelligence, which Generation Z closely observes and heavily relies on. The consumption of these technological innovations is a defining characteristic of this generation.

To collect first-hand information from the respondents, a self administered questionnaire was developed and distributed online. Although 500 respondents were approached, 470 respondents have filled it.

Respondents were born after the year 2000 and fell in the 16–25 years age group; looking to the mean age it was 21 years having a standard deviation of 3.5 years. 51 percent of respondents were Male and 260 out of 470 respondents were working. The other demographics were ignored as the ultimate objective of the study was to get response from Generation Z. The main characteristics of Generation Z were, multitasking, complex in thinking and use logic in most of their conversations and decision.

Table 1. Demographic and Characteristics of Generation Z

Gender	Male Respondents	240	51%
	Female Respondents	230	49%
Employment Status	Working	260	55%
	Not Working	210	45%
Characteristics of Gen Z	Born after year 2000		
	Multitasking		
	Complex thinking		
	They follow a different form of thinking and logic		
Source: Data Analysis			

The systematic questionnaire was created to assess the perception elements of Artificial Intelligence, its influence on attitudes towards the usage of artificial intelligence, and the intention to utilize artificial intelligence. Questionnaires on attitude, intention, and perceptual constructions made up the survey. It also contains just basic respondent demographic data. There were 23 items created in all to measure the objects. Everything was either created or modified from earlier studies. Focus groups and expert interviews helped to polish the questionnaire. Respondents were asked to rate their degree of agreement on a five-point Likert scale, from 1 strongly disagree to 5

strongly agree. The items used to measure Generation Z perception of the usefulness of Artificial Intelligence, Generation Z perception of Ease of use of Artificial Intelligence, Generation Z perception of trustworthiness of Artificial Intelligence, Generation Z perception of technological innovativeness of Artificial Intelligence, Generation Z perception for Risk of Artificial Intelligence, attitude and intension of Generation Z for Artificial Intelligence mentioned in Table 2.

Table 2. Constructs, Items and Literature sources

Constructs and Sources	Modified Items
Perceived Usefulness of AI (PUA)\[51, 47]	Utilizing Artificial Intelligence in routine empowers me to complete my task faster. Utilizing Artificial Intelligence improves the performance. Overall, I find utilizing Artificial Intelligence useful.
Perceived Ease of Use of AI (PEUA) [51, 47]	I find that Artificial Intelligence is flexible to use. Usage of Artificial Intelligence is more accessible and skilful. Overall, I find that Artificial Intelligence is easy to use.
Perceived Trustworthiness of AI (PTA) [27]	Artificial Intelligence applications are trustworthy. Artificial Intelligence gives accurate information or output. Artificial Intelligence is more trustworthy than other options.
Perceived technological innovativeness of AI (PTIA) [40, 47]	Artificial Intelligence is innovative and technically new. The utilization of Artificial Intelligence technology enables me to obtain the utmost level of service. I firmly believe that Artificial Intelligence will have a prominent position in upcoming technological advancements.
Perceived Risk of AI (PRA) [39, 48]	Artificial Intelligence (AI) is expected to have detrimental consequences for humanity. Artificially intelligent systems exhibit a high frequency of errors. Artificial Intelligence poses a significant threat. Artificial Intelligence is considered to be unethical.
Attitude towards use of AI (ATUA) [18, 48]	I believe that Artificial Intelligence will improve my life I believe that Artificial Intelligence will improve my work I think I will use Artificial Intelligence technology in the future I think Artificial Intelligence technology is positive for humanity.
Intention to use AI (IUA) [53]	I would use Artificial Intelligence. I would like to recommend the use of Artificial Intelligence. I plan to use Artificial Intelligence in routine.
Source: Literature study	

Initial Analysis

In this study, exploratory factor analysis was performed utilizing the principal component approach and varimax rotation at the initial stage of analysis using SPSS [52, 54]. The findings of Bartlett's test of sphericity (p-value

= 0.005) and Kaiser-Meyer-Olkin (KMO) measure (0.6840) indicated considerable favourability. Therefore, it was concluded that the data is suitable for further research.

The entire seven components in total resulted for 88.09 percent for total variance. These seven factors were Generation Z perception for usefulness of Artificial Intelligence, Generation Z perception for Ease of use of Artificial Intelligence, Generation Z perception for trustworthiness of Artificial Intelligence, Generation Z perception for technological innovativeness of Artificial Intelligence, Generation Z perception for Risk of Artificial Intelligence, attitude and intension of Generation Z for Artificial Intelligence.

To test the hypothesis, structural equation modeling (SEM) technique was employed. The Structural equation modeling is a vastly used multivariate technique to estimate the relationships and interconnections among variables simultaneously[43, 54]. It was further identified that variables can be manipulated simultaneously in SEM[54]. AMOS is used for Structural equation modeling technique for measurement of model and structural model. Path Analysis, estimation of model and structural model was employed to analyze data.

Confirmatory Factor Analysis, Reliability and Validity

Confirmatory Factor Analysis was used to measure reliability and validity. Confirmatory Factor Analysis Fit indices indicate that model was adequately fit (CMIN/DF= 1.137, GFI = 0.898, AGFI= 0.915, NFI = 0.912, TLI = 0.923, CFI = 0.881, IFI = 0.943, RFI= 0.811 RMSEA = 0.045). The chi-square for the model is 265.85, p = 0.0000. The likelihood ratio chi--square (CMIN/DF ratio) (Preferred value is below 2) is 1.137, which is indicating adequacy of model fit. The GFI, AGFI near 0.90, higher values indicate better fit. All index values found supportive and hence proposed model could be evaluated for reliability and validity.[54]

Table 3. Fitness Indexes for CFA

Ratio of chi-square to degrees of freedom	1.137
Goodness-of-fit index (GFI)	0.898
Adjusted GFI (AGFI)	0.915
Normed fit index (NFI)	0.912
Tucker-Lewis Index (TLI)	0.923
Incremental Fit Index (IFI)	0.941
Relative Fit Index (RFI)	0.811
Comparative Fit Index (CFI)	0.881
Root Mean Square Error of Approximation (RMSEA)	0.045
Source: Confirmatory factor analysis using Amos	

The overall reliability of the measurement scale was 0.912, as determined by Cronbach's alpha. This value exceeded the threshold of 0.8 for all constructs, indicating sufficient reliability.[52, 54]. The factor loadings were determined to be significant in order to meet the criteria for convergent validity. A construct reliability estimate of 0.7 or higher indicates good reliability. The variances extracted, as shown in the table, were found to be greater than 0.5, indicating that more than 50 percent of the variance in the given items was explained by the construct.[54] Thus, there is substantial evidence supporting the convergent validity of all constructs.

Table 4. Reliability and Validity Analysis

Constructs Perception, Attitude and Intension of Generation Z	Factor Loading	Cronbach's Alpha Coefficient	Construct Reliability	Average Variance Extracted	Maximum Shared Variance
Perceived Usefulness of AI					
PUA Statement 1	0.712				
PUA Statement 2	0.843	0.856	0.829	0.618	0.108
PUA Statement 3	0.798				

Perceived Ease of Use of AI					
PEUA Statement 1	0.764				
PEUA Statement 2	0.749	0.92	0.813	0.592	0.184
PEUA Statement 3	0.794				
Perceived Trustworthiness of AI					
PTA Statement 1	0.912				
PTA Statement 2	0.931	0.894	0.94	0.84	0.305
PTA Statement 3	0.906				
Perceived technological innovativeness of AI					
PTIA Statement 1	0.856				
PTIA Statement 2	0.831	0.824	0.881	0.711	0.144
PTIA Statement 3	0.843				
Perceived Risk of AI					
PRA Statement 1	0.784				
PRA Statement 2	0.819	0.916	0.866	0.619	0.235
PRA Statement 3	0.834				
PRA Statement 4	0.704				
Attitude towards use of AI					
ATUA Statement 1	0.712				
ATUA Statement 2	0.774	0.838	0.842	0.571	0.374
ATUA Statement 3	0.759				
ATUA Statement 4	0.776				
Intention to use AI					
IUA Statement 1	0.946				
IUA Statement 2	0.924	0.886	0.913	0.78	0.168
IUA Statement 3	0.769				
Source: Confirmatory factor analysis using Amos					

An analysis of discriminant validity was conducted using the Average Variance Extracted (AVE) and Maximum Shared Variance (MSV) measures. The average variances extracted were compared to the Maximum Shared Variance, as indicated in the table. The MSV values were consistently lower than the related average variance, suggesting that the items have more similarities with the construct they are linked to than with other constructs. Thus, the attitudes, intentions, and perceptions of Generation Z towards AI exhibit discriminant validity. The nomological validity is assessed by analyzing the correlations between constructs, which were found to be positively significant at the 0.05 level[54].

Structural Equation Model (SEM) and Hypothesis Testing

Structural equation model (SEM) establishes and considers multiple relationships among constructs and provides paths to analyze hypothesized constructs of the estimated model. Structural equation model Fit indices leads towards model was adequately fit (CMIN/DF= 1.214, GFI = 0.919, TLI = 0.898, CFI = 0.904, NFI = 0.903,

RMSEA = 0.044, IFI = 0.932). All the values of fit indices (IFI- Incremental Fit Index, RMSEA-Root Mean Square Error Approximation, CFI- Comparative Fit Index, GFI- Goodness of Fit Index, TLI- Tucker-Lewis Index) satisfying the conditions[54] .

Table 5. Model Fit Indexes SEM

Ratio of chi-square to degrees of freedom	1.214
Goodness-of-fit index (GFI)	0.919
Adjusted GFI (AGFI)	0.889
Normed fit index (NFI)	0.903
Tucker-Lewis Index (TLI)	0.898
Incremental Fit Index (IFI)	0.932
Relative Fit Index (RFI)	0.791
Comparative Fit Index (CFI)	0.904
Root Mean Square Error of Approximation (RMSEA)	0.044
Source: Authors' own research - SEM analysis using Amos	

Path analysis was conducted and it was observed that, all the β values of path analysis shown in table found significant. The β value and p value of t statistics clearly concludes that, the hypothesis were supported. The impact of independent variable on dependent variable was derived with the help of β value. The result indicated that all the relationships supported the hypotheses.

Table 6. Path Analysis

Hypothesis Testing	Structural Paths	β value	T value	P value	Supported or Not Supported
1	ATUA ⟵ PUA	0.323	4.523	0.000*	Supported
2	ATUA ⟵ PEUA	0.252	2.891	0.000*	Supported
3	ATUA ⟵ PTA	0.106	2.043	0.000*	Supported
4	ATUA ⟵ PTIA	0.164	3.743	0.000*	Supported
5	ATUA ⟵ PRA	-0.103	2.023	0.000*	Supported
6	IUA ⟵ ATUA	0.174	4.256	0.000*	Supported
Source: Authors' own research - SEM analysis using Amos *Significant					

The outcome of the analysis is interesting. In the era of internet and computing, Generation Z is the most beneficiary of the technology and hence their adoption and use. The future of any electronic equipment/device is highly inclined with Artificial Intelligence and thus the consumers also directly or indirectly come under its impact. The different models were modified with its constructs for the study and tested for hypothesis using SEM. Companies across world initiated application of AI in their products and services and strived to leverage their offerings to the Generation Z the biggest customers to them.

Generation Z's Attitude towards use of AI, intension to use AI, Generation Z's perception for ease of use of AI and perceive usage of AI variables taken from TAM model of which was used by various researchers in their investigations regarding Artificial intelligence subject[13, 55, 56, 23]. Even the use of digital technology in area of entertainment, education, office proceedings, tourism, content writing, designing etc has created a vast opportunity for AI. It was identified perception for trustworthiness using ability, benevolence, and integrity (ABI) model.[31] Singh and Sinha (2020) tested mediating effect of trustworthiness[42], Ben-Ner, A., & Halldorsson, F. (2010) worked for measure of trustworthiness[8], Maqableh, M. (2015) used trustworthiness for technology based payment methods[30], effect of explain ability in AI on user trust and attitudes toward AI was tested by Shin (2021)[41], Liehner et al. (2023) has also studied trust and AI[28]. Choung, H., David, P., & Ross, A. (2023) also studied trust in AI.[12] Researchers often use scales to measure technological innovativeness. One such scale, originally proposed by Alkawsi et al. (2021) assesses individuals' willingness to explore and experience new technologies.[3] Gansser, O. A., & Reich, C. S. (2021) has used similar scale for their study pertaining to UTAUT model.[16] Arachchi, H. D. M., & Samarasinghe, G. D. (2023) have also investigated attitude towards technology and innovation and AI[4], Kelly et al. (2023) also has studies various models with reference to Artificial Intelligence.[23] Perceived risk refers to an individual's subjective evaluation of their risk of an illness or an adverse outcome, often in relation to performing a certain risky behavior. It encompasses various aspects, including the likelihood of harm, susceptibility to a hazard, and the severity of potential consequences. Bandura, A. (1977), Fischhoff (1977) and Ajzen, I. (1985) have investigated on risk perception.[1, 6] Fischhoff (1977) has established risk perception and use of technology.[14] Klein et al. (2023) has worked on Application of artificial intelligence and risk perception[24], Lai, P.C. and Zainal, A.A. (2015) and Lai, P. C. (2017) established perceived risk as negative influencing factor in intension to use [25,26], General Attitudes Towards Artificial Intelligence Scale[38], Stein et al. (2024) has created and utilized a new unidimensional measure: the ATTARI-12[44], Bergdahl et al. (2023) has used the attitude towards AI scale for cross country studies.[9] Grassini, S. (2023) has developed and validated AI attitude scale (AIAS-4), which was also considering intension to use AI.[18] It was investigated intention to use artificial intelligence among medical doctors. Intention to Use AI was adapted from the UTAUT scale.[46, 47]

This relationship, empirically validated in this study, stands as a noteworthy discovery in the research domain. Furthermore, this research substantiates its findings by validating the proposed research model through a thorough examination of existing literature and empirical surveys on AI and various models designed to measure perception for AI. This study also enables understanding of how Generation Z shows attitudes towards AI and how attitude towards AI transform to intension to use AI.

The AMOS SEM result was utilized to assess the statistical significance for the hypothesis that was suggested, as indicated in the Table 6. The table 6 presents the findings of a path analysis of Generation Z's perception of the utility, ease of use, trustworthiness, technological innovativeness, and risk of AI. It also includes their attitude towards using AI and their intention to utilize AI.

Hypothesis 1, Generation Z's Perceived Usefulness of AI has significant impact on attitude towards use of AI ($\beta=0.323$, $t=4.523$, $p=0.000$) found significant and hence Generation Z's attitude towards use of AI is positively impacted by perceived Usefulness of AI. Hypothesis 2, Generation Z's Perceived Ease of Use of AI has significant impact on attitude towards use of AI ($\beta=0.252$, $t=2.891$, $p=0.000$) found significant and hence Generation Z's attitude towards use of AI is positively impacted by Ease of Use of AI. Hypothesis 3, Generation Z's Perceived Trustworthiness of AI has significant impact on attitude towards use of AI ($\beta=0.106$, $t=2.046$, $p=0.000$) found significant and hence Generation Z's attitude towards use of AI is positively impacted by perceived Trustworthiness of AI. Hypothesis 4, Generation Z's Perceived technological innovativeness of AI has significant impact on attitude towards use of AI ($\beta=0.164$, $t=3.743$, $p=0.000$) found significant and hence Generation Z's attitude towards use of AI is positively impacted by perceived technological innovativeness of AI. Hypothesis 5, Generation Z's Perceived Risk of AI has significant impact on attitude towards use of AI ($\beta=-0.103$, $t=2.023$, $p=0.000$) found negatively significant and hence Generation Z's attitude towards use of AI is negatively impacted by perceived Risk of AI. Hypothesis 6, Generation Z's Attitude towards use of AI has significant impact on Intension to use AI ($\beta=0.174$, $t=4.256$, $p=0.000$) found significant and hence Generation Z's attitude towards use of AI is positively impacted on Intension to use AI.

Discussion of Results

The objective of this study is to offer thought-provoking insights into Generation Z's inclination to utilize Artificial Intelligence and their perception of it. Generation Z's perceived usefulness of AI, perceived ease of use of AI, Perceived Trustworthiness of AI, Perceived technological innovativeness of AI, Perceived Risk of AI, Generation Z's Attitude towards use of AI and Intention to use AI has been examined using AMOS and SEM analysis as well as Path Analysis were conducted. The study findings suggested that, Generation Z's Attitude towards use of AI significantly influenced positively by Generation Z's perceived usefulness of AI, perceived ease of use of AI, Perceived Trustworthiness of AI, Perceived technological innovativeness of AI, and negatively by Perceived Risk of AI. Generation Z's attitude towards use of AI is significantly influenced the intension to use AI in Indian context study. Previous literature suggested that such relationship exists will lead to Generation Z to become habitual to us AI in their routine practices. As a result, Generation Z who perceives the risk factor in use of AI is less willing to adopt AI in their routine job. Based on the participants of this survey, the majority of them possess the necessary education, knowledge, and abilities to utilize AI technology and AI tools. The favorable perception for use of AI will encourage the Generation Z to express positive attitude towards use of AI and hence develop intension to use AI in routine practices.

This study examines the complex dynamics of how Generation Z perceives use of Artificial Intelligence, illuminating the interdependent relationship between technology products and consumers. By testing the proposed research hypothesis, the findings add to current knowledge and highlight the key role perception for AI play in determining whether Generation Z develop attitude and consequently intension to use AI.

Implication of the study

This study aimed to expand understanding of consumer behavior by investigating how Generation Z's perceptions of artificial intelligence influence their attitude and intention to use AI in daily life. The authors examined several factors shaping Gen Z's views on AI, including perceived usefulness, ease of use, trustworthiness, innovativeness, and risk. By testing how these perceptions impact attitude and behavioral intent, the researchers contributed new insights to the literature on AI adoption, Generation Z technology use, and the drivers of consumer acceptance. The findings offer strategic value for companies developing AI tools and targeting Generation Z consumers. This research also helps fill a gap, as few studies have explored AI adoption intentions using psychological models, especially in fast-growing markets like India. Overall, the study advances knowledge on Generation Z's psychology in relation to an emerging technology and provides a useful framework for future research on AI, emerging generations, and technology acceptance.

The research findings have several practical implications. The analysis shows that multiple factors must be considered to build an AI-enabled future for consumers. The identified factors will help service providers further develop their AI services so that Generation Z is with high level of willingness to use them. For example, risk and security are major concerns for Generation Z regarding AI tools and products. AI companies must address these concerns and make their offerings safer to minimize risks. Notably, consisting of a positivity of attitude toward AI can leads to intentions to use or purchase AI-enabled products and services. AI designers and providers should collaborate with Generation Z to generate ideas that make services innovative and valuable for continuous use. Additionally, AI providers can work with agencies to reduce risks so Generation Z feels comfortable adopting AI.

Our study is the first to use an integrated hypothesis framework combining the TAM, ABI, UTAUT, GAAIS, ATTARI-12, and AIAS-4 models to analyze the impact of various perceived factors on the development of attitudes and intentions to use AI. We found that Generation Z's acceptance of AI technology is directly influenced by their perceptions of its usefulness, ease of use, trustworthiness, innovativeness, and risk, as well as their psychological environment, regardless of any hurdles preventing AI adoption.

Conclusion

The study investigates Generation Z's intention to use AI and their attitude towards AI adoption in India. It focuses on the TAM, ABI, UTAUT, GAAIS, ATTARI-12, and AIAS-4 models. The research employs a quantitative approach with a sample of 470 participants. Structural Equation Modeling (SEM) analyzes the collected data to understand user intention and perception of AI use. The study makes a few key contributions. First, it provides robust support for available literature by demonstrating the strong relationships between attitudes towards AI use

and intention to use AI. This validates the developed constructs for perceived usefulness, ease of use, trustworthiness, innovativeness, and risk in using AI and attitude towards AI use. Second, the research offers a more comprehensive understanding of factors influencing Generation Z's perception, attitude and intention to use AI. All factors positively influence attitudes except risk, underscoring its importance in the acceptance process. Third, the study reveals a symbiotic relationship between companies developing AI products/services and future consumers-Generation Z, highlighting real-time engagement. This provides perspective on user interaction dynamics. Overall, the research extends TAM, ABI, UTAUT, GAAIS, ATTARI-12, and AIAS-4 models by incorporating valuable theoretical and practical insights. However, generalizing the findings requires caution, prompting the need for broader investigations across diverse demographics and platforms. Future exploration of additional variables, enhanced sample diversity, comparative analyses, and user-generated content could offer deeper understanding of factors shaping user attitudes and intention for AI use.

Limitations and Future Research Directions

This research provides valuable insights into Indian Generation Z's perceptions of AI, but has limitations that highlight opportunities for future studies. The exclusive focus on Indian Gen Z and most common AI tools means findings may not apply to other demographics and regions, where cultural factors and product variations can shape attitudes differently. While incorporating key technology adoption models, additional variables could be explored to fully capture users' complex experiences. The sample's specificity implies conclusions may not be universally applicable. To enhance applicability and validate the results' robustness, replicating this research more broadly is recommended. Expanding the investigation across diverse populations and countries would offer a more nuanced, global understanding of the dynamics influencing AI attitudes. Ultimately, while this meticulous, systematic study offers useful revelations within its context, acknowledging its constraints emphasizes the need to continue pushing the boundaries of AI research through rigorous, inclusive explorations worldwide.

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