Perception of Gen Z Customers towards Chatbots as Service Agents

A Qualitative Study in the Indian Context

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Abstract: Rapid advancement in Artificial Intelligence (AI) has transformed the dynamics of interaction between organizations and consumers. The rapid emergence and adoption of AI chatbots have ushered in a new era of convenient and efficient customer service. This paper addresses the gap of how Gen Z perceives chatbots as an alternative for service interaction, considering that this sample of the population is relatively more tech savvy and understands technology better. Utilizing semi-structured interviews for in-depth interaction, a thematic analysis reveals six key themes: trust and reliability, nature of interaction, perceived usefulness/ease of use, advantages, disadvantages, and areas of improvement. Gen Z generally views chatbots as limited in handling complex queries, highlighting the importance of human intervention and database expansion. The identified themes provide valuable insights for organizations to highlight strengths and address weaknesses in AI chatbots' interactions with customers. The findings assist managers responsible for technology implementation in understanding customer pain points, fostering enhanced value for both users and organizations leveraging chatbots. This paper offers a comprehensive analysis of user experiences to illuminate the advantages and shortcomings of chatbots as service agents.

Keywords: Chatbot, Gen Z, customer perception, thematic analysis, India.

Introduction

The advent of digital technologies has ushered in a transformative era, reshaping not only the way businesses operate but also influencing the preferences and behaviour of the tech-savvy Generation Z consumers (Kwangsawad & Jattamart, 2022). A multitude of factors, such as emphasis on frictionless customer experiences, the emergence of digital natives, widespread

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access to smartphones and the Internet, prompt business response for competitive advantage, a focus on enhancing efficiency and minimizing costs, and the easy accessibility of digital technologies, have all contributed to the widespread adoption of these cutting-edge digital tools (Kala & Chaubey, 2023). As organizations strategically respond to these forces to gain a competitive edge, the integration of cutting-edge digital tools has become ubiquitous. In recent decades, a widespread growth has unfolded across various human interactive domains, propelled by technological advancements that facilitate the widespread adoption of information sharing and communication technologies by consumers and organizations (Xiang *et al.*, 2021). The modern human-technology interaction has paved ways for organizations to build interfaces, different from traditional models to assist customers in novel ways (Ul *et al.*, 2019). Modern technologies have forced organizations to make services and communication to be more convenient, ensure continuous availability, reduce access time for customers, and optimize resource management efficiency (Calvaresi *et al.*, 2023). Consequently, businesses are transforming their service encounters and experiences through automation (Mcleay *et al.*, 2021), with chatbots emerging as integral components (Adam *et al.*, 2021).

Chatbots are predominantly text-based conversational agents that simulate conversation with users (Ashfaq *et al.*, 2020). They evaluate user inputs and respond using artificial intelligence and natural language processing, enabling automated interactions in many web platforms and apps. Service interfaces are becoming technology-driven with chatbots (Larivière *et al.*, 2017). To improve productivity and reduce expenses, organisations are promoting chatbot functionalities on websites and mobile apps for 24/7 availability (Adam *et al.*, 2021; Gilbert *et al.*, 2004). AI-driven chatbots can engage clients at various service levels and perform routine and non-routine tasks. Customers' portfolios and historical records inform their personalised service recommendations and advanced counselling (Rust, 2021). AI technology is rapidly changing service encounters, with frontline staff receiving support or being replaced by these technologies (Castillo *et al.*, 2021). As organisations combine these advances, digital penetration in the service process is increasing, signalling a new age in service delivery.

The worldwide automation market grew from $186 billion in 2019 to $214.3 billion in 2021, demonstrating widespread adoption of automation technology (Statista, 2023). The AI market is expected to reach US$241.80 billion in 2023, with a 17.30% annual growth rate (CAGR 2023-2030) and a market volume of US$738.80 billion by 2030 (Statista, 2023); and $1,811.75 billion by 2030, according to Grand View Research (2023). IBM (2022) found that 57% of Indian firms used AI. Chatbots, adaptable and easy to use, bridge the gap between users and advanced AI systems. Many customer service and support professionals believe chatbots are the future. They believe that well-designed chatbots can improve customer experience and inspire good emotions at a cheaper cost than live conversations. As the globe moves towards

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automation, so does the service business, including how firms interact with clients. Chatbots are being used by customer service and support executives, but customers rarely use them, showing they are ineffective at helping customers achieve their goals. According to Gartner, only 8% of customers utilised a chatbot in their last customer care experience, and only 25% would use one again. Gartner expects chatbots to become the main customer care channel in five years (Gartner, 2023).

Most customers still use traditional methods to interact with firms' service representatives, and, while there are many studies and surveys showing industry's aggressive efforts to adopt and implement chatbots, the literature lacks practical reasons why customers do not accept them. Each Gen X, Y, and Z has unique traits that affect their technological adoption (Agarwal, 2019). Gen Z, digital natives, loves technology for visual, interactive, and real experiences, whereas Gen X and Gen Y utilise it for adaptability and social connectivity. Thus, Gen Z's digital fluency, preference for quick communication, tech-savviness, and openness to new digital trends make them ideal chatbot adopters (Alex & Lawrence, 2021). Considering this, we analyse Gen Z Indian customers' views on chatbots as service agents. India is an ideal place to investigate Gen Z's AI chatbot perception for various reasons. Gen Z is a substantial part of India's diversified population. Second, India is advancing technologically and Internet penetration is rising, especially among youth (Galdinus *et al.*, 2023). Studies of Gen Z in this tech-savvy milieu can reveal how technology affects their views on AI chatbots. Third, India has a vibrant start-up scene, and many companies are using AI chatbots. Gen Z's perception can reveal these technologies' real-world adoption and usability.

This study aims to achieve two key objectives: (a) to examine the perception of Gen Z towards chatbots for service interaction; and (b) identify the priority areas and concern areas related to chatbot interactions. The insights derived from this research will help organizations, decision-makers, chatbot developers, and managers responsible for the integration of artificial intelligence into customer services. By comprehending crucial aspects, thrust points, and potential areas for improvement, these stakeholders can enhance the development and integration of chatbots, ensuring more effective service delivery to the tech-savvy youth in India.

Literature Review and Theoretical Framework

Chatbot adoption

Chatbots are predominantly text-based conversational agents that simulate conversation with users (Ashfaq *et al.*, 2020). These are automated programs which are used to communicate with humans through text or chat exchange (Blut *et al.*, 2023; Ciechanowski & Przegalinska,

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2017; Sivaramakrishnan *et al.*, 2007). Chatbots are used by organizations to interact with customers/potential customers in providing them service solutions. These chatbots can assist customers from anywhere (Chung *et al.*, 2018) and are capable of providing the same inter-personal experience to them as they would receive in an offline store (Sivaramakrishnan *et al.*, 2007). Thereby, chatbots not only provide required information to customers but also act as personal assistants to them (Mogaji *et al.*, 2021; Sivaramakrishnan *et al.*, 2007). These chatbots also act as virtual agents and companions, other than being an assistant. As virtual agents, they provide uninterrupted service and help in reduced response time which are seen as important factors to achieve customer satisfaction (Adam *et al.*, 2021).

As per Statista (2023), the size of the chatbot market is forecasted to reach around US$1.25 billion in 2025, which is a great increase from the market size in 2016 that stood at US$190.8 million. In the case of investment in marketing technology in the Indian market as of 2022, chatbots stand at a high 32%, along with data analytics and marketing automation (Statista, 2023). This means marketing professionals see chatbots as a way forward for future technological integration in the industry for efficient and cost saving processes. Chatbot usage has found significant growth and an upward trend across industries and geographic locations. These industries are segmented for the most part into Banking, Financial Services and Insurance; Healthcare; IT and Telecommunication; Retail; and Travel and Hospitality. The AI market share was over 40% in the IT industry (Statista, 2021) and has been making continuous in-roads in other industries as well.

Chatbot: user experience

Both practitioners and researchers have emphasized the potential advantage of using chatbots, including time-efficiency, reduced costs, and enhanced customer experience (Scherer *et al.*, 2015). These advantages serve as the foundation for more and more firms to adopt and integrate the chatbot system in their service department for improving customer interaction. The chatbots have been tested for perceived benefits and they are proven to be capable of interesting conversations with prompt responses at any time of the day (Wu *et al.*, 2020). Chatbots offer significant advantages to customers, including time-saving ability, quality information, and 24×7 availability (Ciechanowski & Przegalinska, 2017; Chung *et al.*, 2018). The accessibility provided by chatbots allows customers to engage with firms at any time, making it a crucial enabler for those who choose chatbot interactions. With minimizing the use of standard phrases, chatbots could achieve high conversational ability and will be more acceptable to the users (Rese & Tränkner, 2024). Chatbots have found their way into organizations' processes, especially service interaction, as they provide personalized virtual assistance, 24×7 availability and seamless customer experience (Kamoonpuri & Sengar, 2023;

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Chung *et al.*, 2018; Eun *et al.*, 2010). Ashfaq *et al.* (2020) have found that engaging with a chatbot can be an enjoyable and delightful experience, leading to positive emotions that ultimately enhance user satisfaction. By assisting customers in various stages of their purchase journey (Hoyer *et al.*, 2020), the chatbot technology can transform their experience (Fan & Han, 2021) and make it a standout in the era of high competitiveness for an audience's attention.

On the other hand, despite these technological advancements, customers continue to have unsatisfactory encounters with chatbots, where unsuitable responses to their request results in a gap between their expectations and system performance (Adam *et al.*, 2021). The literature reveals how a low degree of openness to adoption of technology or being more favourable towards using traditional tools would result in negative outcomes for customers' adoption of chatbots and similar tech aids (Mcleay *et al.*, 2021). Findings of new identified dimensions suggest that technology adoption is directly related to perceived risk regarding customer's information and their knowledge adequacy in handling technology tools (Ganguli & Roy, 2011). Several limitations have been identified in the use of chatbots, including issues such as response time, privacy concerns regarding customer-shared information, and users' preference for human interaction over chatbots (Pillai & Sivathanu, 2020). Additional studies indicate that customer apprehensions about privacy and the perceived immaturity of technology contribute to reservations regarding chatbot usage frequency and intention (Luo *et al.*, 2019). Barriers to chatbot adoption and sustained interaction also encompass factors like perceived ease of use, perceived enjoyment, and reliability (Gilbert *et al.*, 2004).

Despite the increasing integration of chatbots as customer service representatives in recent years, significant challenges persist across all age groups. Issues such as the need for a sense of enjoyment or fun, and the trust to share crucial information with chatbots serve as major hurdles. Additionally, customers may feel discomfort when they realize they are not interacting with a human representative, believing that chatbots struggle to understand complex problems and may misinterpret them (Ashfaq *et al.*, 2020). Kwangsawad & Jattamart (2022) have also found that personal barriers, including technology anxiety, dissatisfaction with low-quality information from chatbots, and solutions that fail to meet customer expectations, impact the adoption of chatbots.

TAM-ISSM integrated model

This study utilized an integrated model that combines the Technology Acceptance Model (TAM) and the Information Systems Success Model (ISSM) to examine users' perceptions of chatbot usage. TAM, a widely employed model, has been applied across diverse contexts to investigate technology adoption intentions (Meidute-Kavaliauskiene *et al.*, 2021; Zhou, 2013).

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Additionally, it has been used for chatbot adoption in sectors such as banking (Nguyen *et al.*, 2021) and tourism & hospitality (Pillai & Sivathanu, 2020). Past research has identified perceived usefulness (the user's confidence in a technology's ability to efficiently assist in task completion) and perceived ease of use (the user's expectation of the system's effortlessness) as key drivers for technology adoption (Davis *et al.*, 1989; Venkatesh *et al.*, 2000; Isaac *et al.*, 2018; Ashfaq *et al.*, 2020; Nguyen *et al.*, 2021).

The Information Systems Success model, as proposed by Delone & Mclean (2003), emphasizes three quality aspects: information quality, system quality, and service quality. Information quality denotes the system's capability to deliver appropriate, timely, precise, and clear information. System quality highlights a user-friendly arrangement of the visible elements of technology. Service quality refers to how well users' needs are met by technology. In the context of evolving technological environments and changing consumer interaction patterns, Law *et al.* (2020) highlights the necessity of integrating various models to effectively study the phenomenon. Consequently, we integrated these models to formulate comprehensive themes for this study.

Research Methodology

This study attempts to examine the perception of Gen Z Indian consumers (born between 1995 and 2005) towards chatbots. Students were deemed the most appropriate prospective respondents for the study. To cater for diverse viewpoints, we attempted to include students of various educational programs in our sample. Undergraduate and postgraduate students of Business, Law and Engineering programs were contacted. The participants were randomly invited for the interaction with a pre-requisite that they must have interacted with chatbots before. Non-probability purposive sampling, where researchers select a sample based on respondents' knowledge about research, was used in the study. The researcher briefed the context of the study to the prospective respondents. The sample size turned out to be 40 for this study, which was finalized as data saturation began with repeated and similar responses to the questions asked. Interview questions were formed from significant work in the area (Eun *et al.*, 2010; Bolton, 2011; Pal & Singh, 2019; Ashfaq *et al.*, 2020; Pillai, 2020; Talwar *et al.*, 2020; Nguyen *et al.*, 2021).

Over the course of five weeks (between October-November 2022), face-to-face semi-structured interviews were conducted. Each interview lasted, on average, 20 minutes. Some interviews were audio-recorded with the consent of participants and later transcribed, whereas other interviews were limited to researcher notes. The language of interview was English. A transcript of 51 pages was prepared from the interviews and an additional 11 pages of researcher notes were made during the interviews to cross check the information shared by

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the respondents. To ensure validity and reliability, two researchers who attended the interview and discussion jotted down their notes independently. Later, they deliberated and combined the data, which was often done for several hours after the interviews or at the end of the day. Furthermore, these data were shared with the study participants to achieve construct validity.

To discover and analyse the perception of respondents, thematic analysis was employed. The method explored the explanations of the respondents and focused on how similar or different their insights were. Thematic analysis is a widely used technique for qualitative data sets created from inputs of research participants to investigate their perspectives and report the themes generated from them. It can ascertain reliable and insightful results with thorough analysis (Braun & Clarke, 2006). Thematic analysis helps to identify the prominent elements of a big set of data and sums them up, which is done by incorporating a structured methodology in processing of the data to arrive at a concise and systemized result (Kala, 2022). The statements were analysed to achieve the research objective by building categories and sub-categories. This was done manually without the use of any software. The thematic analysis with six phase steps, as suggested by (Braun & Clarke, 2006), was employed to identify insightful themes/categories correctly. Some statements presented in this paper were directly taken from the interview transcripts, while others were re-worded by referring to researcher notes. The keywords were identified from the transcripts of the interviews where frequent repetitions of the same topics were recognized and given a formal structure to develop the themes.

Findings

Table 1 presents participant demographics, indicating 60% female and 40% male respondents, all aged 18-24 (Gen Z cohort). Among them, 65% were undergraduates (BBA, BBA-LLB, B.Tech courses), spanning various study years, while 22.5% were postgraduates, and 12.5% were PhD candidates.

Table 1. Demographic Profile (n=40)

Demographics		Number	%
Gender	Male	16	40%
	Female	24	60%
Education Level	Undergraduate	26	65%
	Postgraduate	9	22.5%
	Doctorate	5	12.5%

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Purpose of interaction with chatbots

As previous studies have shown that users prefer chatbots for information rather than transactional purposes (Hollebeek *et al.*, 2021; Malodia *et al.*, 2022), it was pertinent to examine the nature of chatbot interactions among Gen Z consumers. The findings indicate significant chatbot usage among Gen Z consumers, with 52.5% using them frequently and 42.5% occasionally. Information-seeking was the primary motivation, followed by providing feedback or registering complaints, aligning with findings in studies by Hollebeek *et al.* (2021) and Malodia *et al.* (2022), highlighting a preference for information-seeking over transactional purposes. The following are some of the responses from the respondents that built up the sub-categories:

> *R4: "I prefer seeking information from the chatbots only because I get to-the-point information." "I use it on a regular basis."*
>
> *R8: "I can actually search for data, and it will be presented mostly in clear, concise and quick manner."*
>
> *R17: "I don't really use chatbots unless like when I was going for my admissions, I went through the college sites and there were chatbots. So, when I had to reach to some person then I used the chatbots where they provided me with certain ID or some phone numbers."*
>
> *R31: "So the nature of interaction is like it is for information as well as for feedback and complaints. When it's not exactly complaints it is when I want to buy something."*

Table 2. Frequency of usage of chatbots and nature of interaction

Category	Sub-category	Frequency
Frequency of use	Rarely	2
	Occasionally	17
	Frequently	21
Nature of interaction	Information-seeking	31
	Feedback/Complaint	26
	Refund/Cancel	4
	Job-seeking	1
	Transactional	3

Perceived usefulness and perceived ease of use with chatbot interaction

Participants were asked to share their experiences and perceptions of chatbots based on their perceived usefulness and ease of use during interactions. The findings indicated that the reaction of respondents towards chatbot usefulness was mixed in nature. Database limitation was the major issue with chatbot usefulness. Similarly, factors such as being unable to address exact queries, limited set of Frequently Asked Questions (FAQs), technical issues during interaction, and redirecting the query to human assistance beyond a certain point were

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primarily impacting the ease of use of chatbots (Table 2). Conversely, respondents expressed that they see chatbots as valuable for obtaining quick responses, especially during odd hours when human representatives might not be available. Another notable benefit is the convenience of having all necessary information brought together by chatbots, eliminating the need to search the website independently. In these ways chatbots were labelled as useful or very useful. Some of the statements of the respondents are as follows:

> *R12: "I don't get what I am looking for, as chatbots do not have a lot of options. The problems that I face, it breaks down to one on one and those options are very less."*
>
> *R5: "It is useful when you don't have too much time to look for answers all over."*
>
> *R40: "For the problems they do not even understand, it gets escalated to like a chat manager or a process manager and then the whole thing is just managed by them."*
>
> *R17: "You cannot get fully satisfied with the answers because it's already fed in them and it's always, we contact you later for questions they cannot answer."*
>
> *R11: "Information database into that chatbot was very limited. So, like if I have a few questions, 5 to 6 questions, it would be like only 2 to 3 questions are installed in that database and so it could answer only those with those particular repetitive answers. Whenever the problems are outside of the FAQs, chatbots do not understand the questions."*
>
> *R1: "If you need any sort of unique solution about the whole thing, it just like waste your time for no reason."*
>
> *R33: "I found it (chatbot interaction) very confusing and irritating. They kind of redirected you to the website or to the customer care number."*

Table 3. Perceived usefulness and perceived ease of use

Category	Sub-category	Frequency
Perceived Usefulness	Very Useful	8
	Useful	15
	Not Useful	6
	Redirecting to human assistance	9
	Database limitation	23
	Remote assistance	2
Perceived Ease of Use	No difficulties	3
	Difficult/stressful	3
	Technical/system issues	14
	Unable to address exact query or limited set of FAQs	45
	Confusing	4
	Irritating	2

Trust and reliability in chatbot interaction

Next, participants were queried about the importance of trust in sharing information with chatbots and the reliability of the solutions they provide. Responses were mixed, with some perceiving chatbot solutions as unreliable, while others found them highly reliable, indicating

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a range of perspectives (Table 4). The table categorizes chatbots as either reliable or not, with explanations provided. Trust in the deploying organization's brand image emerged as a significant factor for those deeming chatbots reliable, reducing hesitancy in sharing information. Several respondents reported instances of chatbot representatives providing incorrect information, as highlighted in the following interview excerpts:

> *R34: "When you speak to a person of a company who is sitting in the customer department, they might provide you the old news but when it comes to chatbots, they are like legit updated."*
>
> *R12: "I don't get what I am looking for because chatbots do not have a lot of options. They have a basic minimal option."*

Respondents expressed reluctance to share personal/sensitive information with chatbots, citing discomfort. However, they mentioned that sharing general information was less concerning, considering the company already possessed many profile details. The analysis revealed that trust in chatbots correlated with the overall brand image and trustworthiness. The following selected interview statements highlight these sentiments:

> *R25: "It is the main thing, which is the reputation and the goodwill of the company. If there is no goodwill of the company, no one will give personal details to the company. So, as you mentioned, that trust is the key."*
>
> *R18: "When a company is introducing it (chatbot), it can be trusted because it already has access to all my data."*
>
> *R31: "Not completely (trusting the chatbot), just till the period that I feel if any information is more of a general thing, so no harm will be there."*

Table 4. Trust and Reliability of chatbot interactions

Category	Sub-category	Frequency
Trust & Reliability	Very reliable	14
	Reliable up to a certain extent	5
	Not reliable	17
	Incorrect information	8
	Trust chatbot due to image of the organization	11
	Prefer not sharing personal information	11
	They already have most information	2
	Comfortable in sharing non-sensitive information	5
	Trustfulness important since personal information is shared	7

Timeliness and empathy with chatbot interaction

Table 5 displays participant responses regarding the timeliness of chatbot solutions. The analysis revealed that delayed responses with uncertainties about response times is a prevalent concern. Despite this, some respondents did report receiving prompt or instantaneous replies to their queries. The following statements are excerpts from the interview transcripts:

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R4: "Yes, I get timely responses since they are very impromptu, and you can even talk to them at like 12 in the night and even then, you will receive a reply."

R9: "Sometimes when I wanted some information, it was very fast, the solution. But other times they were delayed."

Table 5. Timeliness and role of empathy with chatbots

Category	Sub-category	Frequency
Timeliness	Timely	11
	Instant/Immediate	7
	Late solution	18
	Uncertain	5
Empathy	Unable to understand urgency	3
	Unable to understand human emotion	4
	Lack of empathy does not affect.	14
	Lack of empathy lead to discomfort	2
	Lack of empathy affects	7

In Table 5, responses regarding the empathy aspect of chatbots are presented. Participants who elaborated further indicated that the chatbots' failure to grasp the urgency of their inquiries or the associated human emotions had a negative impact on their interactions. Conversely, those who asserted that the lack of empathy did not affect their conversations with chatbots argued that expecting empathy from a machine is unreasonable. Selected statements from the interview transcripts are provided below:

R2: "I expect professionalism in these things. More than empathy, I feel that the bots have to just provide more options."

R12: "I don't expect empathy from customer care (chatbot) where I am only finding information."

R14: "Yes it affects definitely because it doesn't understand what we actually are right now."

R37: "They cannot understand your human emotions, the urgency of your query and all those things."

Advantages and disadvantages in chatbot interaction

Table 6 presents insights from interviews on the advantages and disadvantages of chatbots. Noteworthy benefits include prompt responses and 24×7 availability for inquiries. Users highly value the ability to interact with chatbots, especially during unconventional hours when human support is unavailable. Conversely, a collective concern among participants revolves around the perceived lack of empathy in chatbots. While users acknowledge not expecting empathy from machines, they find its absence impacting interactions, particularly in conveying urgency or emotions. Additionally, respondents highlighted chatbots' limitations in handling complex issues, attributing this to their inability to comprehend queries beyond their stored database. The following are some of the excerpts from the interviews that capture these

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sentiments:

R19: "You get information instantly and you also get suggestions related to your questions if I am asking a certain question."

R32: "one of the major advantages is that you get the solution instantaneously, you do not have to wait for the person to type it out because it is already there."

R12: "if I have basic issues with any sites, I need an instant solution about anything I can always use the chatbots."

R37: "If you do not have anybody around in order to help you out with the stuff, I think it is quite helpful for you because you don't have any information about how to handle that portal or something like that and then suddenly, they guide you much better."

R30: "we do not get particular solution that we are asking for."

R19: "It becomes offline from time to time, and it doesn't give me the answers that I'm looking."

R25: "Sometimes they're not able to provide what actually you try to ask them."

R15: "They cannot understand your human emotions, the urgency of your query."

Table 6. Advantages & Disadvantages in chatbot interaction

Category	Sub-category	Frequency
Advantage	Quick response and Problem solved	25
	Suggestion prompts	5
	24×7 availability	17
	Easy to contact the firm	2
	Problem categorized already available	3
Disadvantage	Information confidentiality	3
	Technical non-feasibility of solutions	2
	Solution not provided	8
	Complex problems not solved	9
	Lack of personalized solution	3
	System issue/connectivity	5
	Incorrect problem interpretation	5
	Lack of empathy	21

Areas of improvement in chatbot interaction

In the concluding section of the survey, participants discussed the 'area of improvement', providing suggestions for enhancing future interactions with chatbots. Expanding the chatbot's query database to prevent frustration caused by limitations on question range is the most frequently mentioned recommendation. Many respondents proposed that human intervention could enhance the overall interaction experience, leading to smoother and timelier query resolution. Other notable suggestions encompassed improving query interpretation, incorporating voice commands, enhancing system quality, and ensuring

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information confidentiality. The following are a few of the statements from the interviews of the respondents:

> *R7: "So when chatbot doesn't really understand the query, then human intervention should be there."*
>
> *R36: "For the complaints I give, they can increase their database on this type of question."*
>
> *R2: "When we ask the question, we are not given the options of additional question so that would make the thing easier."*
>
> *R24: "Improving the first thing would be a database, extended database of set of questions, the solutions the bot could provide to the users."*
>
> *R10: "The chatbot interaction just lasts for 20 to 30 seconds whenever chatbot interaction is exceeding that there should be a person who looks into the chat correct from their side."*

Table 7. Areas of improvement in chatbot interaction

Category	Sub-category	Frequency
Areas of improvement	System improvement	5
	Addition of more queries/solution in database	16
	Human intervention	14
	Include voice commands	5
	Problem interpretation	10
	Information Confidentiality	6
	Addition of emotions	10
	Keyword search like option	3
	Make chatbot options easy to locate on webpage	2
	Personalized greeting	2

Figure 1 synthesises the findings of this study, creating six broad themes to highlight major factors affecting and guiding Gen Z users' perceptions of chatbot interaction. This representation provides a clear and tangible insight into the research findings, with subsequent sections of this article delving into each theme based on the responses of the interviewed participants.

Discussion and Implications

This study aimed to examine Indian Gen Z users' perceptions of chatbots and identify priority and concern areas in their interactions. Utilizing TAM and ISSM, the study found that Gen Z highly values the 24×7 availability of chatbots, aligning with literature emphasizing continuous availability and cost-saving as key reasons for chatbot integration (Schuetzler *et al.*, 2021; Nguyen *et al.*, 2021; Pillai & Sivathanu, 2020). Contrary to the perception of Gen Z as tech-savvy, this analysis reveals challenges in perceived usefulness, such as the chatbot's inability to interpret queries, technical issues, and database limitations (Trivedi, 2019; Eze *et al.*, 2021).

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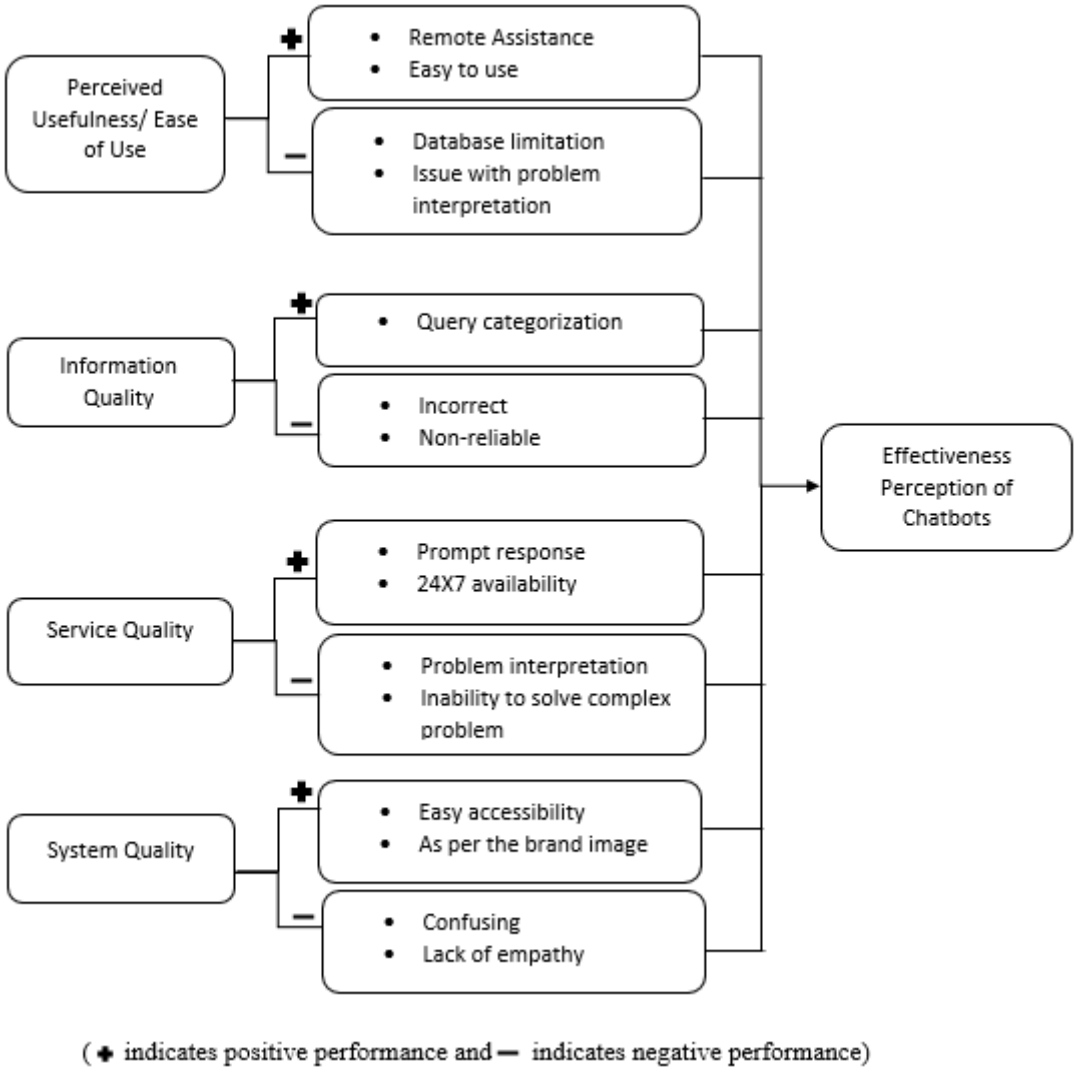

Figure 1. Summary of the findings for Effective Perception of Chatbots

While previous studies suggested Gen Z is less concerned about empathy in technology use, the findings indicate a significant concern regarding the lack of empathy in chatbot interactions (Kolnhofer-Derecskei *et al.*, 2017). Trust in chatbots among Gen Z is closely tied to the brand image of the organization. Users hesitate to share sensitive information, trusting the chatbot only as much as they trust the brand. The study underscores that assessing and improving chatbots should consider their reliability and trustworthiness, linked to the goodwill of the firm.

Additionally, the study emphasizes the importance of a robust knowledge base for successful service solutions. Gen Z respondents highlight the limitation of the chatbot's database as a major disadvantage, calling for an expansion to address a broader range of questions. The majority of interactions involve information-seeking or registering complaints/feedback, aligning with studies on the nature of communication channels influencing customer decisions (Polo & Sese, 2016). While some studies have indicated significant positive effects of both perceived usefulness of a chatbot and trust on both attitude towards chatbots and

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satisfaction (Soares *et al.*, 2018), it would have been better tested if participants' motive was to do more of purchase actions rather than just query-based interactions.

This study has both theoretical and managerial implications, seeking a deeper understanding of Gen Z users' perceptions of chatbots as service agents. For researchers and academics, the qualitative study provides rich information from firsthand experiences (Braun & Clarke, 2006), offering new variables like empathy for exploring user satisfaction and continuance intention. This aligns with recent literature highlighting the negative impact of empathy on customer satisfaction (Bock *et al.*, 2016; Li & Zhang, 2023). This study also contributes to theory by integrating factors from TAM and ISSM, aligning with the call for integrating models in the evolving technological environment and changing consumer interaction patterns (Law *et al.*, 2020).

For managerial implications, the findings suggest the need to train chatbots for diverse interaction styles, addressing a wide array of query-based conversations, from transactional to unique, one-off problems. This would enhance the chatbot's ability to interpret a broader range of questions effectively. As inferred from the interviews, users express annoyance when chatbots redirect them to FAQs, emphasizing the importance of providing solutions during the interaction to foster a positive perception. User dissatisfaction often stems from receiving incorrect information, a concern echoed in this study and supported by recent findings (Rese & Tränkner, 2024). To enhance user experience, chatbots, being fundamental text-based informative AI tools, should explore audio-based alternatives, expanding the user base. As noted in a recent study (Kamoonpuri & Sengar, 2023), voice notes from users offer valuable insights, such as voice intonation, mood, and energy level, potentially useful for marketing strategies.

Finally, as chatbots progressively replace human customer service representatives, it is recommended to instil them with traits resembling their human counterparts. Whether driven by anthropomorphism, as suggested by studies (Moussawi *et al.*, 2021; Gursoy *et al.*, 2019), or traits like empathy revealed through user interviews, managers should prioritize creating a more humane service interaction environment (Kala, 2022). This study contributes to the existing chatbot literature by systematically recording, analyzing, and presenting the advantages and disadvantages arising from user interactions, offering categorical areas for improvement. These insights can guide academicians, researchers, and managers in developing more robust chatbot systems with refined processes and constructs for measurement and enhancement of user satisfaction and continued usage.

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Conclusion

Technology innovation and implementation have been fast paced across all industries, and so has their adoption. Organizations are focused on improving both products and the efficiency of resources that help achieve these advancements. To attain this feat, organizations set their eyes on cost-saving and improving service quality. As a result, chatbots are actively being integrated into their systems in the hope of achieving automated functionality that is prompt, robust, available, and efficient. This study puts forward key advantages of chatbot interaction, such as easy accessibility, prompt responses, and 24x7 availability, while also highlighting shortcomings like problem interpretation, inability to solve complex problems, and database limitations. The qualitative analysis helped identify major areas for improvement, including expanding the chatbot database, human intervention, and improved problem interpretation by the chatbot. These factors could enhance customer experience and contribute to building a competitive advantage. This becomes essential, as major reports (Statista, 2022; McKinsey, 2023) and studies (Chi *et al.*, 2020; Mcleay *et al.*, 2021) predict immense contributions and breakthroughs in AI in the coming years. This study aims to address a significant aspect from the young customers' point of view by presenting their perceptions about chatbot features.

Limitations and Future Direction

The limitations of the study suggest avenues for future research. First, considering the focus on Indian students, generalizing results requires caution; larger samples in future studies can enhance generalizability. While this study employed a qualitative approach, future research could benefit from incorporating quantitative and mixed methods for a more precise understanding of user perception. In this study, researchers have taken "chatbot" as a generic term. Exploring different types of chatbots and industry-specific adoption variations in comparative studies would offer valuable insights.

Additionally, this study focuses on a country like India which has strengthened its technological prowess and automation integration to a considerable level. Comparative research across countries, including developed, emerging, and developing nations, would contribute to understanding the impact of technological advancements. As chatbot usage has become substantial in certain industries, assessing user satisfaction and continuance intention becomes crucial for developers, marketers, and organizations to enhance user experience and address challenges.

Lastly, future studies should evaluate the anthropomorphism aspect in chatbot adoption concerning both adoption and satisfaction contexts.

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