A Qualitative Inquiry into the Adoption of ChatGPT in the Early Stage

Yaojie Li
University of New
Orleans
yli27@uno.edu

Yu Zhao
Lamar University
yzhao3@lamar.edu

Dong-Jun Min
University of New
Orleans
dmin2@uno.edu

Dinah Payne
University of New
Orleans
dmpayne@uno.edu

Abstract

ChatGPT and similar technologies have transformed how we search for information in both personal and workplace settings. Despite its widespread popularity, there is limited research on the factors contributing to individuals' adoption or resistance to these technologies. To address this gap, this qualitative inquiry aims to identify technical, social, organizational, and individual factors through thorough text analysis. This study sets a foundation while unveiling numerous avenues for future research.

Keywords: ChatGPT, generative AI, technology acceptance, early adoption, qualitative analysis.

1. Introduction

"By replacing fear of the unknown with curiosity, we open ourselves up to an infinite stream of possibility." - Alan Watts (1915-1973)

This Alan Watts' quote highlights a valuable perspective for individuals grappling with various dilemmas of artificial intelligence (AI) (Denning & Denning, 2020). That is, we can adopt a childlike mindset through curiosity, exploring beyond our existing boundaries of knowledge and capability while embracing the challenges and opportunities that technology puts before us. At the moment, ChatGPT, an AI-powered chatbot based on supervised and reinforcement learning techniques, is an example.

While it was just launched a few months ago[1], ChatGPT has gained immense popularity and become a cultural sensation (Thorp, 2023), crossing over 100 million users. As a disruptive technology that can radically change our society and economy (Dwivedi et al., 2023), ChatGPT has its Janus-face (Susarla et al., 2023). On the one hand, it offers a plethora of features that greatly benefit individuals in their work and daily lives, through interactive conversations, such as answering questions, explaining topics, translating languages, and assisting in writing, programming, and research. On the other hand, it has received various criticism regarding its functions or the technology, itself, such as information inaccuracy and bias, inability to understand conversation context and address complex inquiries, as well as social ethical concerns, including security and privacy, algorism transparency and accountability, and plagiarism.

In addition to the double edge of this technology, individual attitudes tend to be different, too. It can be assumed that those who are enormously enthusiastic about new technologies demonstrate an eagerness to try them out while contributing feedback to enhance their features and functionalities. In contrast, another group of people may either remain indifferent or resist the technology, primarily due to fear and anxiety about the potential negative influence of new technologies on their lives (Johnson et al., 2017; Li & Huang, 2020).

Indeed, ChatGPT and similar technologies represent an exciting trend, evident in the growing number of users and organizational investments in developing various language models or integrating this technology into their existing products and services, such as Google Bard (powered by LAMDA), Microsoft Bing (powered by GPT-4), GitHub Copilot, and Amazon Codewhisperer. Despite the continual advancement in generative AI, our inquiries of user attitudes and responses remain limited. Although there are a few conceptual studies sharing great ideas and insights about this emerging technology and related phenomena (Dwivedi et al., 2023; Susarla et al., 2023; Teubner et al., 2023), there is a lack of theoretical development and validation with empirical evidence in this area, thus far.

To that end, this study aims to investigate the impact of individual, organizational, social, and technical factors on individuals' adoption of ChatGPT in its early stages. Specifically, we seek to explore the possibility of extending the theoretical and practical

---

[1] ChatGPT was first introduced in November 2022 by OpenAI, a California-based artificial intelligence company. ChatGPT is built upon OpenAI's foundational GPT models, including GPT-3.5 and GPT-4. While the access to the basic model is still available to free users, ChatGPT Plus subscribers can access the advanced model and new features, even during peak times. Resource available from: https://openai.com/blog/chatgpt-plus.

landscape of the technology acceptance model (Davis, 1989; Davis et al., 1989; Venkatesh & Davis, 2000; Venkatesh et al., 2003) that have flourished in the past decades yet stalled in recent years.

By leveraging various advantages of qualitative methods – in-depth contextual understanding and exploration for theoretical development through a relatively small sample size and flexible approach (Yin, 2018), our preliminary study focuses on several key questions: 1) how do users become aware of ChatGPT and similar technologies? 2) which individual, organizational, social, and economic factors affect their intention to adopt this technology and use it continually? 3) are traditional technology acceptance constructs still valid in this context, and 3) are there any new findings that contradict the prior models or extend the technology acceptance literature in a new direction?

In the following sections, we present a brief literature review of the technology acceptance model and its variants and introduce the research method, followed by the analysis results and discussion for future research.

2. Theoretical background

As a well-established theory, the technology acceptance model (TAM) has played a crucial role in understanding the factors that influence individuals' acceptance or rejection of innovative technologies (Davis, 1989). Derived from psychological theories, such as the theory of reasoned action and the theory of planned behavior, TAM posits that external factors, such as system characteristics, elicit cognitive responses in individuals, including perceived ease of use and usefulness. These cognitive responses then impact an individual's attitude and intention to use the technology, ultimately influencing their actual usage behavior.

TAM has evolved and expanded over the past decades, incorporating novel factors and variables to better explain its core elements. For example, TAM 2, proposed by Venkatesh and Davis (2000), introduced additional exogenous variables and two moderators, including subjective norm, image, job relevance, output quality, result demonstrability, experience, and voluntariness. Venkatesh and Bala (2008) further extended TAM 2 by including direct predictors of perceived ease of use, such as computer self-efficacy, perception of external control, computer anxiety, computer playfulness, perceived enjoyment, and objective usability. In the following years, many variants of TAM incorporated factors from other relevant theories and models, such as curiosity (Agarwal & Karahanna, 2000), hedonic-utilitarian values (Lowry et al., 2012), and the bandwagon effect (Wu & Lin, 2017). In conclusion, the framework of TAM and its

extensions have been successfully applied in diverse disciplines and contexts, providing invaluable insights for assessing user motivation in technology adoption and predicting user behaviors.

3. Research method

We performed a qualitative study and collected data by distributing an open-ended, online questionnaire to graduate and undergraduate students as well as faculty members from two universities in the U.S. Meanwhile, we employed the snowball sampling selection method (Goodman, 1961), whereby students were encouraged to share the survey with their family, friends, and coworkers. The data collection period spanned from March to May 2023. We have received 124 and remained 99 responses for analysis, after filtering out inattentive and invalid answers.

The qualitative survey questions were developed based on the prior technology acceptance literature and insights from a focus group comprising business and computer science faculty members with diverse perspectives on ChatGPT and its adoption. We adopted an essay format to elicit participants' opinions regarding ChatGPT adoption, allowing them to provide more detailed information to our guiding questions. Also, we incorporated open-ended questions to encourage them to share their thoughts and ideas beyond our guiding questions from the literature and focus group discussion. This approach aimed to encourage participants to freely express their thoughts on various aspects related to ChatGPT. The participants' demographic information is summarized in Appendix A, while the main survey questions are presented in Appendix B.

In the data analysis phase, we followed Saldaña's (2021) guidelines for the qualitative coding process. At first, researchers familiarized themselves with the qualitative data by carefully reading it multiple times, thus obtaining a better understanding of the context and content. Then, each researcher independently coded the data by extracting codes from the text, grouping the codes into categories, proposing themes by analyzing the relationships among the categories, and selecting critical categories. To triangulate the coding process and ensure accuracy and consistency, the researchers examined each other's analysis results and notes and discussed several rounds. Our coding process and results are illustrated in Appendix C.

4. Analysis results

4.1. Descriptive analysis results

In investigating the sources through which individuals became aware of ChatGPT, we found that word-of-mouth emerged as the most prominent source, followed by social media, the Internet, this survey, and traditional channels (see Figure 1). Here, word-of-mouth primarily consisted of recommendations from family, friends, colleagues, and professors. Social media channels encompassed platforms such as Facebook, Twitter, TikTok, YouTube, and LinkedIn. The Internet refers to news articles or content about ChatGPT obtained online. The survey means that the survey for the current research is the medium. Traditional channels included conventional media outlets such as television and newspapers. Notably, word-of-mouth (35.2%) and online channels (including social media and the Internet, 43.2% combined) accounted for most of the channel sources. Interestingly, some respondents indicated that they were unaware of this emerging technology until they participated in this survey, given that ChatGPT is still in its infancy stage of recognition and adoption.
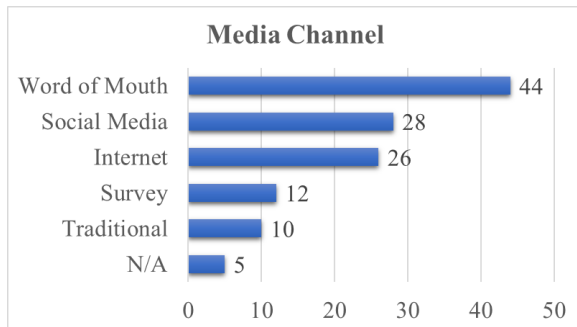

Figure 1. Sources of ChatGPT awareness.

Figure 2 suggests that most participants have already embraced ChatGPT (66.7%) and actively used it in their daily lives (13.1%). The rest of the 33 participants either rarely used ChatGPT or had never used it before. This result can be attributed to their indifferent/resistant attitude toward adopting ChatGPT or a lack of awareness about this technology.
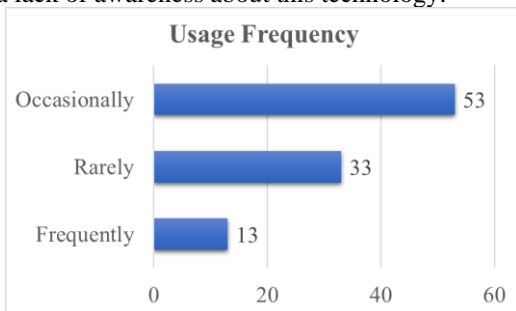

Figure 2. Frequency of ChatGPT usage.

Also, we attempted to identify the participants' attitudes from their responses. We examined the text for emotional indicators such as "happy," "excited," "love," "indifferent," and "hate," as well as adjectives and adverbs that reflect their attitude toward ChatGPT. Furthermore, we analyzed their opinions based on their beliefs and values related to technology and this specific generative AI application and their perception and understanding of the nature and characteristics of ChatGPT, for example, whether they benefit from using ChatGPT in their workplaces or personal lives. As a result (Figure 3), we found that most participants held a positive attitude toward ChatGPT, whereas a smaller number of participants exhibited a negative attitude toward it due to various individual, organizational, and social concerns. Meanwhile, 32 participants held a mixed or undecided standpoint, perhaps due to ambiguity in their personality or a lack of understanding and using ChatGPT and similar applications.
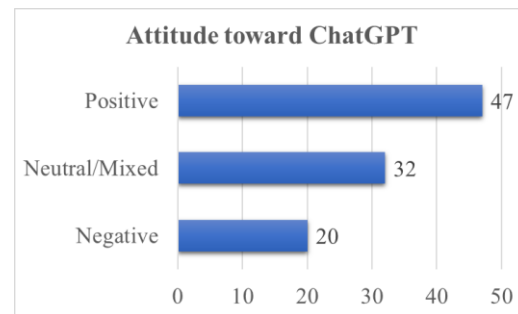

Figure 3. Distribution of participants' attitudes toward ChatGPT.

Lastly, we requested the participants to identify and rank primary factors contributing to their adoption of ChatGPT. As summarized in Figure 4, technical factors, such as ChatGPT's performance, functionalities and features, usefulness, and ease of use, were ranked highest. Following closely were task factors, which emphasized task and work efficiency and convenience facilitated by ChatGPT. Personal factors, such as curiosity, interest, fun, and novelty-seeking, also influenced ChatGPT adoption, whereas social influences from family and friends had a relatively low impact. Taken together, utilitarian values appear to be more influential than hedonic and social values, while this point will be discussed further in the subsequent section.
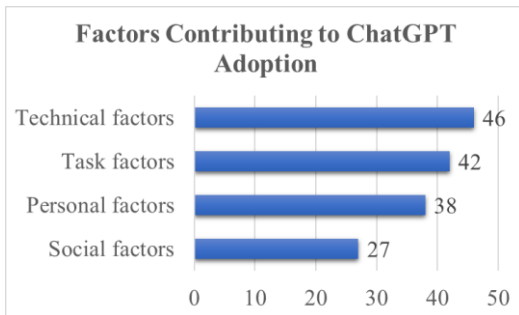
Figure 4. Factors contributing to ChatGPT adoption.

4.2. Qualitative analysis results

As mentioned early, our qualitative analysis followed a text-code-category-theme process. This resulted in the identification of three main themes – ChatGPT adoption, resistance, and ambivalence emerged from our qualitative data, each encompassing several critical categories (see Appendix C for details). Within the theme of ChatGPT adoption, most categories emerged as antecedents to the adoption behavior. Besides evidence supporting well-known factors in TAM, such as perceived ease of use and usefulness, we also found the critical role of prior experience, in terms of prior experience using ChatGPT, using similar/related technologies, such as virtual assistants and chatbots, and developing similar/related software, given some participants are software engineers and IT professionals. Notably, when discussing technical factors, participants often intertwined them with work expediency and convenience. And, that is consistent with their argument about the organizational adoption of ChatGPT and similar technologies as the prevailing trend, transforming task arrangement and work processes across various industries. This viewpoint also echoed the predictions made by Dwivedi and colleagues (2023). Also, personal factors dominated the discussions on ChatGPT adoption motivations. These included curiosity (e.g., specific curiosity in ChatGPT and similar applications and general curiosity in learning and using new technologies), enjoyment, and fun while interacting with ChatGPT, *technophilia*, *and techno-optimism*. Here, technophilia represents a strong enthusiasm and genuine fondness for ChatGPT and other emerging technologies (cf. Beaudry & Pinsonneault, 2010; Li & Fuller, 2017), while techno-optimism reflects an optimistic outlook on technology, such as a positive view on the advancement of AI, an emerging division of human and AI labor, and good faith in ChatGPT and related technologies (see categories and corresponding quotes in Appendix C). In contrast, the impact of social influence from family and friends appeared relatively limited, compared to technical and personal factors. Intriguingly, while word-of-mouth ranked first in raising individuals' awareness of ChatGPT, its influence on individuals' adoption is not aligned with its influence on ChatGPT promotion.

As for the second theme, the factors contributing to ChatGPT resistance seem more diverse. First, we identified three groups related to individuals' beliefs and values: 1) distrust, 2) social, legal, and ethical concerns, and 3) security and privacy concerns. According to the participants, distrust arises from individuals' suspicion of ChatGPT's algorithm transparency, information manipulation, or the technology itself. The social, legal, and ethical concerns reflect individuals' apprehensions about the potential adverse effects of ChatGPT, such as plagiarism, where companies and individuals can easily copy and paste the information for their commercial interests, thus harming the original creators. Clearly, this raises a simple but essential question who should be responsible for the unethical and illegal use of ChatGPT? Another interesting perspective that emerged from our qualitative data is the concern about the impact of ChatGPT, among other AI tools, on unemployment. Many participants expressed worry about the potential social crisis that could arise from the extensive displacement of routine workers who may not be prepared for this challenge yet. Security and privacy concerns revolve around the inappropriate use of ChatGPT in formulating hacking or scamming tools, as well as the violation of user privacy when personal and prompt data are not adequately protected.

Second, the factors contributing to ChatGPT resistance encompass the opposite side of usefulness and ease of use, i.e., uselessness and difficulty of use. To wit, individuals may decline to use ChatGPT or discontinue using it because of its deficiency in information accuracy and credibility, emotion and originality, service customization, database updates, or simply misinterpretations of user requests. Given the potential uselessness and difficulty of use, individuals are more likely to choose alternative tools for information search, like Google, or resort to traditional methods like learning from real people or books. Moreover, many respondents expressed their concerns regarding overly reliance on such technologies. And they would rather choose to learn and find the answer independently. They argued that excessive reliance on ChatGPT and easily accessible answer-generating tools could elicit laziness and obsoletion (connected to the previously mentioned "unemployment concern") as they relinquish their power to think, learn, and create.

Third, our analysis revealed the influence of governments and organizations on individuals' adoption of ChatGPT. For example, Italy banned ChatGPT over privacy concerns, and Russia did the same thing for fears of disinformation and criminal use. Similarly, companies such as Apple, JP Morgan Chase, and

Amazon prohibited the use of ChatGPT in the workplace (Forbes, 2023), primarily citing data safety and privacy concerns, while New York City Public Schools and many other school systems in the U.S. have placed limitations on ChatGPT and similar tools to protect academic integrity. These governmental and organizational influences will likely change individuals' attitudes and usage intentions.

Lastly, similar to the theme of ChatGPT adoption, personal factors played an important role in shaping individuals' indifference and resistance to ChatGPT. Just as technophilia was evident in adoption discussions, technophobia was frequently mentioned in responses, reflected in perceived threats to humanity and future jobs posted by ChatGPT or simple fear and anxiety of futuristic technology. Meanwhile, personal habits also acted as a barrier to ChatGPT adoption, as many people preferred to communicate with humans or find the answer on their own.

Amidst the spectrum of ChatGPT adoption and resistance, ambivalence was found among individuals when deciding whether to embrace this technology or not. Ambivalence refers to a state of mind that an individual concurrently experiences both positive and negative orientations toward an object, leading to a mixture of thoughts and feelings (Ashforth et al., 2014; Qahri-Saremi & Turel, 2020). In our case, many participants held mixed feelings and attitudes toward ChatGPT and its adoption. For example, many participants appreciated its fast responses, references, and inspirations while expressing concerns about the accuracy and reliability of the information ChatGPT provided. Likewise, participants speculated that once relying on ChatGPT, they could lose their independent thinking and reasoning power. Furthermore, although many participants believed generative AI tools have a promising future, they are concerned about the limitations and issues of ChatGPT, given that it is still in its early stage of development. Therefore, many participants claimed themselves as middle-of-the-road adopters, expressing a willingness to observe the technology's progress and wait until it becomes more mature and safer. Clearly, this ambivalent stance reflects most individuals' cautious attitudes toward ChatGPT.

5. Discussion

While this study represents a preliminary inquiry, it has uncovered a fascinating phenomenon regarding the adoption of ChatGPT, for the first time. Through qualitative analysis, we have found several intriguing paradoxes that have rarely been studied in the prior literature, thus providing opportunities for ongoing research. The first paradox lies between the mandatory and voluntary adoption of ChatGPT. Conventionally,

organizations mandate the use of specific enterprise technologies, yet meeting with resistance from employees due to communication gaps, inadequate user training and participation, loss of control, and disruptions to work routines. However, individuals are more inclined to adopt ChatGPT due to enhanced usefulness and ease of use as well as proactive personal factors. In contrast, companies express concerns regarding the security and privacy of ChatGPT, even prohibiting its use in the workplace. The second paradox stems from the duality of human nature and its manifestation in technology adoption, encompassing technophilia and technophobia. Hence, achieving a balance between these two is crucial for fostering organizational and individual well-being and growth. Another paradox is closely related to the utilitarian-hedonic perspective from the TAM literature (Van der Heijden, 2004). The evolving landscape of AI is blurring the boundary between utilitarian and hedonic technologies. AI developers, such as OpenAI and Google, have to satisfy both individuals' desire for enjoyment and demand for task expediency simultaneously. The last paradox arises from the tension between individuals' dependence on advanced technologies and their independence to learn and create. ChatGPT and similar tools make a "comfort zone" where individuals can easily access "pre-provided" answers. However, these individuals think beyond ChatGPT's user interface, expressing social, legal, and ethical concerns while using these technologies judiciously without relinquishing their independence in learning and creating.

While this paper is still developing, just like the technology itself, it offers a plethora of novel insights and information to researchers invested in this field. In future research, we intend to expand the participant pool with diverse backgrounds, thus enhancing the generalizability of our preliminary findings. Also, we will develop a comprehensive and coherent framework that can bridge the gap between the well-established technology adoption literature and the emerging constructs and casualties pertinent to the evolving landscape of generative AI like ChatGPT.

6. References

Agarwal, R., & Karahanna, E. (2000). Time flies when you're having fun: Cognitive absorption and beliefs about information technology usage. *MIS Quarterly*, *24*(4), 665-694.

Ashforth, B. E., Rogers, K. M., Pratt, M. G., & Pradies, C. (2014). Ambivalence in organizations: A multilevel approach. *Organization Science*, *25*(5), 1453-1478.

Barnett, T., Pearson, A. W., Pearson, R., & Kellermanns, F. W. (2015). Five-factor model personality traits as predictors of perceived and actual usage of

technology. *European Journal of Information Systems*, *24*, 374-390.

Bhattacherjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, *25*(3), 351-370.

Brown, S. A., Dennis, A. R., & Venkatesh, V. (2010). Predicting collaboration technology use: Integrating technology adoption and collaboration research. *Journal of management information systems*, *27*(2), 9-54.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *3*(13), 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, *35*(8), 982-1003.

Davis, F. D., & Venkatesh, V. (2004). Toward preprototype user acceptance testing of new information systems: implications for software project management. *IEEE Transactions on Engineering Management*, *51*(1), 31-46.

Denning, P. J., & Denning, D. E. (2020). Dilemmas of artificial intelligence. *Communications of the ACM*, *63*(3), 22-24.

Dishaw, M. T., & Strong, D. M. (1999). Extending the technology acceptance model with task–technology fit constructs. *Information & Management*, *36*(1), 9-21.

Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., ... & Wright, R. (2023). "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, *71*, 102642.

Fang, Y. H. (2014). Beyond the credibility of electronic word of mouth: Exploring eWOM adoption on social networking sites from affective and curiosity perspectives. *International Journal of Electronic Commerce*, *18*(3), 67-102.

Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: a perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59(4), 451-474.

Forbes, (2023). Apple joins a growing list of companies cracking down on use of ChatGPT by staffers – Here's why. Available from: https://www.forbes.com/sites/siladityaray/2023/05/19/apple-joins-a-growing-list-of-companies-cracking-down-on-use-of-chatgpt-by-staffers-heres-why/?sh=34b0748028ff.

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, *27*(1), 51-90.

Goodman, L. A. (1961). Snowball sampling. *The Annals of Mathematical Statistics*, *32*(1), 148-170.

Igbaria, M., Iivari, J., & Maragahh, H. (1995). Why do individuals use computer technology? A Finnish case study. *Information & Management*, 29(5), 227-238.

Johnson, V. L., Memarian Esfahani, S., & Mohit, H. (2023). Using Rational Choice Theory to Explore Factors Impacting Contact Tracing Application Adoption. *Information Systems Management*, 1-17.

Johnson, D. G., & Verdicchio, M. (2017). AI anxiety. *Journal of the Association for Information Science and Technology*, *68*(9), 2267-2270.

Karahanna, E., Straub, D. W., & Chervany, N. L. (1999). Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS Quarterly*, *23*(2), 183-213.

Kim, J., & Gambino, A. (2016). Do we trust the crowd or information system? Effects of personalization and bandwagon cues on users' attitudes and behavioral intentions toward a restaurant recommendation website. *Computers in Human Behavior*, *65*, 369-379.

Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic commerce research and applications*, *8*(3), 130-141.

Li, Y., & Fuller, B. (2017). " I'm Lovin' IT": Toward a Technophilia Model of User Adaptation to ICT. In *23rd Americas Conference on Information Systems*.

Li, J., & Huang, J. S. (2020). Dimensions of artificial intelligence anxiety based on the integrated fear acquisition theory. *Technology in Society*, *63*, 101410.

Lowry, P. B., Gaskin, J., Twyman, N., Hammer, B., & Roberts, T. (2012). Taking 'fun and games' seriously: Proposing the hedonic-motivation system adoption model (HMSAM). *Journal of the Association for Information Systems*, *14*(11), 617-671.

Neufeld, D. J., Dong, L., & Higgins, C. (2007). Charismatic leadership and user acceptance of information technology. *European Journal of Information Systems*, *16*, 494-510.

Qahri-Saremi, H., & Turel, O. (2020). Ambivalence and coping responses in post-adoptive information systems use. *Journal of Management Information Systems*, *37*(3), 820-848.

Saldaña, J. (2021). The coding manual for qualitative researchers. *The Coding Manual for Qualitative Researchers*. Sage.

Sharma, S., & Rai, A. (2003). An assessment of the relationship between ISD leadership characteristics and IS innovation adoption in organizations. *Information & Management*, *40*(5), 391-401.

Sharma, S., & Rai, A. (2015). Adopting IS process innovations in organizations: The role of IS leaders' individual factors and technology perceptions in decision making. *European Journal of Information Systems*, *24*(1), 23-37.

Susarla, A., Gopal, R., Thatcher, J. B., & Sarker, S. (2023). The Janus Effect of Generative AI: Charting the Path for Responsible Conduct of Scholarly Activities in Information Systems. *Information Systems Research*, in press.

Taylor, S., & Todd, P. (1995). Assessing IT usage: The role of prior experience. *MIS Quarterly*, *19*(4), 561-570.

Teubner, T., Flath, C. M., Weinhardt, C., van der Aalst, W., & Hinz, O. (2023). Welcome to the era of Chatgpt et al. the prospects of large language models. *Business & Information Systems Engineering*, *65*(2), 95-101.

Thong, J. Y., Hong, S. J., & Tam, K. Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology

continuance. *International Journal of Human-Computer Studies*, *64*(9), 799-810.

Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal computing: Toward a conceptual model of utilization. *MIS Quarterly*, *15*(1), 125-143.

Thorp, H. H. (2023). ChatGPT is fun, but not an author. *Science*, *379*(6630), 313-313.

Turel, O. (2015). Quitting the use of a habituated hedonic information system: a theoretical model and empirical examination of Facebook users. *European Journal of Information Systems*, *24*(4), 431-446.

Turel, O. (2016). Untangling the complex role of guilt in rational decisions to discontinue the use of a hedonic Information System. *European Journal of Information Systems*, *25*(5), 432-447.

Van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly*, *28*(4), 695-704.

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, *39*(2), 273-315.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, *46*(2), 186-204.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, *27*(3), 425-478.

Vijayasarathy, L. R. (2004). Predicting consumer intentions to use on-line shopping: the case for an augmented technology acceptance model. *Information & Management*, *41*(6), 747-762.

Wu, T. Y., & Lin, C. A. (2017). Predicting the effects of eWOM and online brand messaging: Source trust, bandwagon effect and innovation adoption factors. *Telematics and Informatics*, *34*(2), 470-480.

Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods*. Sage Books.

Appendix A. Demographics of participants

Gender	Age	Work exp	Edu
Male: 49 Female: 49 Prefer not to say: 1	Range: 20-68; Mean: 33.40; Std dev: 10.08 20s: 41 30s: 31 40s: 19 50s & above: 8	Range: 0-50; Mean: 10.28; St dev: 10.55	Some college but no degree: 6 Bachelor's: 62 Master's: 29 Doctoral: 2

Appendix B. Survey Questions

Questions	Related constructs & variables (example study)
1. How familiar are you with the concept of AI-powered chatbots like ChatGPT? How willing are you to try it out? Where did you hear about ChatGPT?	Usage intentions (Davis, 1989; Davis et al., 1989; Venkatesh & Davis, 2000; Venkatesh et al., 2003)
2. Have you ever used or interacted with a chatbot or virtual assistant before? How often do you use chatbots or virtual assistants in your daily life? If you have used ChatGPT, will you continue to use it in the future?	Prior experience/usage (Brown et al., 2010; Karahanna et al., 1999; Taylor & Todd, 1995), actual usage (Barnett et al., 2015; Davis & Venkatesh, 2004), continuance intention (Bhattacherjee, 2001; Thong et al., 2006), potential adoption (Karahanna et al., 1999)
3. What is your attitude toward ChatGPT and similar technologies? Would you like to use ChatGPT to assist you with tasks or answer your questions? What are the pros and cons of ChatGPT?	Attitude toward using behavior (Davis et al., 1989), rational choice/cost-benefit calculation (Davis, 1989; Johnson et al., 2023; Lee, 2009)
4. How do you see the trends of ChatGPT adoption among individuals and organizations? How do you see the usefulness and effectiveness of ChatGPT? What features would you like to see in ChatGPT?	Perceived usefulness (Davis, 1989; Davis et al., 1989)
5. Is it easy to interact with ChatGPT? Have you ever encountered any technical issues or glitches while using ChatGPT?	Perceived ease of use (Davis, 1989; Davis et al., 1989)
6. What factors influence your decision to adopt ChatGPT (e.g., technology performance/functionalities/usability ; personal curiosity/interest/fun/novelty-seeking; task/work efficiency/convenience ; social influence from family, friends, or colleagues)? Can you list the top three factors? Please explain.	External factors, task-technology fit (Dishaw & Strong, 1999; Venkatesh & Davis, 2000), job relevance (Thompson et al., 1991; Venkatesh & Davis, 2000), extrinsic/intrinsic motivations (Igbaria et al., 1995), curiosity (Agarwal & Karahanna, 2000; Fang, 2014; Lowry et al., 2012), hedonic-utilitarian values (Lowry et al., 2012; Van der Heijden, 2004; Turel, 2015; 2016)
7. Do you trust ChatGPT, and why? How do ChatGPT and similar technology align with your values and beliefs? Do you have any security, privacy, or ethical concerns about ChatGPT? Please discuss them, if any.	Security, privacy, ethical concerns, trust (Featherman & Pavlou, 2003; Gefen et al., 2003a; Vijayasarathy, 2004)

8. Have your family, friends, or colleagues adopted ChatGPT? Could you share a bit about their attitude toward ChatGPT? How does their attitude influence your use of ChatGPT?	Subjective norm (Davis et al., 1989; Karahanna et al., 1999; Taylor & Todd, 1995; Venkatesh & Davis, 2000)
9. Are you always an early adopter of new technology like ChatGPT? Would you recommend ChatGPT to others? Why?	N/A
10. Is your ChatGPT adoption influenced by any famous people in your domain (e.g., technology experts, opinion leaders, and organizational leaders)?	The bandwagon effect (Kim & Gambino, 2016; Wu & Lin, 2017), organizational factors (Neufeld et al., 2007; Sharma & Rai, 2003; 2015)

Appendix C. Illustrations of qualitative data coding

Theme	Category	Code	Sample Quote
Adoption of ChatGPT	Usefulness	Quick responses, references, & inspirations	"I think the obvious pro is that users would be able to quickly and seamlessly generate well-written paragraphs/essays, etc."
		Task expediency & convenience	"Yes, I would like to use ChatGPT for some of my tasks. I think it's a decent starting point for coding, writing emails, or preliminary brainstorming…."
		Benefits to business operations	"I can see different organizations looking into this technology. I think it can benefit companies and organizations in the long run."
		Useful functions and features	"Generative AI and other foundation models are changing the AI game, taking assistive technology to a new level, reducing application development time, and bringing powerful capabilities to nontechnical users."
	Ease of use	Convenience	"From what I can see, it can help with tasks, and it is convenient. However, using this AI can help you solve some problems and maybe make learning easier."
		Streamlining tedious tasks	"Yes, I am optimistic about ChatGPT and other similar technologies. They are used to assist humans to make the tedious work easy, not to replace humans."
		Interactive	"I'm open to trying; it seems very interactive."
		Simple to use	"I think it's very simple, and I have never had any trouble!"
	Prior experience	Prior experience in using ChatGPT	"Overall, I really enjoy my experience on it and will continue using it."
		Prior experience in using similar/related technology	"I had to create a chatbot during one of my previous classes in college. Yes, I have interacted with a virtual assistant before when using my banking app. I would say I use a virtual assistant two or three times a month. I'm sure I will continue to use them."
		Prior experience in developing similar/related software	"As a software engineer, though, I can see the allure of technologies like GitHub's Copilot and ChatGPT as it does add a higher level of efficiency."
	Economic factors	Freemium	"Of course, I would love to use ChatGPT because it's a smart and easy-to-use tool! At least right now, it's free."
		Cost reduction	"I prefer dealing with a person; however, I understand the future lies in AI. The cons that I imagine are related to job eliminations. The pros would be less expensive for businesses."
	Organizational factors	Industrial trends	"I am willing to try the new AI-powered chatbots. These are very useful, especially in finance, customer care, hotel, and the airline industry, although it should be regulated, also."
		Work requirements	"I used the platform, as it was a required platform for my formal workspace."
	Social influence	Technology tendency	"There is not much choice to use or not. That is our new world of communication."
		Influence of organizational leaders	"Yes, my use is influenced by organizational leaders."
		Influence of opinion leaders in a specific domain	"Yes, there are a few tech experts who have spoken in favor of it" (when asked if the respondent's ChatGPT usage is influenced by someone).

	Word of mouth	Word of mouth from family & friends	"I am fairly familiar with the concept of AI-powered chatbots. My wife has used the program much more than myself, but I would be willing to use the bots to make things easier to research. I heard about it via word-of-mouth from my wife, but she heard about it via social media."
		Word of mouth from colleagues	"I have heard of it through the grapevine in the ad industry but have never personally used it. I am open to using it!"
		e-word-of-mouth	"I am pretty much familiar with the concept of AI-powered chatbots… I think that I might use it in the future. I heard it from different digital platforms like Facebook, TikTok, and word-of-mouth as well."
	Curiosity	Enjoyment/fun	"I heard the ChatGPT from the news; when I need help, I will use that and play for fun."
		Personal curiosity	"Our friends like it, and hence I get to know about it and start trying it for my personal curiosity."
		Interested in trying new technologies	"This adoption is mostly related to personal curiosity about the new technology and content from it."
	Techno-optimism	Evolution of AI	"I feel that it is just part of the continual evolution and development of AI technologies. There is nothing surprising here, and eventually, it will become more and more powerful and pass a Turing test."
		Division of human & AI labor	"People like them because they help them get through those tasks quickly so they can focus their attention on high-level, strategic, and engaging activities that require human capabilities that cannot be replicated by machines."
		Good faith in ChatGPT	"I would love to have faith in the AI system and be able to use it as a reliable tool."
	Technophilia	Love new and/or advanced technologies	"I would love to have faith in the AI system and be able to use it as a reliable tool."
Resistance to ChatGPT	Distrust	Algorithm transparency	"My concerns about ChatGPT are the quality of the information provided by ChatGPT, namely, accuracy, validity, and uniqueness given their algorithm is not transparent to the public so far."
		Distrust AI-related technologies	"The language that AI puts out is a reflection of who is developing the AI, and at this time, I do not trust the makers of such power."
		Information manipulation	"It can be useful, but also manipulative based on the person or organization using it."
	Social, legal & ethical concerns	Biased information	"The use of ChatGPT raises legal and ethical issues related to copyright, privacy, misuse, bias, and transparency. It is important for users to be aware of these issues and take steps to mitigate them."
		Unemployment	"ChatGPT and the like can threaten many middle-class jobs, and the government may not have adequate time and resources to help these people immediately when another round of unemployment risk hits."
		Plagiarism	"…it is a great thing to be able to read and learn about a new topic yourself, not just cheat and look up the subject on ChatGPT. People and or businesses are using the site to cheat and essentially plagiarize information."
	Security & privacy concerns	Inappropriate use for malicious hacking & phishing	"Its potential to be used for phishing and malware attacks."
		Privacy problems in the collection, storage, & use of personal information	"The use of ChatGPT in customer service can raise concerns about data privacy and the collection, storage, and use of personal information."
	Uselessness	Lacking information accuracy & credibility	"There are some pros, the information might not be 100% authentic or correct as it took from the internet or nonauthorized sources, so we have to use our own cognition to make the decision."
		Lacking emotion & originality	"The pro of ChatGPT is its ability to provide personalized customer service, but it lacks emotion and originality."
		Lacking customization	"Most people will use it for positive uses to help them with tasks or answer questions, but the con of this is responses become more static instead of unique to individuals."

		Incapable of answering many questions	"I have interacted with them before. For the most part, I find them useless and incapable of answering many questions."
		Lacking relevance (information limited to 2021 data)	"ChatGPT is currently bad at math, learning dataset only from 2021, occasionally gets things wrong."
	Difficulty of use	Misunderstanding requests	"It allows for people to get assistance immediately, but the con is sometimes they are not familiar with every situation, and certain conversations can only be understood by a human being."
	Substitutes	Alternative information-searching tools	"I feel like using Google and other informational sources helps me with answering questions already."
		Alternative/traditional learning methods	"I feel like I need to be coming up with my own answers and learning the traditional way."
	Overly dependence	Obsoletion	"One con is that we may overly depend on ChatGPT to do the work for us, and we may soon become obsolete in some job areas."
		Overly reliance	"My issue, however, is how "shiny" it is. People fall victim to the overall hype and become too reliant and have unrealistic expectations, which could cause issues."
		Hampering individuals' ability to learn & create	"We gain a lot of knowledge through the act of practicing, and ChatGPT would be a handicap if overutilized."
		Enticing laziness	"We are slowly but surely steering away from learning how to think and act for ourselves. I will not allow myself to access the website and enter the entire portal of laziness that it entails."
	Governmental influence	Restrictions on ChatGPT	"A few days ago, I saw a news in social media that Italy banned the use of ChatGPT."
	Organizational factors	Extra company's expenditure in ChatGPT security	"People will take advantage of the system, which will cause additional resources that will need to be monitored by security teams."
	Technophobia	Threat to human	"I think ChatGPT and other high-order AI are extremely dangerous and should be regulated by a legitimate word body. This kind of advanced AI must be used only for specific things with low risk and high reward, or humans will no longer be needed."
	Habit	Threat to future jobs	"I am afraid it will eat our future jobs. The person will be mentally dumb, but business will be sharp since every solution we will find it easily."
		Fear of futuristic technology	"I would not use Chat GPT in the future. This type of futuristic technology scares me and makes me anxious for the future of humans and our world."
		Indifferent attitude toward AI-related technology	"I am indifferent toward such technologies. I likely would not use them to assist or answer questions. I don't see many pros of ChatGPT, and the cons are just unoriginality of people copying and pasting results."
		Preference to communicate with humans	"I don't use them often as I prefer speaking to a live person whenever possible."
		Preference to search for information & learn by himself/herself	"I feel like I need to be coming up with my own answers and learning the traditional way."
Other themes	Ambivalence	Perceived the development state of ChatGPT as infancy	"I view ChatGPT and similar technology as revolutionary but young in its life."
		Mixed emotions	"I have mixed emotions toward the adoption of chatbots or virtual assistants."
		"Wait and see" attitude	"I'm a middle-of-the-road adopter. I like to wait a while to see if something will be worth my time and if it will be afar or fade. If it does stay around and prove to be helpful, I would recommend it."