

How are Brazilian user experience (UX) designers using artificial intelligence (AI) tools?

Como os designers brasileiros de experiência do usuário (UX) estão usando ferramentas de inteligência artificial (IA)?

¿Cómo los diseñadores brasileños de experiencia de usuario (UX) utilizan herramientas de inteligencia artificial (IA)?

Lia Milech Seus, Fabiano de Vargas Scherer

UX design; artificial intelligence; design process

This study explores the adoption of AI-supported tools by UX practitioners in Brazil, aiming to understand which tools are being used, how they are integrated into the design process, and the challenges of the use of the tools. A qualitative research method was employed, using a survey distributed to 28 UX professionals. The results indicate that while AI tools are commonly adopted for tasks such as textual content revision and data analysis, there are still significant concerns related to reliability, biases, and lack of knowledge on how to use the tools. The study concludes that AI can improve efficiency and results in UX design, but its integration demands a careful approach to mitigate errors and biases.

UX design, inteligência artificial, processo de design

Este estudo explora a adoção de ferramentas suportadas por IA por profissionais de UX no Brasil, visando entender quais ferramentas estão sendo usadas, como elas são integradas ao processo de design e os desafios do uso das ferramentas. Um método de pesquisa qualitativa foi empregado, usando uma pesquisa distribuída a 28 profissionais de UX. Os resultados indicam que, embora as ferramentas de IA sejam comumente adotadas para tarefas como revisão de conteúdo textual e análise de dados, ainda há preocupações significativas relacionadas à confiabilidade, vieses e falta de conhecimento sobre como usar as ferramentas. O estudo conclui que a IA pode melhorar a eficiência e os resultados no design de UX, mas sua integração exige uma abordagem cuidadosa para mitigar erros e vieses.

UX design, inteligencia artificial, proceso de diseño

Este estudio explora la adopción de herramientas basadas en IA por parte de profesionales de UX en Brasil, con el objetivo de comprender qué herramientas se están utilizando, cómo se integran en el proceso de diseño y los desafíos del uso de las herramientas. Se empleó un método de investigación cualitativo, mediante una encuesta distribuida a 28 profesionales de UX. Los resultados indican que, si bien las herramientas de IA se adoptan comúnmente para tareas como la revisión de contenido textual y el análisis de datos, aún existen preocupaciones significativas relacionadas con la confiabilidad, los

sesgos y la falta de conocimiento sobre cómo usar las herramientas. El estudio concluye que la IA puede mejorar la eficiencia y los resultados en el diseño de UX, pero su integración exige un enfoque cuidadoso para mitigar errores y sesgos.

1 Introduction

Artificial intelligence (AI) supported tools are being integrated into the work process to improve efficiency. In this rapidly changing scenario, designers also started using AI to assist the design process, reshaping how they approach their work. As technology continues to advance, AI tools have become important in enhancing creativity, efficiency, and precision in design tasks. These tools are mostly used on repetitive and taxing tasks, such as analyzing large datasets and creating low-fidelity prototypes (Stige, Zamani, Mikalef, & Zhu, 2023).

Although AI as a discipline has existed since 1956 (Haenlein & Kaplan, 2019), it was the introduction of the transformer model on 2017's "Attention is All You Need" paper that made generative AI as we know it today possible (Vaswani, et al., 2017; Child, Gray, Radford, & Surskever, 2019; Zhao, et al., 2023). A highlight in this evolution is ChatGPT¹, an AI chatbot launched by OpenAI that popularized AI tools for the public.

As AI continues to evolve, the range of tools available to designers is expanding, offering new functionalities that were previously unimaginable. From chatbot tools, such as ChatGPT, to tools that create full layouts, such as Uizard², designers have available a vast range of AI tools that support every part of the design process.

However, the adoption of AI in UX design is not without its challenges. As designers grow more reliant on AI tools, ethical considerations and concerns about perpetuating existing biases have surfaced (Kneareem, Khwaja, Gao, Bentkey, & Kliman-Silver, 2023). Even though there are studies being conducted on the use of AI-supported tools in the design process (Kneareem, Khwaja, Gao, Bentkey, & Kliman-Silver, 2023; Liu, Zhang, & Budiu, 2023; Takaffoli, Li, & Mäkelä, 2024), there remains a gap in understanding which tools are being used, how they are being used, and in which stages of the design process they are most impactful.

Takaffoli, Li, and Mäkelä (2024) explored how UX professionals integrate generative AI tools into their work practices. The main finding of this research was that the industry is still immature in the use of generative AI tools in the design process. Companies leave the use of generative AI tools to individual discretion, and UX professionals only use these tools in simple tasks such as reviewing and writing texts, expressing a need for more training in order to use the tools more effectively.

Kneareem, Khwaja, Gao, Bentkey, & Kliman-Silver (2023), from Google, conducted a study that explores the integration of artificial intelligence (AI) in the design process by UX professionals. Through a survey of 51 UX professionals, the research highlights a generally positive attitude towards AI-driven features, particularly for creativity support and mundane task

¹ ChatGPT. <https://chatgpt.com/>

² Uizard. <https://uizard.io/>

automation. However, concerns about bias and trust in AI outputs were significant. The study suggests that AI can serve as a creative partner and an assistant for repetitive tasks but emphasizes the need to address UX professionals' concerns to ensure effective adoption.

Lu, Yang, Zhao, Zhang, & Li (2024) conducted a literature review to examine how AI-supported tools are integrated into the UX design process and how they meet the needs of UX practitioners. They analyzed 359 papers and categorized their findings using the Double Diamond framework, demonstrating how AI tools assist UX professionals across different design phases. The study revealed that most of the research focuses on the Discover and Define phases, particularly in generating and refining textual content for prototypes and presentations, as well as creating visual assets. The research also highlights a misalignment between AI's data-driven approach and the human-centered goals of UX, particularly in empathy-building and understanding user flows. Despite this, AI shows promise in supporting repetitive and creative tasks, but challenges such as reliability, prompt engineering, and the balance between human creativity and AI assistance are significant. The paper suggests the need for more designer-centric AI tools and datasets, emphasizing the need for interdisciplinary collaboration to better support UX professionals in areas like empathy-building, qualitative analysis, and holistic user experience design.

To address these issues, we conducted a survey with Brazilian professionals in the UX design field, investigating the AI tools they use, the ways in which they incorporate these tools into their design processes, and the challenges they face when using AI-supported tools.

2 Methods

The aim of this study is to gain a deeper understanding of the perception of the use of AI-supported tools by Brazilian UX design professionals. This goal comes from the lack of previous similar studies (Flick, 2018). With that goal in mind, the following research questions were developed:

RQ1: What AI-supported tools are UX professionals using and how are they using these tools to aid their design process?

RQ2: What are the biggest concerns related to the use of AI tools?

Research design

This research employs a qualitative approach, gathering data through a questionnaire survey of Brazilian designers working in UX-related fields. A Google Forms survey was used to collect data from participants. The survey consisted of four sections: demographics, AI usage, AI in the design process, and reasons for not using AI tools. Each participant only responded to three of these sections, as the survey branched after the second section depending on the participant's response. There were 14 questions in total: 5 in the first section, 1 in the second, 6 in the third, and 2 in the fourth.

The first section focused on understanding the respondents' profiles, with questions about age, location, professional experience, and current role. The questions about age and location were presented as open-ended to accommodate a wide range of responses. The questions about role, tenure, and company size were presented as close-ended to simplify the response process, with answer options based on standards used in relevant research (Kneare, Khwaja, Gao, Bentkey, & Kliman-Silver, 2023; Liu, Zhang, & Budiu, 2023).

The second section featured a straightforward yes-or-no question asking whether respondents used AI in their design process. This question also served as a filter for respondents who worked in the design field.

The third section explored the specifics of AI usage in the design process, which presented both close-ended and open-ended questions. Initially, the participants were presented with two close-ended questions, one where they were asked to identify which part of the Double Diamonds process AI tools are most commonly used in, and the second questioned the frequency of their usage on a 4-point Likert scale. Following this, Participants were presented with 3 open-ended questions, designed to avoid bias and allow the participants to provide more detail on their experience. The first open-ended question asked about the tools they use and the purposes for which they use them. To confirm the previous questions, participants were asked about the last time they used an AI-supported tool. To finish the survey, they were asked about the main challenges of the use of AI-supported tools.

The fourth section was designed for participants who had answered negatively when questioned about using AI tools. The participants were asked to explain their reasons for not using the tools through a close-ended question, with answers derived from findings in other relevant research (Kneare, Khwaja, Gao, Bentkey, & Kliman-Silver, 2023; Liu, Zhang, & Budiu, 2023) and an open field so participants could mention reasons not identified previously. Additionally, there was an open-ended question that allowed participants to provide more information on why they did not use AI tools.

Research distribution

The target population for this survey included Brazilian UX professionals, and as such, it was presented in Portuguese. To reach this audience, the survey was distributed via a LinkedIn post and posts in WhatsApp groups aimed at UX designers. The form was open to answers for a period of ten days in August 2024. A total of 28 UX professionals responded to the survey.

Data analysis

The open-ended questions were analyzed using the constant comparative method, which involves continuously comparing the data to identify patterns and similarities (Glaser & Strauss, 1967). After analyzing the data through the constant comparative method, we used ChatGPT as an analysis assistant to help find any patterns that might have been overlooked. This was done by inputting data into the tool and asking it to summarize and identify patterns. All the data presented by ChatGPT was reviewed to check for its accuracy. These methods were combined

to obtain the results, with ChatGPT results serving as a general guide rather than the main source of analysis (Christou, 2023; Chubb, Cowling, & Reed, 2022; Hamilton, Elliot, Quick, Smith, & Choplin, 2023). For the close-ended questions, we observed the percentage and number of respondents. Answers from individuals not working in UX-related roles were discarded.

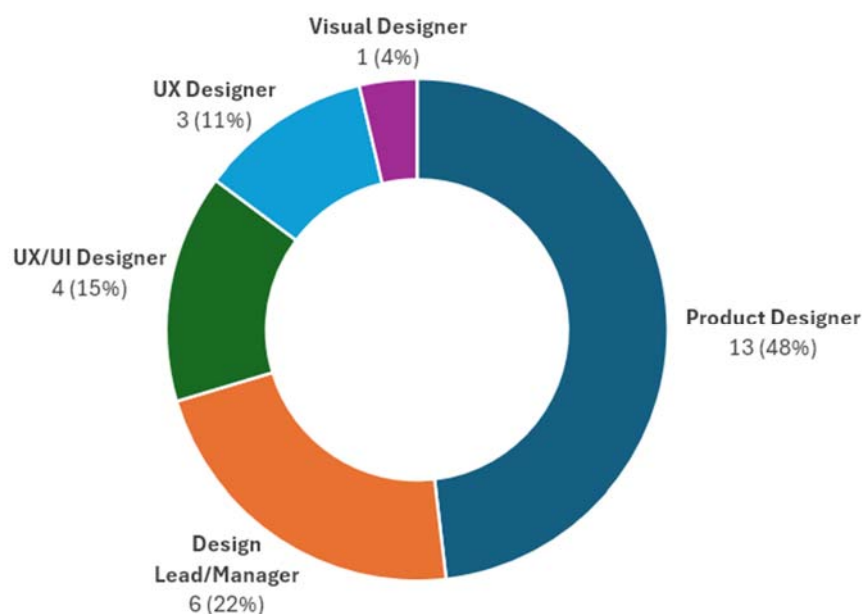
3 Results

This section presents the results of the survey, which will be separated in 3 parts. The first part will cover the results of the demographic questions, while the second and third parts will be related to the research questions established in the Methods section. The second part will discuss the use of AI tools in the design process, which covers the questions about frequency, the phase in which the tools are used, how each tool is used, and the context of use. The last part will address the challenges in the use of AI-supported tools, which includes the answers from respondents who do not use AI-supported tools, as well as the answers to the question about the challenges of the use of these tools.

3.1 Demography

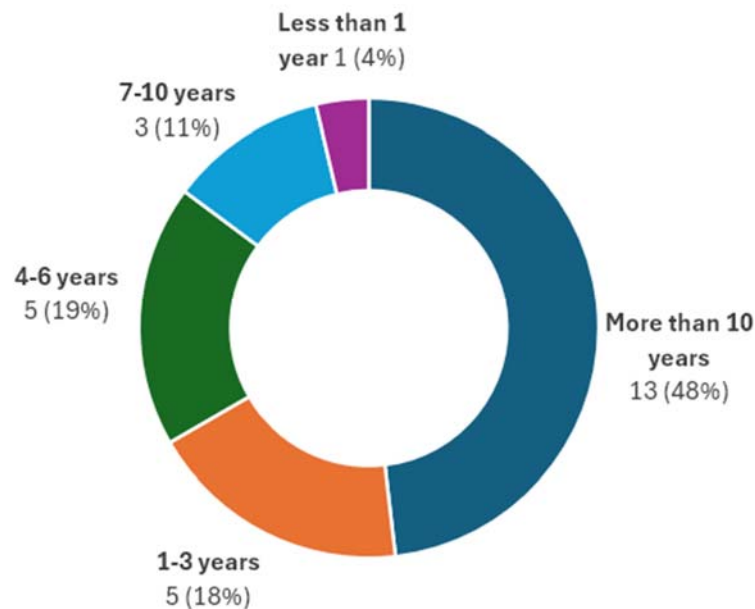
The participants' ages varied from 18 to 61, with the most participants being 29 (4). Respondents were located in 10 different cities across Brazil, with most located in Porto Alegre (8), São Paulo (5), and Pelotas (5). As shown in Figure 1, most respondents worked in product design roles (13) and leadership positions (6).

Figure 1: Percentage of the roles of respondents



Most respondents (13) had more than 10 years of experience. The number of respondents with 1-3 years and 4-6 years was the same (5).

Figure 2: Percentage of experience time of respondents



3.2 Use of AI-supported tools in the design process

Most UX practitioners use AI tools. 93% of the respondents answered that they use AI tools in their design process. According to the participants, AI tools are mostly used at the beginning of the Double Diamond framework, and their use decreases the further along the process the designer is; the phase in which the AI tools are mostly used is the Discover phase, which is shown in Figure 3. As for the frequency of use, most participants report using AI tools a few times per week (12) or every day (7), as shown in Figure 4.

Figure 3. Use of AI tools in each Double Diamond phase

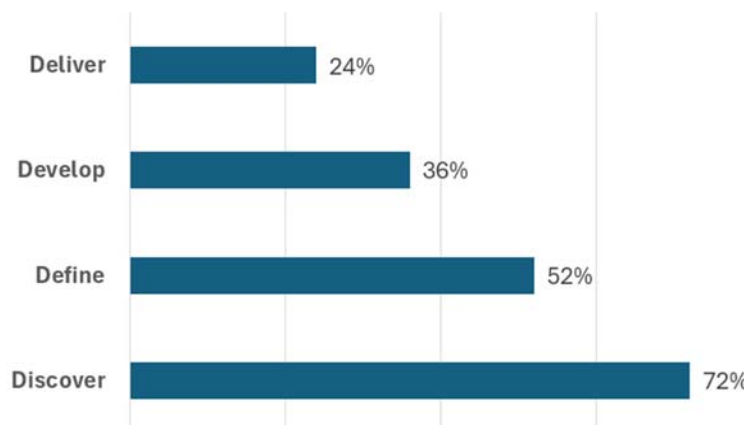
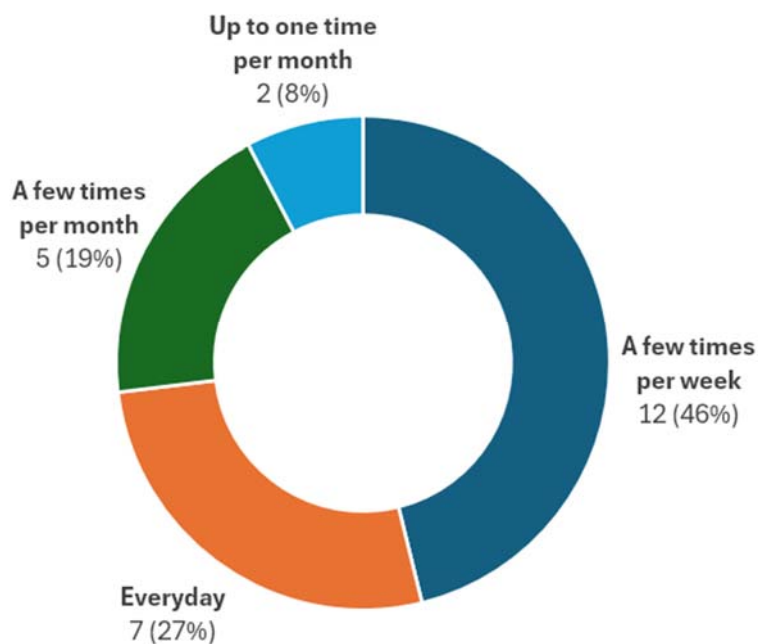


Figure 4. Frequency of use of AI tools



The most used tool is ChatGPT, with 23 out of 25 participants mentioning the tool. A few other highlights were Figma AI³ (6), Gemini⁴ (5), and image generator tools such as Midjourney⁵ (3) and Adobe Firefly⁶ (3).

During our analysis, we identified 5 key areas where the tools were mainly used: content creation and revision, data analysis and summarization, research assistance, ideation, and design assistance. We will now delve into each of these categories in detail.

Textual content creation and revision

Textual content creation and revision stand out as prominent areas where AI tools are used. ChatGPT is the most utilized tool for generating and refining textual content, being mentioned by all but two respondents. Google Gemini and Notion AI⁷ were also referenced as valuable tools in this process.

The content created and refined by these tools is applied in diverse contexts, including improving client presentations, drafting case studies for portfolios, developing content for prototypes, and enhancing interface usability by providing user-friendly text. One respondent illustrated how AI is employed: “I draft content initially and then use AI to enhance and perfect it.”

³ Figma is the AI feature of the Figma tool. <https://www.figma.com/figjam/ai/>

⁴ Gemini is Google's AI tool. <https://gemini.google.com/>

⁵ Midjourney is an AI-powered image generator. <https://www.midjourney.com/home>

⁶ Firefly is the AI model that powers Adobe's software's AI features. <https://www.adobe.com/products/firefly.html>

⁷ Notion AI is the AI feature inside Notion, a documentation tool. <https://www.notion.so/product/ai>

One highlight is the application of AI tools to generate texts for clients' websites in specialized fields, such as law and medicine—areas where designers may have limited expertise. Respondents noted that contextually accurate content improves the approval rate of designs. As one respondent shared: "The last time I used it was to generate textual content for a website for a medical clinic; the content was so accurate that after the website went live, the client kept some sections of the content generated by the tool."

Data analysis and summarization

Data analysis is another area AI tools are actively used. ChatGPT is frequently used to process text-based content and help identify patterns. One respondent described using AI to analyze interviews: "I upload all the interviews to the platform and ask it to analyze the positive and negative points that each interviewee mentioned. I usually repeat the process twice to ensure everything aligns with the captured material."

In addition to ChatGPT, tools like Figjam AI, Miro Assist⁸, and Julius⁹ are utilized for data analysis, especially in the context of workshops. Figjam AI and Miro Assist help identify patterns from workshop activities from sets of sticky notes. One respondent noted: "Figma's AI tool helps me a lot in spotting patterns that I hadn't noticed. I like to use it with CSD matrices¹⁰ or any workshops where I've used sticky notes. It doesn't always work perfectly, but when it does, the results are usually quite interesting."

For larger datasets, Julius was mentioned as a useful tool, particularly for analyzing large datasets, such as CSAT surveys¹¹. A respondent shared: "I needed to analyze a CSAT with over 30,000 entries, and I'm trying to use Julius for that with the free version."

Another AI tool mentioned is tl;dv¹², an AI tool that records meetings and generates summaries of the topics discussed. One respondent emphasized its value: "tl;dv is a meeting recorder—it records and provides a summary of the main topics discussed, very useful for revisiting the design techniques applied and analyzing data."

Research Assistant

AI-supported tools are used as general research assistants, playing two key roles. The first one involves desk research using internet-connected tools, such as Copilot¹³ or Gemini. These tools assist in learning about unfamiliar topics, conducting competitor analyses (benchmarking), identifying key features, and analyzing industry trends. One participant shared: "I start my research by chatting with the AI when I don't know much about a topic or market, and then I

⁸ Miro Assist is the AI feature of the online collaboration tool Miro. <https://miro.com/pt/ai/>

⁹ Julius is a NLP (programming language) tool used to analyze large data sets. <https://julius.ai/>

¹⁰ CSD matrix is an analysis tool that helps organize information about a project, categorizing it into certainties, assumptions and doubts.

¹¹ CSAT (Customer Satisfaction Score) is a survey to determine the customer satisfaction with a service or product.

¹² Tl;dv. <https://tldv.io/>

¹³ Copilot is Microsoft's AI tool. <https://copilot.microsoft.com/>

dive deeper, verifying everything it has told me.” Another participant also detailed the use for benchmarking: “I do initial market research. I ask about the competitors and the features they offer.”

The second role refers to using AI to support user research. UX practitioners rely on AI tools to help prepare for user interviews, by generating and reviewing interview questions and analyzing research data (as discussed in the previous section). AI is also used to create usability testing scenarios and draft questions for user tests.

Ideation

Respondents report using AI-supported tools as partners in the ideation process. These tools are employed for brainstorming, suggesting improvements in the creative process, generating visual inspiration, and creating roadmaps. For instance, ChatGPT is used as a brainstorming partner to explore new concepts and discover new approaches to solving problems. Similarly, respondents report inputting data from workshops into ChatGPT, which is then tasked with generating insights based on that information.

Visual AI tools are also used in the ideation process. Respondents mention providing simple prompts about what they are designing, and the AI generates various versions of the interface based on that prompt. These outputs are later used as inspiration for the final interface design. One participant stated: “I used ChatGPT to generate the structure idea for a website, and it helped me unlock ideas for creating the layout.”

Some UX practitioners engage in an iterative dialogue with AI, where they present an idea and then refine it based on the AI's suggestions. This interaction helps in developing ideas further, as the AI can prompt the designer to think about aspects they might not have considered initially, such as potential challenges, alternative approaches, or additional features.

Design Assistant

In the design process, AI tools assist with various methods and tasks. One of the most mentioned uses of AI in this context is the creation of visual assets both for interfaces and presentations. Respondents emphasize the importance of these tools in improving the presentation of designs to clients, as they lend credibility to the interface.

AI tools are also used to create proto-personas and personas. ChatGPT and QoQo.ai¹⁴ help generate personas by analyzing input related to the problem, product, and user.

Additionally, AI tools help create sitemaps, define best practices for components in design systems, generate user stories, and even conduct usability evaluations by analyzing images of the interface.

¹⁴ QoQo.ai is Figma plugin with several different uses such as proto-personas creation, journey mapping, and affinity mapping. <https://qoqo.ai/>

3.3 Challenges in the use of AI-supported tools

This section examines the challenges that UX practitioners face when using AI tools. It is divided into two parts: the first part discusses the responses from those who answered negatively when asked if they used AI tools, and the second part addresses the responses regarding the challenges of using AI tools by participants that use AI tools.

People who do not use AI tools

Two respondents answered negatively to the question about using AI tools in the design process. One cited a lack of familiarity with the tools but expressed interest in learning more due to the potential they see in AI. The other raised ethical concerns, viewing AI-generated content as a form of plagiarism, suggesting that the tools "steal" the work of artists.

People who use AI tools

While analyzing this section of the questionnaire, we have identified three categories in which the challenges can be grouped. These categories are reliability and accuracy, prompt engineering and user understanding, and human-AI collaboration and ethical concerns. We will now explore each of these categories in detail.

Reliability and accuracy

The challenge that was mentioned the most is the reliability and accuracy of AI-generated content. Respondents report difficulty trusting the outputs of generative AI, as it often produces "hallucinations", which is the generation of unfaithful or nonsensical text (Ji, et al., 2023). This requires them to closely review AI outputs to ensure alignment with factual data and project goals. As one respondent put it: "Although it greatly simplifies day-to-day tasks and helps manage information overload, every detail must be reviewed because it often includes 'hallucinations' in the results. For this reason, I believe reliability is the biggest challenge today."

Another participant expressed the same concern, emphasizing the importance of conducting a critical review.: "We must understand that it won't always provide facts. It's always necessary to review before passing its results along."

The lack of accuracy extends beyond text-based content. Respondents mention dissatisfaction with AI-generated visual assets, explaining that while AI can assist in conceptualizing, it falls short in final visual execution. As one participant noted: "AI is still very rudimentary when it comes to creating images, illustrations, and icons. It's useful for generating concepts, but the rest has to be done manually."

In addition to concerns around accuracy, some respondents expressed hesitation about the security of the data they input into AI tools. There were also comments about AI's limited ability to grasp context accurately: "Context interpretation: it still struggles to capture nuanced contextual details or fully comprehend the scope."

Prompt engineering and user understanding

Another challenging aspect of AI tools lies in crafting precise prompts. Respondents note how difficult it can be to frame the prompts in a way that the AI can interpret effectively. This often leads to suboptimal outputs or requires multiple iterations to achieve a satisfactory result. As one respondent shared. One respondent mentions using ChatGPT to improve their prompts: “The biggest challenge is creating the best prompt, sometimes I even use ChatGPT to review the prompt.”

This issue is further aggravated by a knowledge gap regarding what AI tools can and cannot do. One respondent mentioned being overwhelmed by the number of tools available and feeling uncertain about their specific capabilities, leading to inefficient use.

Human-AI collaboration and ethical concerns

Respondents highlighted the importance of balancing their own design expertise with AI outputs. While AI tools can accelerate processes and provide inspiration, they are not replacements for human judgment. Professionals need to integrate AI thoughtfully, using it as a tool to support their creative process without becoming overly reliant on its outputs. One respondent highlights the importance of human-AI balance: “Finding the balance between what AI offers us and our background is crucial for the development of products.” Another user mentions not using AI as a solution but as a tool in the design process.

4 Discussion

Prior academic research has primarily concentrated on tools for the latter two phases of the Double Diamond—Develop and Deliver (Lu, Yang, Zhao, Zhang, & Li, 2024). This study demonstrates that in practice, in the perception of the UX practitioners, the use is mostly in the initial phases—Discover and Define.

However, even though respondents initially indicated using AI-supported tools at the beginning of the design process, the results revealed substantial use throughout the design process. While AI tools are used for ideation and research, they also play an important role in refining design outputs, whether through generating textual content for prototypes or creating visual assets to be presented to stakeholders, as indicated by the most cited use, which is creating and reviewing text for prototypes and project presentations.

Based on this analysis, we can infer that AI-supported tools are more versatile than UX practitioners believe them to be. While UX practitioners may initially associate AI with early-stage phases and tasks, such as research and ideation, the data shows significant use in processes of refining and communicating the final design results. One notable point is that AI tools are used as a supplement to the primary design process, serving as a guide and an additional source of information rather than the primary tool.

The findings of this research are consistent with previous studies (Kneareem, Khwaja, Gao, Bentkey, & Kliman-Silver, 2023; Liu, Zhang, & Budiu, 2023), with the challenges presented indicating the need for further development of AI tools tailored specifically to the needs of UX practitioners, focusing on improving the user experience of prompt development, and ensuring that AI tools complement human creativity rather than supplant it. Furthermore, there is a clear need for increased training and education for UX practitioners to improve their proficiency in using these tools effectively.

In conclusion, this study reveals that AI tools are more versatile than many designers initially believe, offering significant value not only in the early stages of the design process but also in refining and presenting final design outcomes. Additionally, the challenges highlighted emphasize the need for better tools, education, and trust-building measures to fully integrate AI into the UX design process across the Double Diamond framework.

5 Conclusion

In this study, we investigated the use of AI-supported tools in the UX design process among Brazilian UX professionals, focusing on the adoption of these tools across different stages of the Double Diamond framework. We explored how AI tools are used by UX practitioners, the challenges they face, and the role AI plays in different aspects of the design process.

The results showed that while AI tools are reportedly most used in the early stages of the design process, their use extends across the entire Double Diamond framework, offering value in content creation and design refinement of design results. Moreover, respondents frequently highlighted challenges such as reliability, accuracy, and lack of knowledge, indicating a need for further improvements in AI tools tailored to UX professionals.

Limitations and Recommendations

We encourage future research to expand on these findings by reaching a broader sample, as the sample size was 28 respondents, which limits the generalizability of the findings. Future research could focus on addressing the knowledge gaps and tool functionality. Furthermore, we recommend that companies offer more structured training on AI tools to help UX professionals maximize their benefits while mitigating the issues associated with AI-generated content.

This study also provides a foundation for UX researchers to explore AI's role in further improving the design process. By expanding on the framework used here, future studies can investigate how AI tools can enhance not only simple tasks but also more complex ones, such as prototyping, visual design, and usability testing. Expanding this research will help refine AI tools and policies, ensuring they complement human creativity without supplanting it.

References

Child, R., Gray, S., Radford, A., & Surskever, I. (2019). Generating long sequences with sparse

transformers. arXiv preprint arXiv:1904.10509.

Christou, P. A. (2023). How to use artificial intelligence (AI) as a resource, methodological and analysis tool in qualitative research? *Qualitative Report*, 28(7).

Chubb, J., Cowling, P., & Reed, D. (2022). Speeding up to keep up: exploring the use of AI in the research process. *AI & SOCIETY*, 37(4), pp. 1439-1457.

Design Council. (n.d.). The Double Diamond. Retrieved 08 25, 2024, from <https://www.designcouncil.org.uk/our-resources/the-double-diamond/>

Flick, U. (2018). *Doing grounded theory*. SAGE Publications Ltd.

Glaser, B., & Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research* (Vol. Reprint). Chicago: Aldine.

Haenlein, M., & Kaplan, A. (2019). A Brief History of Artificial Intelligence: On the Past, Present, and Future of Artificial Intelligence. *California Management Review*, 61, pp. 5-15.

Hamilton, L., Elliot, D., Quick, A., Smith, S., & Choplin, V. (2023). Exploring the Use of AI in Qualitative Analysis: A Comparative Study of Guaranteed Income Data. *International Journal of Qualitative Methods*, 22.

Kneare, T., Khwaja, M., Gao, Y., Bentkey, F., & Kliman-Silver, C. (2023). Exploring the future of design tooling: The role of artificial intelligence in tools for user experience professionals., (pp. 1-6).

Liu, F., Zhang, M., & Budiu, R. (2023, 10). AI as a UX Assistant. Retrieved 08 2024, from Nielsen Norman Group: <https://www.nngroup.com/articles/ai-roles-ux/>

Lu, Y., Yang, Y., Zhao, Q., Zhang, C., & Li, T. J.-J. (2024). AI Assistance for UX: A Literature Review Through Human-Centered AI. arXiv preprint arXiv:2402.06089.

Stige, A., Zamani, E., Mikalef, P., & Zhu, Y. (2023). Artificial intelligence (AI) for user experience (UX) design: a systematic literature review and future research agenda. *Information Technology and People*.

Takaffoli, M., Li, S., & Mäkelä, V. (2024). Generative AI in User Experience Design and Research: How Do UX Practitioners, Teams, and Companies Use GenAI in Industry? *Proceedings of the 2024 ACM Designing Interactive Systems Conference*, (pp. 1579-1593).

Vaswani, A., Shazeer, N., Parmar, N., Uszkoreit, J., Jones, L., Gomez, A., . . . Polosukhin, I. (2017). Attention is all you need. arXiv preprint arXiv:1706.03762.

Zhao, W., Zhou, K., Li, J., Tang, T., Wang, X., Hou, Y., . . . Dong, Z. (2023). A Survey of Large Language Models. arXiv preprint arXiv:2303.18223.

Sobre o(a/s) autor(a/es)

Lia Milech Seus, UFRGS, Brasil <lia.seus@gmail.com>

Fabiano de Vargas Scherer, Dr, UFRGS, Brasil <fabiano.scherer@ufrgs.br>