

# Artificial Intelligence and Creativity in UI/UX Design: A Review of Emerging Research

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**Abstract** - The increasing adoption of Artificial Intelligence (AI) tools in UI/UX design has significantly transformed the design process, particularly in ideation, templates creation, prototyping and interface designing to development stage. AI tools also support visual creation, layout structuring, automation of repetitive tasks, and generation of multiple design variations within a short time. The long-term use of AI tools for design consideration on creativity, divergent thinking and originality remains insufficiently explored. This paper presents the literature review of examining the relationship between AI tools and creativity practice in UI UX design and how the use of AI tools affects the designers' skills. The reviews discuss studies related to generative AI, human AI collaboration, cognitive load on designers' skills, and creativity support systems. Findings from existing studies show that AI tools improve efficiency and provide multiple ideas, but at the same time concern remains regarding creativity, originality, and similar design outcomes. Studies also indicate that excessive reliance on AI tools may gradually weaken designers' creative skills and independent design approaches. Based on the literature review, it highlights the importance of human and AI collaboration, but the future research focuses on creativity, cognitive engagement, and design practices in AI assisted environment. The findings further emphasize that AI should function as a supportive tool rather than a replacement for human creativity in UI/UX design practices.

**Keywords** - AI in UI/UX, Generative AI, Divergent Thinking, Design Creativity, AI Dependency

## 1. Introduction

Artificial intelligence is now quietly shaping how designers solve problems and think creatively. Instead of working alone, many rely on smart systems to explore new thoughts, explore different layouts, or test rough versions of interfaces—all within real design flows. As this 2024. Now it's common to see AI use right into how designs take shape, changing old methods the way designers use to process to achieve solutions. Instead of working apart, humans or we can say designers find themselves tied closely with machine partners at every turn and in every process, for example - early ideas through to finished details. Research done in UX design practice clearly shows that AI can potentially act as a design material, but designers remain the main responsible for ensuring the usability, meaning and user centered outcomes (Dove et al., 2017). Along with this recent research states that AI works better as collaborator rather than an independent creator where creativity relies on the input provided to the AI-created products through designer collaboration (Bansal et al., 2021).

While designing user interfaces and experiences thinking differently matters - coming up with many options helps choose what works best and comparison between designing to finding

out which and why concept. People who do this job often turn to artificial intelligence tools that suggest new versions or patterns, which fits how minds expand during idea creation (Shi et al., 2023; Li et al., 2024). Just having more choices on the table never leads straight to truer invention or lasting impact (Song et al., 2025; Hassan, 2025; Gonçalves & Oliveira, 2023). Generative AI is seeing to enhance the individual idea generation, but simultaneously it reduces the diversity across the outputs it gives, leading to more homogenized design solutions. (Doshi & Hauser, 2024)

Study finds out long-term creative growth brings up mixed views in studies. Though AI helps explore ideas faster, but leaning too much might slowly but gradually decrease personal thinking plus slow learning over (Li et al., 2024; Shukla et al., 2025). Research on AI – driven UX design focus points highlight that AI is enhancing the efficiency and ideation in design workflows, but still, it lacks in contextual understanding and specially in empathy, which leads to reinforcing the need for human – centered decision making (Kannedari, 2025). As productivity is significantly improved by generative AI but its impact on influencing the deep creative quality remains uncertain, which indicates the gap between efficiency and originality (Noy & Zhang, 2023)

If we look at past studies (Gonçalves & Oliveira, 2023; Shi et al., 2023) they dig into how artificial intelligence shapes creativity, uniqueness, and outside-the-box ideas in user interface and experience design. Pulling real-world evidence and thorough assessments on people working with smart systems, it uncovers what aligns - and where confusion lives - in today's research. What emerges helps shape how teachers teach, teams design, and companies adopt AI tools where work happens.

## 2. Literature Review

After examining the existing papers on the selected research topic, it becomes clear that AI in UI/UX design is being analysed through multiple point of views, including productivity, collaboration within design, creativity, and long-term professional including personnel development (Chaudhry, 2024; Gonçalves & Oliveira, 2023). The core component of creativity is known by name "Divergent Thinking" which holds the ability to generate multiple, flexible, and original ideas in response to a problem (Runco & Acar, 2012) AI is no longer described only as an automation system for technology instead, it is ever more sited as a contributor within creative workflows and decision-making processes (Shi et al., 2023; Gonçalves & Oliveira, 2023). Studies done on collaboration of humans with AI through UI/UX design process, highlights the importance of balancing the efficiency done by human design mindsets to maintain the creativity and user – centered design outcomes

(Okunola et al., 2025). After synthesising these discussions, it seems like. that the focus of research has gradually shifted toward the understanding of “how AI interacts with designers rather than “how it improves efficiency among design or designers”. Research done on conversational AI system indicates that the design of AI driven conversations, communication patterns, trust and user interaction with the interfaces play very important role in developing successful and user centric designs (Zheng et al., 2022). Specifically, the articles selected for analysis consist of surveys, experimental research, systematic review articles, and conceptual critique papers (Song et al., 2025; Shukla et al., 2025). Some authors like to do research on which they focus more on the increase in performance that can be provided by the technology, while others prefer to analyse the deeper aspects like originality and the ability of independent thinkers who apply the discussed technologies in design or ideation processes (Gonçalves & Oliveira, 2023; Shukla et al., 2025). It is necessary to consider the issue from a theoretical perspective to understand how creativity and divergent thinking occur in this area, before considering the role of AI assistance in design processes. “Divergent thinking” term is being defined as the ability of individuals to produce many different ideas when dealing with any design problems (Hassan, 2025). Originality in design, fluency, flexibility, and elaboration belongs to divergent thinking. Divergent thinking plays a crucial role in the UI/UX design process because its application in ideation allows finding different approaches to problem-solving. As for creativity in the context of UI/UX design, it can be measured both in terms of producing many ideas and in terms of relevance, which means that some uniqueness and innovation is required from each design

But if we talk about this that creativity tools in design are intended to expand the idea exploration, but they do not inherently improve originality until and unless the designers intentionally engage with the output and re-interpret generated output (Frich et al., 2019)

Table1: Comparison Table

| Reference                 | Objective                                                                                                                                                                                        | Advantages                                                                                                                                                                           | Limitations                                                                                                                                                              |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Zang, D., & Li, M. (2025) | The main objective of this study is to understand how the use of AI influences employee creativity. It focuses on whether AI improves creativity by increasing job autonomy and faster feedback, | AI automates routine tasks, helping employees save time.<br><br>Faster feedback allows employees to improve their work quickly.<br><br>Increased autonomy helps employees focus more | The study focuses on general employees, not specifically designers.<br><br>Divergent thinking and originality are not discussed in detail.<br><br>Creativity is measured |

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|                                                                                              | and how technology overload can weaken these effects.                                                                                                                 | on creative tasks.<br><br>The study uses data from over 300 participants, making it reliable.                                                                                | more in terms of productivity.                                                                                                                                                                                                                                                                                                     |
| Shukla, P., Bui, P., Levy, S. S., Kowalski, M., Baigelenov, A., & Parsons, P. (2025, April). | This paper aims to study how AI-assisted design tools affect UX designers, especially in terms of de-skilling, over-dependence, and shifting design responsibilities. | Clearly explains how AI reduces repetitive design work.<br><br>Highlights real concerns about over-reliance on AI tools.<br><br>Very relevant to modern UX design practices. | Based mainly on blogs and online discussions.<br><br>No real experiments or interviews were conducted.<br><br>Creativity and originality are not measured practically.<br><br>Interviews are also not included.<br><br>It focuses more on opinions and perceptions.<br><br>It does not measure creativity or originality properly. |
| Durgam, D., Anandhan, N., & Pathak, R. (2025).                                               | To analyse the usage of AI-based image generation technologies<br><br>To understand their impact on UI/UX design practices.                                           | AI creates flexibility and saves time for designers.<br><br>It gives faster results.<br><br>Tools like DALL·E and Stable Diffusion make designs                              | AI lacks emotional and cultural understanding.<br><br>Outputs can sometimes feel generic.<br><br>Risk of biased and unethical                                                                                                                                                                                                      |

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|                          |                                                                                                                                                                                                                                                                                     | <p>more personalised.</p> <p>These tools make designs more sophisticated .</p> <p>AI tools help designers create mock-ups quickly.</p> <p>Multiple design variations can be explored easily.</p> <p>Reduces workload and saves time for designers.</p>                                             | <p>design outcomes.</p> <p>It can also lead to unethical design practices.</p> <p>Over-dependency on AI tools can reduce creativity levels.</p> <p>Creativity in designers may decrease over time.</p> |
| Hassan, M. A. E. (2025). | <p>To study how artificial intelligence is influencing design and creative practices.</p> <p>To understand the role of AI tools in visual communication and digital design.</p> <p>To analyse both the positive and negative effects of AI on designers and the design process.</p> | <p>AI helps designers work faster and save time.</p> <p>It supports the creation of visual content and design ideas.</p> <p>Supports idea generation and visual communication.</p> <p>Helps students explore design concepts faster.</p> <p>Encourages experimentation in early design stages.</p> | <p>Overuse may reduce independent thinking.</p> <p>Designs may become repetitive.</p> <p>Focuses more on education than professional practice.</p>                                                     |

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| Choudhury, N. (2023).                                                      | <p>To understand how generative AI is being used in UX design and how it affects designer productivity and workflow.</p>                                                                                                                                                       | <p>Speeds up repetitive UX tasks.</p> <p>Helps in early-stage design exploration.</p> <p>Improves overall efficiency.</p> <p>AI tools can suggest layouts, visuals, and content quickly.</p> <p>Designers can test more design options in less time.</p> <p>It improves overall productivity and efficiency in the design process.</p> | <p>AI lacks human emotions and context understanding.</p> <p>Design outputs may feel generic or repetitive.</p> <p>Overuse of AI can reduce creative thinking in designers.</p> <p>There are concerns about bias, data privacy, and ethical use.</p> <p>Designers still need to check and refine AI-generated results.</p> |
| Song, X., Xu, L., Peng, C., Pan, S., Adibi, A., Wang, X., & Lu, Z. (2025). | <p>To study how generative AI affects human creativity when people use it in serious games (activities meant to stimulate creative thinking).</p> <p>To see whether AI helps creativity but also causes mental stress at the same time.</p> <p>The study tries to find the</p> | <p>AI increased creative output and idea quantity.</p> <p>Useful for creativity stimulation activities.</p>                                                                                                                                                                                                                            | <p>Higher stress levels were observed.</p> <p>Overuse may affect mental well-being.</p> <p>Study is limited to serious games.</p>                                                                                                                                                                                          |

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|                                                                       | balance between creative benefits and psychological effects of AI.                                                                                                                                                                              |                                                                                                                                                            |                                                                                                                                                                                                                                                          |
| Gonçalves, M., & Oliveira, A. G. N. A. (2023).                        | <p>To study how artificial intelligence is being used in UX/UI design projects.</p> <p>To understand how AI affects the creative process of designers.</p> <p>To identify both the benefits and challenges of using AI tools in UX/UI work.</p> | <p>Provides direct insights from UX professionals.</p> <p>Shows AI as a support tool, not a replacement.</p>                                               | <p>Based on opinions rather than experiments.</p> <p>Long-term creativity impact is unclear.</p> <p>Ethical issues like data privacy and transparency are a major concern.</p> <p>Many designers have limited knowledge about how AI actually works.</p> |
| Li, J., Cao, H., Lin, L., Hou, Y., Zhu, R., & El Ali, A. (2024, May). | <p>The main aim of this paper is to understand how UX design professionals feel about Generative AI.</p> <p>To study how Gen - AI is currently used in UX work and</p>                                                                          | <p>Gen - AI helps designers save time by quickly generating ideas, content, and design drafts.</p> <p>It supports early-stage brainstorming and speeds</p> | <p>Many designers are worried about loss of creativity if they rely too much on AI.</p> <p>May reduce originality if overused.</p> <p>Lacks primary research data.</p>                                                                                   |

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|                                               | <p>how designers think it will affect their jobs.</p> <p>The paper also looks at benefits, concerns, and future impact of GenAI on UX design practice.</p>                                                                                                                                                                                                                                     | <p>up repetitive tasks.</p> <p>Improves efficiency and personalization.</p> <p>Supports creative workflows.</p>                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                          |
| Shi, Y., Gao, T., Jiao, X., & Cao, N. (2023). | <p>To understand how designers and AI work together during the design process</p> <p>To study the role of AI in supporting creativity, decision-making, and problem-solving</p> <p>To identify common trends in research related to AI-assisted design</p> <p>To understand how designers also help improve AI systems</p> <p>To guide future research on human-AI collaboration in design</p> | <p>GenAI helps designers save time by quickly generating ideas, content, and design drafts.</p> <p>It supports early-stage brainstorming and speeds up repetitive tasks.</p> <p>Improves efficiency and personalization.</p> <p>Supports creative workflows.</p> | <p>AI systems are many times hard to understand and work with</p> <p>Designers may become too dependent on AI tools</p> <p>Design outputs may start to look similar or less original</p> <p>AI requires high-quality data, which is not always available</p> <p>Limited discussion on divergent thinking.</p> <p>Mostly theoretical.</p> |

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| Chaudhry, B. M. (2024, May). | <p>To Study how designers, interact and work with AI tools</p> <p>To explore the benefits and challenges of using AI in creative work</p> <p>To understand the future role of designers when working with AI</p>                              | <p>Speeds up design workflows in many ways.</p> <p>Useful for quick prototyping.</p>                                                                                          | <p>Designs may feel generic.</p> <p>Ethical and originality concerns remain.</p> <p>Designs may feel generic or lack originality in their design concepts.</p> <p>Results are not always suitable for professional-level design or closer to the idea the designer has thought of.</p> <p>Designers still need to edit and refine AI outputs to get the desired output.</p> |
| Chaudhry, B. M. (2024, May). | <p>The objective of this paper is to understand UI/UX designers' views and concerns about using AI tools in their design process.</p> <p>The study focuses on designers' experiences, expectations, and worries related to AI adoption in</p> | <p>AI tools can help with routine tasks and provide efficiency improvements.</p> <p>useful learning needs which can help educators and organizations plan better training</p> | <p>many designers worry AI could weaken core design skills</p> <p>AI tools often cannot understand human traits like emotion, cultural context, or deep creativity, which are important in UX design.</p>                                                                                                                                                                   |

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|                                                            | real-world UI/UX work.                                                                                                                                                                   |                                                                                                                                             |                                                                                                                                                               |
| Kocielni k, R., Amershi, S., & Bennett, P. N. (2019, May). | <p>The objective of this research is to study how user expectations about AI systems can be adjusted before use, so that users better accept AI systems that are not fully accurate.</p> | <p>Helps users understand that AI systems can make mistakes.</p> <p>Provides simple design methods that can be applied in UI/UX design.</p> | <p>The study is based on one AI application, so results may vary in other systems.</p> <p>Users may still feel frustrated if AI errors happen frequently.</p> |

### 2.1 Divergent Thinking and Creativity in UI/UX

Divergent thinking is a key part of UI/UX design. It allows you to generate ideas, experiment and come up with a number of creative solutions during the design process. Designers use divergent thinking to find solutions from multiple angles and create innovative, user-centered experiences. Recently, AI-assisted technologies have gained more influence in creative activities such as brainstorming, interface exploration and prototype generation (han et al., 2025); (Li et al., 2023). Research indicates that AI tools enhance efficiency by generating multiple design iterations and supporting designers in the early ideation phase (Li et al., 2023); (Khan et al., 2025).

But current research also raises questions about creativity and originality in AI-assisted design practices. While AI tools can generate ideas and visual suggestions quickly, human designers have a better contextual understanding, emotional sensitivity, and originality in design decision-making (Koivisto & Grassini, 2023). Therefore, current literature stresses that AI should be a supportive tool that enhances divergent thinking and creativity, rather than replacing human creative abilities in UI/UX design environments (Haase & Hanel, 2023).

### 2.2 AI in UI/UX Design Workflows

Artificial Intelligence (AI) has increasingly become a part of modern UI/UX design workflows, influencing different stages of the design process such as ideation, wireframing, prototyping, interface generation, and usability evaluation (Li et al., 2023); (Khan et al., 2025). AI-assisted tools support designers by automating repetitive tasks, generating multiple design variations, and accelerating early-stage exploration, which improves efficiency and reduces design time (Bansal et al., 2021); (Müller et al., 2024). Existing studies also suggest that AI technologies help designers organize workflows, simplify complex design operations, and support rapid

experimentation during the creative process (Li et al., 2023); (Müller et al., 2024).

However, current research also highlights concerns regarding originality, over-dependence, and reduced creative engagement in AI-assisted design practices. Excessive reliance on AI-generated suggestions may limit critical thinking and increase repetitive design outcomes (Kumar et al., 2024); (Koivisto & Grassini, 2023). Studies further indicate that AI systems still lack human-centered qualities such as empathy, emotional understanding, and contextual sensitivity, which remain important in UI/UX design decision-making (Amershi et al., 2019); (Koivisto & Grassini, 2023). Therefore, existing literature emphasizes that AI should function as a supportive tool that enhances workflow efficiency while preserving human creativity and design control (Khan et al., 2025); (Bansal et al., 2021).

### 2.3 Human-AI Collaboration

The collaboration of human designers with artificial intelligence becomes topical for the field of UI/UX design, as AI tools become an integral part of creative work and design decisions. Many empirical studies suggest that the use of AI tools enables designers to create multiple options, make quicker suggestions, and create prototypes more automatically (Khan et al., 2025; Li et al., 2023). Therefore, the collaboration between the designer and the tool can help to increase the speed of work and explore more options in shorter periods.

Moreover, recent research reveals that artificial intelligence proves to be efficient for handling repetitive tasks related to data collection and processing, whereas designers may bring to work critical thinking and the understanding of emotional aspects of users' behaviors in real-life settings. Researchers emphasize that human creativity is critical to the process of designing interfaces because AI systems cannot handle cultural and user experience-related issues (Bansal et al., 2021). It is also important to note that cooperation between humans and artificial intelligence helps strengthen creative processes while maintaining the independence of designers (Müller et al., 2024). Thus, contemporary findings support the argument that AI needs to be a collaborative tool that serves human creativity in UI/UX design.

### 2.4 Creativity, Originality, and Cognitive Engagement

Creativity, originality, and cognitive engagement are considered important elements in UI/UX design practices as they influence idea generation, problem-solving, and user-centered decision-making throughout the design process. Existing studies suggest that AI-assisted tools support designers by generating multiple ideas, design alternatives, and rapid visual explorations, which can improve efficiency during early-stage ideation and experimentation (Li et al., 2023); (Khan et al., 2025). AI systems also assist in reducing repetitive tasks and cognitive workload, allowing designers to focus more on creative exploration and interface development (Muller et al., 2024); (Bansal et al., 2021).

However, current research raises concerns regarding the long-term impact of AI tools on originality and cognitive engagement in design practices. Excessive dependence on AI-generated outputs may reduce independent thinking, limit deeper creative exploration, and increase the possibility of

repetitive design outcomes (Koivisto & Grassini, 2023); (Kumar et al., 2024). Studies further indicate that although AI can rapidly produce multiple responses and creative suggestions, human designers continue to demonstrate stronger contextual understanding, emotional sensitivity, and originality during creative decision-making (Haase & Hanel, 2023); (Amershi et al., 2019). Existing literature therefore emphasizes that cognitive engagement and creativity in UI/UX design should remain human-centered, while AI should function as a supportive tool that enhances rather than replaces creative thinking and originality ((Khan et al., 2025); (Li et al., 2023).

## 3. Analytical Comparison of Studies

The reviewed literature adopts different methodological approaches to examine AI's influence on creativity and design practice. Zang & Li (2025) use survey-based quantitative research to study how AI affects creative field employee creativity thinking levels. Their findings link AI usage with increased independence and faster feedback cycles, but they also introduce the concept of technology overload, which may reduce positive creative outcomes yet original natural skills-based solutions. From reading this study, it appears that creativity is often evaluated in relation to productivity rather than deep originality (Gonçalves & Oliveira, 2023).

Chaudhry (2024) writer conducted a cross-sectional survey specifically targeting UI/UX designers. Participants acknowledged efficiency improvements but expressed concerns about weakening core design skills by depending on AI for early stages of idea generation. This approach provides insight into professional perceptions of this field; however, it does not directly measure divergent thinking performance or originality outcomes in designers.

Song et al. (2025) used an experimental design to study generative AI's impact on creativity in serious game environments. Their results after the study indicate the increased idea generation for design problems but also elevated stress levels while using these tools or systems. Although this context differs from professional UI/UX settings, the cognitive findings are relevant when considering AI-supported ideation.

Systematic reviews by Gonçalves and Oliveira (2023) and Shi et al. (2023) synthesise broader yet still expanding research trends in AI-assisted creative processes. These studies offer conceptual clarity but rely primarily on secondary analysis than primary analysis. Shukla et al. (2025) presents a theoretical critique addressing de-skilling and cognitive offloading in AI-assisted designs. While this argument highlights long-term concerns, it lacks direct empirical testing.

After comparing these approaches, I found that few, yet important studies directly measure divergent thinking terms such as flexibility and originality within real UI/UX projects. Most research focuses either on efficiency, perception, or general creativity indicators, leaving a gap in structured creativity assessment (Li et al., 2024)

## 4. Conceptual Framework

As shown in Figure 1, artificial intelligence does not improve or impede creativity. Instead, it is dependent on how designers use it and their level of engagement. The figure also

suggests that AI interaction impacts creative thinking, but it is dependent on the level of engagement of the designer.

As indicated in Figure 2, cognitive engagement also plays a significant role in the process, whereby higher levels of cognitive engagement enhance creativity, especially in situations where designers deliberate on the results from AI.

On the other hand, less cognitive engagement may result in an increased number of ideas but with a negative influence on originality and independent thinking.

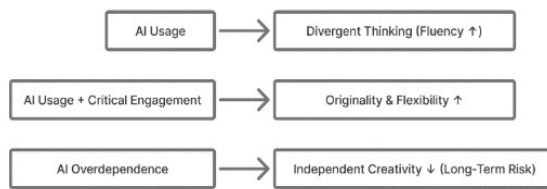


Figure.1 Conceptual Framework of AI Interaction and Divergent Thinking

This figure 1 shows the general relationship between the use of artificial intelligence (AI) and the creativity of the design. It shows that the use of AI in design does not enhance creativity nor reduce it but rather depends on the interaction between the designer and the AI. The conceptual framework shows that the strength of the interaction between the AI designer and the AI influences the level of divergent thinking, which is moderated by the cognitive engagement of the designer. It also shows that the interaction between the designer and the AI influences the development of creativity. In one word, the above figure 1 shows that AI is an assistive technology whose impact is determined by the interaction between the designer and the AI, not the AI itself.

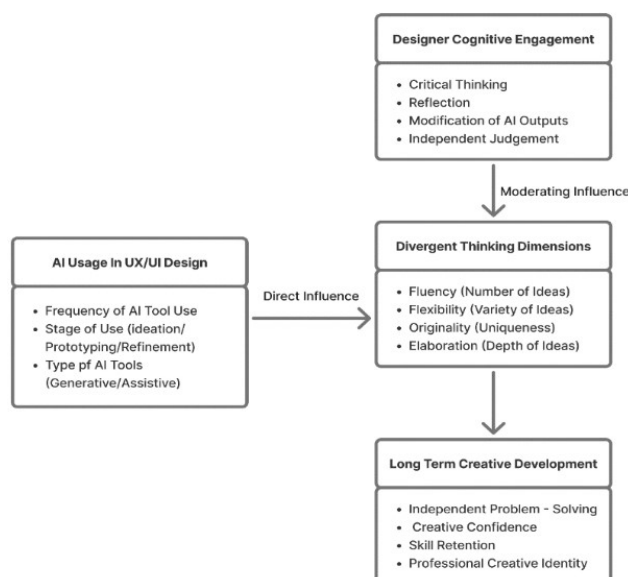


Figure.2 Role of Cognitive Engagement in Enhancing Creativity

This figure 2 shows the role played by the designer in the context of the interaction with the AI. It shows the role played by the active thoughts and the analysis of the output generated by the AI through the cognitive engagement of the designer in the enhancement of creativity. It also shows that the reliance on the AI with little or no active thoughts from the designer results in an increased number of ideas but with less creativity. It thus shows the role played by the cognitive process in the context of creativity of AI.

## 5 Research Gaps and Future Direction

The theoretical frame suggested in this work and visualized through Figures 1 and 2 allows for examining the interplay among AI application, cognitive involvement of designers, and characteristics of divergent thinking. In general, it can be stated that the connection between AI and UI/UX designers is a dynamic process, which includes numerous perceptions. Literature review shows that the future research will need to pay attention not only to AI technology but also to maintaining and developing the capacity for autonomous creativity within this environment. This way, the more efficient system for collaboration between designers and AI would become available. It follows from the discussion of existing sources that although AI-based UI/UX design was considered as potentially productive by previous researchers, its true importance for designers lies rather in their cognitive and creative processes related to this type of technology, which are studied much less than the mentioned aspects. Thus, most contemporary studies focused on such short-term effects of AI application as generating several ideas, usefulness, speed of prototyping. At the same time, a lack of investigation of divergent thinking, creativity, and uniqueness of designer skills after using AI repeatedly can be identified. The perspective research direction can include the implementation of longitudinal research because the effect of AI on creative processes is studied insufficiently. Currently, most studies consider only immediate effects but ignore the long-term cognitive changes.

Another possible direction for future investigations relates to the measurement of divergent thinking in UI/UX design. Even though creativity is discussed in almost every study, no study provides an exact measure of creativity. Future research could utilize various assessment techniques to measure creativity in more accurate ways. A new research opportunity might lie in analysing collaboration approaches between humans and AI technologies. Instead of focusing on the use of AI technologies as a replacement tool or a support tool, the interaction between humans and AI can be explored through various cooperation approaches. It might be valuable to conduct comparisons between using AI at the beginning stages and later stages of UI/UX design and figure out when AI affects divergent thinking positively and when its effect is negative. Moreover, future research could explore the field of reflection and cognitive engagement in design practice. As discussed in the literature, the performance of AI depends greatly on the critical involvement of the designer in the process. Future research could pay attention to the importance of reflection design, which implies that designers re-interpret and change recommendations offered by AI. Through such research, the possibility to treat AI as a creative catalyst can be explored.

Finally, the ethical and psychological impacts of AI use by designers should be considered when discussing the influence

of AI technologies. For example, studies could explore how AI-biased outcomes affect user-centered design practices. It might also be important to explore how cognitive development and stress influence creativity in AI-assisted design practice. In general, future research should concentrate not only on efficiency-related questions but theoretical issues related to creativity and cognitive development as well.

## 6. Conclusion

In this research, it has been examined how the relationship between Artificial Intelligence and UI/UX designers is developing, with a focus on existing empirical studies, systematic studies, and conceptual studies. With a careful synthesis of existing literature, it has been established that there is a significant integration of AI tools in various stages of the design process, specifically in ideation, prototyping, and refinement stages (Shi et al., 2023). The majority of studies have found a positive outcome in terms of increased efficiency, faster iteration, and increased number of ideas (Choudhury, 2023; Li et al., 2024; Durgam et al., 2025). With a critical analysis of these studies through a hypothetical framework of divergent thinking, a conclusion has been made that this relationship is more complex than just increased productivity. Though there are significant findings in terms of increased fluency in terms of generating multiple ideas, originality, flexibility, and elaboration are still largely dependent on cognitive engagement (Shukla et al., 2025; Chaudhry, 2024).

It seems that there is no significant increase in creativity with the help of AI, as this relationship is largely dependent on critical analysis, modification, and contemplation of results. It has also been found through this critical analysis of existing literature that there is a significant relationship between increased efficiency in terms of increased productivity and a loss of creativity in the long term. Though there is a significant increase in terms of increased productivity in terms of faster iteration, there are significant concerns in terms of cognitive offloading, loss of originality, and skill dependency, which are discussed in most studies (Shukla et al., 2025). This has been observed that empirical research directly measuring divergent thinking within real UI/UX environments remains limited, which indicates a clear gap in the field (Gonçalves & Oliveira, 2023; Shi et al., 2023).

Based on this synthesis, it can be concluded that AI should not be positioned as either a threat or a replacement for designers based on the research papers studied to conclude this.

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