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The Evolving Field of Graphic Design: Challenges and Opportunities in the Integration of Artificial Intelligence

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Abstract. *The integration of Artificial Intelligence (AI) has significantly transformed the graphic design landscape, shifting the designer's role from sole creator to visual curator and co-creator. While AI tools such as Midjourney and Adobe Firefly offer speed and efficiency in ideation and iteration, they also raise critical concerns regarding authorship, originality, and the redefinition of creative identity. This research investigates how professional Indonesian graphic designers view and adjust to the incorporation of AI in their creative processes. Using an interpretative phenomenological method, this study explores the lived experiences of ten designers from diverse professional backgrounds who actively integrate AI into their design practices. Data was gathered via semi-structured interviews and analyzed thematically using the Interpretative Phenomenological Analysis (IPA) approach. The results indicate five main aspects: changing job roles, conflicts between creativity and automation, adaptive learning approaches, ethical and professional challenges, and chances for improved design efficiency. Participants recognized that although AI enhances the creative process, it frequently tests their feeling of artistic control and prompts inquiries regarding the legitimacy of outcomes produced with AI assistance. Additionally, ethical issues like plagiarism and uncertainties around copyright surfaced as major concerns. This research adds to the discussion on digital design by emphasizing local perspectives in a worldwide technological transformation, illustrating how cultural and professional values influence the adaptation process. The findings provide important insights for educators, practitioners, and policymakers who seek to promote ethical, culturally aware, and critically reflective AI implementation in the creative sectors.*

Keywords *Integration of AI, Artistic Identity, Digital Aesthetics, Graphic Designers from Indonesia, Phenomenological Research*

INTRODUCTION

Graphic design itself has undergone a significant transformation over the last couple of decades with the advent of Artificial Intelligence (AI) as a major component of the creative process (Chatterjee, 2022). AI has brought dramatic changes in making two-dimensional graphic visual designs like posters, digital artwork, branding, and social media updates (Gu et al., 2023). Not only is this technology a technical aid, but it also plays a significant function in idea discovery, visual reference browsing, digital sketching, and design completion (Yang & Lee, 2020). AI tools such as Midjourney, DALL·E, Canva Magic Studio, and ChatGPT have accelerated the design process and expanded the scope of visual exploration (Rantanen, 2024). However, alongside these conveniences, new challenges have emerged, particularly concerning originality, ethical considerations in production, and the redefinition of the designer's role within the creative process (Wingström et al., 2024).

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In Indonesia, this phenomenon has evolved in parallel with the increasing adoption of technology within the creative economy sector. However, the responses of local design practitioners to the integration of AI remain underexplored, leaving a critical gap for further investigation. To date, numerous studies have examined the role of AI in the fields of art and design, yet most have concentrated on the technical capabilities and potential of AI as a creative agent (Anantrasirichai & Bull, 2021). For instance, (Leone et al., 2021) investigated the potential of AI in supporting co-creation processes, while (Bellaiche et al., 2023) explored AI's ability to generate artworks that resemble human creativity. Nevertheless, existing literature continues to be dominated by studies from developed countries, with limited attention given to the subjective experiences of graphic designers in developing nations such as Indonesia.

On the other hand, the theory of digital creativity proposed by (Shi et al., 2023), along with the Technology Acceptance Model (TAM) developed by (Jeon et al., 2022), provides a relevant theoretical foundation for understanding how designers accept and adapt to the presence of AI within their workflows. With this in view, the present research seeks to reconcile the variations between technology capacity and daily practices of AI designers of graphic design. The research offers a distinct contribution to technology-oriented graphic design research because it situates the experience of Indonesian designers at the site of analysis. The novelty of this research lies in its localized view of a global issue, highlighting the peculiar realities of Indonesian creative practice. The phenomenological approach employed enables a deeper understanding of the subjective meanings involved for designers in negotiating the transitions brought about by embracing AI.

The novelty of this research is that it explores the social and cultural dimensions of AI adoption—a subject that has received little consideration in previous technical or quantitative research. Although AI technology has been widely implemented in graphic design, there remains a gap in studies that foreground the experiences of designers as direct users. Cultural contexts, work practices, and the dynamics of the creative industry in Indonesia differ significantly from those in other countries, and thus cannot be generalized from global research findings (Charina et al., 2022; Sneha & Kavitha, 2024). Therefore, the primary objective of this study is to identify the challenges faced by designers, the emerging opportunities, and the evolving roles they assume amid the digital transformation facilitated by AI (Holzinger et al., 2022; Kitsios & Kamariotou, 2021; Magistretti et al., 2021; Weber-Lewerenz, 2021). This research focuses on the experiences of professional Indonesian graphic designers who have integrated AI into their workflows, whether as freelancers or within agencies and companies. Employing a qualitative phenomenological approach, the study seeks to address several key questions: What challenges

do designers encounter when using AI? How does AI open new opportunities in the design process? How do designers perceive the transformation of their roles due to AI? And what are their lived experiences of incorporating AI into their creative processes?

LITERATURE REVIEW

A. Digital Creativity and AI in the Design Process

The advancement of artificial intelligence (AI) technology has transformed the way designers work and conceptualize the creative process (Yunianto & Wahyudi, 2024). AI introduces collaborative potential in generating visual ideas, form compositions, and new aesthetic approaches within the field of graphic design (Huang & Zheng, 2023). This technology shifts the boundaries between manual design processes and algorithm-driven visual automation, significantly accelerating the iteration and exploration of design concepts (Kochański & Borkowski, 2024). In this context, AI functions not only as a technical tool but also as a creative partner that contributes to design ideation through human–machine interaction (Rezwana & Maher, 2023).

Research by (Wu et al., 2021) demonstrates that creative autonomy can be established in human–AI collaboration, wherein AI can provide creative solutions that were previously unanticipated by designers. This encourages a new perspective to look at creativity as a hybrid human intuition and machine computation process (Wiethof & Bittner E. A. C., 2021). (Anantrasirichai & Bull, 2021) also illustrate that AI is capable of creating visual artwork that is innovative and original, beyond reproducing existing artistic styles. This shows that AI has moved from copying human creativity to independent creation that is admired on artistic grounds.

B. Technology Acceptance Model (TAM) and Designer Behavior

The Technology Acceptance Model (TAM), as outlined by (Jeon et al., 2022), is one of the most widely used theoretical models of technology adoption behavior, including design contexts. The model posits that users' decisions to adopt a technology are highly reliant on their perception of the usefulness and ease of use of the technology. In graphic design, designers will more easily embrace AI if they believe that it significantly enhances the workflow without diminishing the creative nature of the work (Verganti et al., 2020). The model was later expanded by (Vahdat et al., 2021), who emphasized the influence of social influences and previous experiences in technology adoption.

Though AI brings convenience and effectiveness in the design process, there are still designers who are averse to utilizing it due to concerns about its impact on individual creative expression. Research by (Strich et al., 2021) and (Selenko et al., 2022) confirmed that certain

designers exhibit resistance due to fear that AI will compromise the uniqueness of their creative identity. The biggest worry is that AI will replace the intuition and personal expression that define a designer's work. (Wang et al., 2023) also argued that AI is too generic and lacks the emotional nuance that exists in visual communication. Thus, it is worth exploring how designers' attitudes are shaped by their direct experiences in using AI in creative work environments.

C. Recent Literature and Research Gaps

The global literature on AI in design has primarily focused on technical issues and visual discovery in research labs or art schools in industrialized countries. Research by (Montenegro, 2024) and (Bedir Erişti & Freedman, 2024), for instance, it emphasizes the technical capabilities of AI in generating new aesthetics without taking the exploration of how AI is being used in real-life settings by skilled designers. (Rodriguez et al., 2023) also noted that very technocentric approaches have the propensity to overlook the social contexts in which technology consumers are employed. Such studies rarely broach designers' lived experiences when they grapple with the realities of working against deadlines with AI, clients' demands, and the pressure of a dynamic market.

Besides, the setting of developing nations such as Indonesia has been given less attention in AI and design studies. (Heng et al., 2022) noted that social interactions, digital networks, and Southeast Asian work culture differ significantly from Western cultures and therefore require local explanations of technology adoption. (Munandar & Newton, 2021) observed that Indonesian designers apply AI in a pragmatic manner rather than an idealistic. Local studies, such as those by (Mannuru et al., 2023), indicate that limited access, training, and infrastructure are some of the persistent challenges to the effective application of AI in the creative sector. Therefore, this study seeks to address these gaps through the lived experiences of Indonesian graphic designers as a response to global forces of technological change.

D. Social and Cultural Dimensions in AI Adoption

The use of AI technology in graphic design cannot be separated from the social and cultural life of the society where it is employed. For Indonesia, collectivism, the culture of mutual cooperation (gotong royong), and collective work practices continue to be central to design culture, influencing how designers adopt new technology (Utami et al., 2022). Local designers not only consider efficiency but also how AI is applied in meeting aesthetic expectations according to the cultural norms and tastes of society. These differences highlight that the application of AI in Indonesia cannot be separated from the local values that have brought about the creative work ethic.

Indonesian design is structurally weakened by low exposure to high-tech technology and an education system that has not yet caught up with the digital revolution (Fadilurrahman et al., 2021). This affects the readiness of designers to include AI in their work processes to a complete degree. (Fadilurrahman et al., 2021) and (Shepherd & Majchrzak, 2022) further add that AI is also regarded both as a threat and an opportunity, based on one's ability to involve the technology critically and adjustably. The research takes into account how Indonesian designers socially and emotionally adjust to AI in the evolving workspace and maintain cultural identity during the era of visual automation.

METHODS

This study employs a qualitative research approach with an Interpretative Phenomenological Analysis (IPA) strategy, aiming to investigate the professional graphic designers' experiences of integrating artificial intelligence (AI) into their design work processes in-depth. The qualitative approach allows for an in-depth understanding of perception dynamics, issues, and possibilities among graphic design professionals. This method is particularly suitable for exploring complex, subjective experiences that are shaped by both individual creativity and technological influences. By capturing these nuanced perspectives, the research seeks to offer insights that go beyond generalizations and reveal the lived realities of AI adoption in Indonesian design contexts.

A. Research Approach and Strategy

This study uses an interpretative phenomenological approach, as its primary interest is to explore the subjective meaning of participants' experiences within the context of professional practice. This approach not only explores the designers' experiences but also how they interpret the roles, challenges, and transformations that the introduction of artificial intelligence (AI) into the design process entails. With interpretative phenomenology, the researcher aims to understand the constructed reality of the experience between the individual's creative self and technology. This is particularly so with graphic design, which is extremely expressive and replete with artistic values. The methodology also allows reflective examination of the social and cultural forces which drive design practices in Indonesia, in line with the hermeneutic approach that emphasizes contextual comprehension.

The research strategy focuses on personal narratives that shape a collective understanding of AI's role in the design industry. The initial conceptual framework of this research is based on three main dimensions from preliminary studies and literature: creativity and artistic control, technological adaptation and digital competence, and ethics and authenticity in AI-based design.

These three dimensions serve as the foundation for developing interview guidelines and conducting thematic analysis of the collected data. This strategy is expected to comprehensively map the designers' responses to AI, not only from a technical perspective but also touching on psychological and normative aspects. Thus, the findings of this study aim to contribute to the development of theory and practices in design that are adaptive to technological advancements.

B. Participants and Selection Criteria

This study involves ten professional graphic designers who were selected through purposive sampling. This technique was chosen because the researcher requires participants with direct experience and involvement in using artificial intelligence technology in design practice. The selection criteria were strictly established to ensure the quality of the data, including a minimum of five years of work experience in graphic design, active use of at least one AI tool, and involvement in visual branding projects or digital campaigns during 2022–2024. With these specifications, the selected participants are a representative sample of diverse professional disciplines and workplaces, and this variety enriches the research outputs with more scope.

The aggregate data produced by this study are ten in-depth interview transcripts, each between 45 and 60 minutes. Each transcript is one participant and produces approximately 6–8 pages of raw narrative per respondent. With these criteria, the selected participants represent a diverse range of professional backgrounds and work environments, which enriches the perspectives of the research findings. The total data obtained from this study consists of ten in-depth interview transcripts, each ranging from 45 to 60 minutes in length. Each transcript represents one participant and produces approximately 6–8 pages of raw narrative per individual. Thus, the total raw data analyzed in this study amounts to approximately 70 pages of transcripts. This level of data is considered sufficient for an interpretative phenomenological study since it allows for a detailed exploration of the subjective experience of each participant.

Their backgrounds as participants encompass design practice in commercial and non-commercial sectors, including education and social campaigns based on AI technology. The setting broadens the area of exploration of AI use in graphic design, not only as a tool for visual production but also as a vehicle for delivering social and educational values. The variation of the projects and working environments gives a comprehensive picture of the adaptation, ethical challenges, and innovative solutions employed by the designers. The research findings in this way incorporate the complexity of meaning-making and AI adoption within the ever-evolving context of graphic design. A profile summary of all participants is presented in Table 1.

Table 1. Participant Profile

Code	Profession Type	Work Experience (years)	AI Tools Used	Location
P1	Branding Freelancer	7	Midjourney, ChatGPT	Jakarta
P2	In-house Designer	5	Canva AI, Adobe Firefly	Bandung
P3	Art Director (Agency)	10	Midjourney, DALL-E, RunwayML	Yogyakarta
P4	Motion Designer	8	RunwayML, ChatGPT	Surabaya
P5	UI/UX Designer	6	Uizard, ChatGPT, Figma AI	Jakarta
P6	Visual Consultant	12	Firefly, Notion AI, DALL-E	Semarang
P7	Packaging Designer	9	Midjourney, DeepAI	Bali
P8	Digital Illustrator	11	Adobe Firefly, Leonardo AI	Malang
P9	Education Designer	8	ChatGPT, Canva Magic Write	Makassar
P10	Creative Strategist	10	Adobe Firefly, Midjourney	Jakarta

C. Data Collection Techniques

Data collection in this study was conducted through semi-structured interviews online, utilizing the Zoom platform, between January and February 2025. Interviews were chosen as a methodology since they allow participants' subjective experiences to be explored in depth while also providing flexibility to explore personal accounts emerging spontaneously. The duration of every interview was 45–60 minutes, and it was audio-recorded with the prior written consent of the participants to be ethical and transparent during the research process. It was then transcribed verbatim for further analysis.

The interview schedule was developed in line with recent literature that has been published on artificial intelligence within graphic design, but it was designed to suit the interpretative phenomenological approach. The questions were developed thematically to facilitate bridging theory with participants' lived experience. Thematic development was pursued to explore the perceptions, experiences, ethical debates, and coping mechanisms used by designers in responding to the integration of AI into professional work. Through this mechanism, the interviews not only served as a means of data collection but also a means of forming contextual and meaningful collective sense. A structured overview of the interview themes and sample questions is presented in Table 2.

Table 2. Thematic Structure of the Interview Guide

Main Theme	Example Interview Questions
Perceptions of AI	“How do you define the role of AI in your design work?”
Experience with usage	“Can you share your experience when using AI tools in real projects?”
Ethics and Originality	“Have you ever questioned the authenticity of AI-assisted work?”
Adaptation and Strategy	“What strategies do you employ to remain relevant in this AI era?”

These are open-ended to allow for wide-ranging narrative probing and can be adjusted during the interviewing sessions based on the course of the present discussion. The approach ensures that the data collected is not just content-rich but also authentic in reflecting the

experience and views of Indonesian graphic designers in reacting to the shake-up caused by AI technology. This flexibility supports the interpretative phenomenological method by enabling participants to express their thoughts in a manner that aligns with their lived experiences. Consequently, the interviews yield nuanced insights that are deeply contextualized within the cultural and professional realities of the local design community.

D. Data Analysis Procedure

In this study, the data were examined through the Interpretative Phenomenological Analysis (IPA) approach to explore participants' experiences in depth, following the three main stages outlined by (Nizza et al., 2021). The first stage included the first noting, where the interview transcripts were read carefully and detailed notes were taken on significant meanings to gain an initial understanding of participants' experiences and concepts. The emergent themes phase worked to establish early themes from a single narrative to an AI application within graphic design. Finally, within thematic clustering, themes were aggregated into conceptual, related dimensions for clustering to ensure a better and more comprehensive understanding of the designer roles, responses, and challenges in the background of AI deployment.

The results of the analysis offer sharp observations on the interaction of dynamic human imagination and technological forces and their implications for the visual design process. From a comparison of data from ten participants, five thematic dimensions were constructed that represented broad perspectives regarding the changes caused by AI in the practice of graphic design. The first, Shifting Roles of Designers, is a transformation from being an autonomous creator to a curator or even a co-creator with AI systems. The second, Creative Tensions, addresses the tension between originality and automation, and how to maintain creative control over AI-assisted design outcomes. And whereas, meanwhile, the third dimension, Technological Adaptation, illustrates how designers engage in self-learning and establish knowledge networks due to peer-learning communities.

The Ethical and Professional Issues dimension addresses plagiarism, copyright clarity, and intellectual rights to creative work, concerns that are now front and center when working with AI as a professional. Lastly, the Opportunities in Design Efficiency dimension teaches us that the process is not only accelerated but amplified as a sphere for idea exploration, particularly for brainstorming and iterative design phases. By engaging the involvement of ten participants from diverse professional backgrounds, the following thematic analysis contributes a broad snapshot of designers' varied responses to the evolution of AI and enriches understanding of paradigm shifts in prevalent design practice. These thematic categories are summarized in Table 3.

Table 3. Thematic Categorization Based on Analysis of Ten Participants

Thematic Dimension	Sub-themes
Shifting Roles of Designers	From creator to curator, co-creator with AI
Creative Tensions	Authentic vs automated, control vs prediction
Technological Adaptation	Self-learning tools, peer-learning communities
Ethical and Professional Concerns	Plagiarism, copyright clarity
Opportunities in Design Efficiency	AI as a tool for brainstorming and exploration

By the integration of IPA's three stages—initial observation, emergent themes, and thematic grouping—this analysis yields themes that represent the dynamic interaction between designers, technology, and social setting. Each dimension contributes both theoretically and practically to understanding how AI is not only transforming how designers work but also reshaping how they interpret and value their profession in an ever-evolving digital era. This reflects a broader methodological commitment to uncovering meaning within lived experiences, which is central to phenomenological research. Furthermore, the resulting themes serve as a foundation for developing more adaptive and culturally responsive approaches to AI integration in design practice.

E. Visualization of the Research Process

The visualization of the research process was developed to clarify the logical and systematic flow of this study, from its initial to final stages. The flowchart below illustrates six interrelated main stages, forming a methodological framework that is both replicable and referable for similar research. These stages begin with the identification of research objectives and focus, followed by the selection of participants based on specific criteria, the data collection process through semi-structured interviews, and the data analysis using the interpretative phenomenological approach. Subsequently, the thematic analysis results are examined in-depth through interpretative processes, validated through member checking, and subjected to critical reflection on the sociocultural context faced by participants. These steps play a significant role in ensuring that the results effectively reflect the participants' actual experiences and are free from one-sided interpretative prejudice.

The research process concludes by constructing a conceptual framework and identifying the contributions of the study to AI-automated graphic design as a field of study. The diagram not only serves as a pictorial map but also as a judging device in an attempt to examine methodological coherence and auditability in the phenomenological qualitative tradition being pursued. The stages of this research are visually presented in Figure 1. This visualization enhances the transparency of the research design and allows future scholars to replicate or adapt the process in similar cultural and technological contexts.

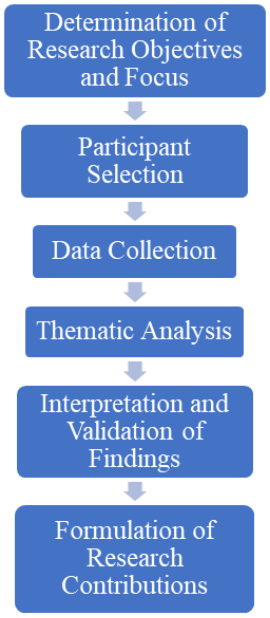

Figure 1. Research Process Flowchart (Source: Research Document, 2025)

This diagram assists readers in understanding the major steps of the research process and improves scientific integrity and transparency in qualitative data analysis. The graphical representation also assists in evaluating methodological sustainability and relevance, particularly if the research is to be continued or re-adapted by future researchers. It provides a visual logic that enhances the coherence of the overall research design and facilitates critical review. Moreover, by making the sequence of steps explicit, the diagram contributes to the trustworthiness and replicability of the phenomenological inquiry.

F. Data Validity and Trustworthiness

To ensure validity, along with data trustworthiness in this study, several verification strategies commonly employed in qualitative research, particularly in interpretative phenomenological studies—were adopted. Methodological triangulation was attained through the employment of data gathered from semi-structured interviews, observation diaries, and photographic records of students' projects, with the intention of improving the consistency and richness of information obtained. A systematic audit trail was also maintained to record the entire analytical process, from initial coding to theme construction, thereby enabling other researchers to trace the interpretative steps taken. This detailed documentation is designed to enhance the transparency, credibility, and confirmability of the qualitative study.

Data validation was also facilitated through member checking, whereby developing findings were mirrored back to participants in the form of thematic summaries for clarification, confirmation, or revision as per their perceptions and lived experiences. This mechanism was

established with a perspective to reducing the likelihood of unilateral interpretative bias and to ensure that meanings recorded do reflect participants' realities. Moreover, a thematic contrast was drawn with relevant associated research, for example, the work of (Verganti et al., 2020), which also explored designers' changing creative roles in the age of artificial intelligence. This helps provide a sound scholarly basis and supports the interpretative insight and theoretical and practical responsibility of the research findings.

RESULTS

A. Interpretation of Test Data

A phenomenological investigation of ten interview narratives reveals that professional graphic designers in Indonesia have undergone a deep transformation in their role and work orientation since they adopted artificial intelligence (AI) technologies in their design process. This transformation is more than at the technical level, extending to professional identity and the human-machine relationship that is emerging (Rezwana & Maher, 2023). To capture the wealth of these experiences, this study employed the Interpretative Phenomenological Analysis (IPA) model, which consists of three steps: initial noting, emergent themes, and thematic clustering. By doing this, the researcher could move into subjective meaning as lived by participants in their management of changes in AI-augmented creative working spaces. Each transcript was scrutinised in depth to come up with both shared and idiosyncratic narrative patterns between individual designers.

The results gave five higher-order thematic dimensions that encapsulate participants' experiences and views regarding the integration of AI into graphic design. The first dimension is the evolving role of the designer, in which practitioners increasingly shift away from being sole creators and more into the role of curators or collaborators within the process of visual creation. The second is creative tension, which resonates with the conflict between the desire to be original and the growing reliance on automation (Wang et al., 2023). The third dimension, technological adaptation, highlights self-directed learning strategies and peer learning behaviors that designers employ to stay abreast of AI development. The fourth deals with moral and professional concerns, including plagiarism concerns, copyright, and the ambiguity of creative ownership (Selenko et al., 2022). Last but not least, the fifth dimension—design efficiency opportunities—provides a demonstration of how AI accelerates ideation and iteration processes in visual design projects.

B. Research Findings

Thematic analysis of semi-structured interviews with ten professional graphic designers led to five primary dimensions that encapsulate their responses to the integration of artificial

intelligence (AI) in design practice. These five dimensions cover a broad spectrum of experiences, ranging from professional role changes to ethical consideration of creative processes with AI (Rezwana & Maher, 2023). Every dimension was drawn out based on the frequency of thematic occurrence in the accounts of participants and was determined consistently through the use of interpretative phenomenological analysis. A comparative overview of these themes is presented in Table 4

Table 4. Thematic Dimensions of Designers' Experiences in Integrating AI

Thematic Dimension	Main Sub-Themes	Frequency of Occurrence
Shift in Designer Role	Creator → Curator; Co-creator with AI	9 out of 10 participants
Creativity Tension	Authenticity vs. Automation; Loss of control	8 out of 10 participants
Technological Adaptation	Self-directed learning; Peer learning communities	10 out of 10 participants
Ethical and Professional Concerns	Plagiarism; Copyright; Originality	7 out of 10 participants
Opportunities in Design Efficiency	Accelerated iteration; Rapid ideation with AI	10 out of 10 participants

This theme illustration shows most of the designers have significantly shifted in practice following their being merged with AI. The one aspect that draws our attention about changing the designer's role is that most respondents noted that nowadays they work less like creating content from scratch, but rather acting more as the curator and arranger of ideas presented visually through AI. This is reflective of a change in professional identity that informs how designers engage with the creative process. In addition, the problem of creativity tension emerges as a critical issue, with participants fearing that AI would reduce personal control over design results, especially where AI produces visuals that are too generic or stray from the designer's creative intuition (Wang et al., 2023).

Besides, technological accommodation was the most commonly found dimension among all participants, indicating that AI integration is greatly reliant on individuals' ability to learn by themselves and connect using online design communities. Unstructured learning tactics in this regard become indispensable in addressing gaps in available skills (Vahdat et al., 2021). In parallel, there have also been ethical and professional issues that have arisen, including plagiarism, creative ownership ambiguity, and the authenticity of AI-created visual results (Selenko et al., 2022; Shepherd & Majchrzak, 2022). Finally, all respondents agreed that AI holds tremendous potential for enhancing design productivity, particularly by accelerating the idea generation and concept exploration phases. As stated by Participant 3 (Art Director), AI has "made me from an intuitive artist into a rational visual editor," bearing witness to a new reality in the world of contemporary graphic design.

C. Evaluation of Findings

The analysis of the results shows that the adoption of AI in graphic design is not a linear or homogeneous process but is instead dynamic, complicated, and characterized by ambivalence (Kim et al., 2024; Rezwana & Maher, 2023). On the one hand, all the participants acknowledged that AI technology accelerates visual production processes, renders time utilization more effective, and widens the scope of idea exploration, particularly during the early phases of brainstorming. On the other hand, concerns were raised regarding the loss of personal characteristics in those design works that depend excessively on algorithms. Designers feared that the use of AI might blur the distinction between human-generated and machine-generated outcomes, and thereby undermine the designer as the primary creative force (Selenko et al., 2022). The conflict reflects a tug-of-war between the pressure for technological embracing and the desire to preserve artistic authenticity.

Moreover, the review also highlights that ethical concerns such as copyright, plagiarism, and the ambiguity of creative ownership are pertinent issues in AI-assisted design practice (Strich et al., 2021). AI algorithms based on large data sets generate images that are similar in style to existing ones without any attribution, invoking moral and professional concerns (Bellaiche et al., 2023). The sense of professional identity is also disrupted, with AI assuming creative functions previously understood as uniquely human. In the Indonesian context, this tension is exacerbated by local cultural forces that place a premium on originality and personal expression as the foundations of design (Utami et al., 2022). Therefore, the integration of AI in graphic design cannot be viewed as simply a technological change, but rather as an ongoing negotiation of values, ethics, and identity in contemporary creative practice.

DISCUSSION

This study discovers that Indonesian professional graphic designers respond to the emergence of AI technology actively yet selectively and critically. They do not simply embrace AI as an overnight wonder cure; they critically examine how it will affect the quality of their outputs, the worth of originality, and their own profession. This kind of thinking is depicted in a range of adaptive processes, from innovative experimentation with the support of AI tools to building learning communities that facilitate the technology transition. Designers position AI as a technological tool and not just an enabling factor, but as an agent that empowers them to shift the definition of creativity, authorship, and agency in art-making throughout the design process (Rezwana & Maher, 2023).

These results directly address the core research question of how AI affects the designer's role, creates new possibilities, and presents ethical as well as technological challenges in modern design practice. Designers are not only experiencing a change in roles from creators to visual

curators but are also beginning to fill new roles as co-creators in an AI-driven creative space. They consider AI an opportunity to accelerate design processes and expand aesthetic potential, simultaneously acknowledging the dangers it represents for singularity in human visual expression (Yunianto & Wahyudi, 2024). Thus, this study emphasizes that the integration of AI is not only revolutionary from a technological perspective but also symptomatic of how designers renegotiate their role and professional values in a new creative ecosystem.

The findings of this study concur with the view expressed by (Garcia, 2024) that application of artificial intelligence (AI) in design has transformed the designers' role from sole creators to curators or even co-creators. In practice, designers no longer begin the process of design anew but use AI as an ally to explore a greater range of visual possibilities. In Indonesia, this is further exacerbated by a cultural work collectivism, the pursuit of efficiency in the digital creative industry, and the fast-growing and competitive market expectations (Utami et al., 2022). Among the challenges, AI is seen as a way to reconcile the weight of production without compromising the local aesthetic standards. This outcome also improves on the Technology Acceptance Model framework (Jeon et al., 2022), indicating that social, ethical, and emotional considerations are in place when taking up technology, other than perceptions of ease and usefulness (Vahdat et al., 2021).

But the conclusions of this study also condemn the over-technocentric literature, such as in (Chesterman, 2020) research, which is likely to view AI as a standalone creative entity that can produce works superior to or at least equal to human capacity. The majority of participants in this study, in contrast, stated that while AI can accelerate the process and offer a variety of visual options, it still cannot replicate or replace the emotional nuance, intuition, and cultural context that are central to human visual expression. In the Indonesian context, designers emphasize that personal touch and cultural sensitivity are crucial in creating works that resonate with local audiences—something that AI systems have not yet fully mastered (Wang et al., 2023). Therefore, this study not only supports existing literature but also offers corrections to overly optimistic and universal assumptions about the role of AI in the design world.

One of the main limitations of this study is the relatively small number of participants, specifically ten professional graphic designers. While this sample provides rich narrative depth, it does not fully reflect the diversity of contexts within the broader design industry in Indonesia. The geographic representation is also limited to major cities that have better access to technology, thus not fully encompassing perspectives from regions with limited digital infrastructure. Additionally, most participants come from a generation that is relatively familiar with technology, meaning the experiences of older or younger users have not been fully represented. This affects

the study's ability to explain the dynamics of experiences across different age groups, educational backgrounds, or more specific design fields such as traditional illustration, social design, or interactive arts. As a phenomenological approach, the primary focus of this study is on subjective meaning and in-depth experiences rather than achieving statistical generalizations.

An open question that remains is how the experience of AI integration in design unfolds among more diverse professional groups, such as novice designers, community-based industry practitioners, or those working in education and social sectors. Furthermore, how perceptions of AI evolve, particularly with the rapid development of generative AI technology, is an important topic for further research. Will there be broader acceptance, or will new forms of resistance emerge in response to the dominance of algorithms in the visual world? This study has not specifically explored gender differences in the experience of AI integration, despite the potential for this aspect to offer valuable insights into structural biases and access to technology. Therefore, future studies with a more intersectional and longitudinal approach are essential to capture the complexity of the changing dynamics in the graphic design landscape in the era of artificial intelligence.

Practically, the findings of this study offer significant contributions to the development of a graphic design education curriculum that is more responsive to technological advancements, particularly artificial intelligence (AI). The integration of AI into creative practice necessitates updates in teaching methodologies, design tools, and pedagogical approaches that are more reflective of the social and ethical implications of technology use. Therefore, higher education institutions may draw upon these findings to design curricula that emphasize digital competencies, AI literacy, and ethical awareness within the design process. This study also opens up opportunities for the formulation of context-sensitive ethical guidelines for Indonesia's creative industries, especially in light of growing concerns over plagiarism, copyright clarity, and the authorship of algorithm-generated works.

From a theoretical perspective and in terms of future directions, this research provides a foundation for further exploration into AI integration across other, more interactive and multidimensional design fields, such as visual architecture, game art, and user experience-based advertising (immersive advertising). Future studies may also adopt quantitative or mixed-methods approaches to achieve a broader and more representative mapping of perceptions. In addition, interdisciplinary collaborations involving cognitive psychology, digital ethics, and visual culture studies hold great potential to enrich the analysis of AI implications within local contexts. Extensions of this research can also focus on the sustainability dimension of AI-based design, as well as how such technology influences work patterns, emotional well-being, and the dynamics

of collaboration among designers within the creative ecosystem. Thus, the findings of this study are not only relevant to current design practices but also lay the groundwork for a more ethical, adaptive, and human-centered design ecosystem in the future.

CONCLUSION

This study concludes that the integration of artificial intelligence (AI) into graphic design has prompted a significant shift in the roles, adaptive strategies, and professional perceptions of graphic designers in Indonesia. Designers are no longer isolated visual creators; they are now becoming curators and collaborators who employ AI to accelerate the design process while creating new aesthetic possibilities. Although AI enhances both creativity and efficiency, tension remains between automation and originality, particularly regarding creative identity, copyright, and the authenticity of the produced artwork (Garcia, 2024). Furthermore, this study emphasizes that the successful adoption of AI in design largely depends on individuals' adaptive capacities through self-directed learning and engagement with community networks. Nevertheless, designers continue to exhibit a critical stance toward issues such as algorithmic bias, ethical concerns, and the limitations of AI in grasping emotional nuance and the cultural values that underpin design practices in Indonesia. Therefore, the incorporation of AI in graphic design is not merely a technological change but a complex negotiation of human values, professional identities, and visual cultures.

Based on the findings and identified limitations, future studies are encouraged to involve participants from more diverse backgrounds, including novice designers, creative industry practitioners from regions with limited digital infrastructure, as well as individuals working in the education sector and arts communities. Additionally, a longitudinal approach could be employed to trace the evolving perceptions and adaptive strategies of designers toward the advancement of generative AI technologies over an extended period. Future research should also examine gender-based experiences in order to identify potential structural biases and disparities in access to technology. The use of mixed methods is particularly promising for producing both comprehensive and in-depth mappings of perception, especially in interactive design fields such as game design, visual architecture, or AI-based user experience. Furthermore, subsequent studies may be directed toward the development of context-specific ethical guidelines, providing a clear normative framework for AI-based design practices in Indonesia. Such efforts would help preserve values of originality, professional responsibility, and cultural sensitivity amidst the ongoing technological disruption.

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