



Artificial Intelligence and Generative Design in Visual Communication

Hamza Shavaiz

Lecturer Minhaj University, hamzashavaiz5@gmail.com

Fatima Tu Zuhra

Assistant Professor, Superior University, Lahore

Tuba Shahid

Lecturer, Superior University, Lahore

Abstract:

The rapid advancement of Artificial Intelligence and Generative Design has significantly transformed the field of visual communication by shifting creative practice from traditional manual-digital production toward algorithmic and AI-assisted design processes. This paper investigates the implications of generative AI tools in the realm of visual communication, focusing on creative practice workflow, ethical issues, authorship, copyright, aesthetic originality, cultural authenticity, and responsible design practice. The research is grounded in the view that AI is not only a technical tool but also a creative and professional force that is reshaping the identity and responsibilities of designers. The Research Onion framework was followed and a mixed-methods research design was practiced. The qualitative data were obtained from the analysis of current literature and design-related sources, and the quantitative data were obtained through a descriptive survey of 150 design students, graphic designers, visual communication designers, educators, freelancers, and creative professionals. The quantitative data were analysed using percentage method and descriptive statistics. The findings indicate that generative AI is well-known as a valuable resource for ideation, exploring visual concepts, generating images, optimizing workflows, and quickly creating design alternatives. The study, however, also highlights significant issues in terms of authorship, ownership, copyright, ethics, aesthetics and the potential loss of originality. The quantitative and qualitative results show that human creativity remains key in AI-assisted design, particularly in retaining conceptual depth, cultural authenticity, and ethical responsibility. Overall, the research suggests that generative AI should be viewed as a tool to aid, not replace, human designers. It recommends integrating AI literacy, prompt engineering, copyright awareness, and ethical design guidelines into visual communication education and professional practice.

Keywords: Artificial Intelligence, Generative Design, Visual Communication, Generative AI, Creative Workflow, Ethical Design, Copyright, Aesthetic Homogenization, Design Education, Responsible AI

Introduction

Visual communication design has always developed in close relationship with technological change. Whether it's print culture or digital media, every technological revolution has adapted the process that designers use to create, disseminate and read visual information. The use of AI brings one more major transformation in the modern era: the transition of visual communication from a primarily manual-digital process to an algorithmic and generative process. GenAI, or Generative Artificial Intelligence, enables the creation of images, layouts, illustrations, concepts, and variations based on text prompts, image references, and automated design systems. The availability of tools like Midjourney, DALL-E, Adobe Firefly, Canva AI, and others has revolutionized the way visual production is done by allowing for quicker ideation, prototyping, editing, and experimentation. In addition to altering the methods used to create visual content, these tools are transforming the ways designers think, decide, and communicate ideas in their work and educational environments (Feuerriegel et al., 2024; Epstein et al., 2023; Rombach et al., 2022).

For visual communication, which relies on originality, clarity of message, perception of the audience, cultural meanings, and aesthetics, the advent of GenAI is especially significant. Traditional design process involves researching, sketching, visual exploration, refinement and final execution. But, with AI-assisted design tools, multiple visual output can now be generated in seconds, cutting the time spent in early-stage ideation and visual experimentation. This provides new design possibilities in terms of increase in speed, more visual options, and concept development. AI has proven to be valuable in assisting creative production by providing users with ideas, alternatives, and various visual directions (Doshi & Hauser, 2024; Wadinambiarachchi et al., 2024; Lee, 2025). Meanwhile, the advantages also include concerns that AI may enhance creativity or merely streamline the generation of superficially impressive but lacking concepts.

The designer's role becomes a crucial topic in the field of AI-assisted visual communication. In the traditional view, designers are seen as creators who use technical skill, imagination and professional judgment to develop visual solutions. With AI assistance in the workflow, the designer becomes more of a curator, editor, prompt writer, and creative director. The designer

prompts the AI system, assesses the results, selects useful ones, modifies them and makes sure the final design conveys the desired message. This isn't to say that the designer is no longer in the creative process, but the type of design work changes. The human creativity is beyond just technical execution, but is as well linked to decision-making, ethical judgment, cultural awareness and visual literacy (Shi et al., 2023; Rezwana & Maher, 2023; Inie et al., 2023).

Despite these opportunities, the use of GenAI in visual communication also creates serious ethical and professional concerns. AI-generated images are frequently developed with systems that are trained on vast amounts of data, which can involve copyrighted artworks, photographs, illustrations, and design sources. This raises issues of authorship, ownership, consent and IP. Both designers and artists worry about AI systems replicating their visual style without authorization or payment, and clients are unsure of the ownership of AI-assisted design products. The issues of transparency, human involvement, and copyright protection are also highlighted in AI-generated content (Gaffar & Albarashdi, 2025; Kenthapadi et al., 2023; Ren et al., 2024). As such, the ethical use of AI in design necessitates transparency and accountability measures, including the establishment of ethical guidelines and disclosure practices.

A second major concern is aesthetic homogeneity. Generative AI systems are built on vast datasets of pre-existing visual content, which can result in similar patterns, common styles, and prevailing trends in their generated visuals. This can create good images, but can also decrease originality and cultural specificity. This aspect is significant in visual communication because design isn't just about beauty; it's about meaning, identity, audience, and context. Overreliance on AI-generated recommendations can lead to homogenized, uninspired designs that lack cultural resonance and character. Research on creativity and generative AI indicates that while generative AI can boost the creative confidence of individuals, it also has the potential to cause a decline in the diversity of collective outcomes when numerous users receive similar AI-generated suggestions (Doshi & Hauser, 2024; Wadinambiarachchi et al., 2024; Ge & Hou, 2025). The importance of this is particularly significant for countries like Pakistan where visual communication is also culturally, linguistically and regionally embedded.

Educational aspect of this topic is also important. It is now becoming essential for design education to equip students with an understanding of AI tools and their limitations, ethical risks, and cultural consequences. The skills of AI literacy, prompt writing, responsible digital design,

copyright awareness and critical visual judgment are emerging as important future skills for designers. Studies in design education have demonstrated that students can find value in using generative AI to spark their imagination and develop concepts, but they also require instruction on how to maintain originality, disclosure, and responsible usage (Fleischmann, 2024a; Fleischmann, 2024b; Huh & Miri, 2025). Thus, design schools must evolve their curricula to include AI in such a manner that does not compromise core design practices like typography, composition, colour theory, research, and storytelling.

The present study aims to examine the role of Artificial Intelligence and Generative Design in Visual Communication by focusing on how GenAI transforms creative workflow, ethical practice, and aesthetic originality. In line with the approved proposal, the main objectives of this research are: first, to analyze the transformation of the creative workflow in the era of Generative AI; second, to identify the ethical dilemmas and copyright concerns prevalent in AI-assisted visual design; and third, to propose a set of guidelines for the responsible and effective use of AI in professional design practice. The study therefore seeks to understand AI not simply as a replacement for designers, but as a powerful tool that must be guided by human creativity, ethical judgment, cultural authenticity, and responsible design thinking.

Literature Review

Artificial Intelligence and the Transformation of Visual Communication

In the era of the creative industry, Artificial Intelligence is one of the key factors in the transformation of the creative industry in the field of visual communication, graphic design, advertising, branding, and digital media. In the past, digital tools helped designers by streamlining editing, layout, and production processes, but with the advent of GenAI, designers can now generate visual content directly from text prompts, image inputs, and algorithmic models. Feuerriegel et al. (2024) defines generative AI as a technology that can generate meaningful content like texts, images, audio files, and visual products from training data. In the realm of visual communication, this has transformed the way design is done, from a linear process to a more experimental and iterative process that allows multiple concepts to be developed rapidly. Anantrasirichai and Bull (2022) state that AI has gained more importance in

creative industries due to its ability to facilitate content creation, enhancement, and post-production, as well as creative decisions.

Recent design research has shown that AI tools are now having an impact on several aspects of graphic and visual design. According to Li et al. (2024), AI technologies impact graphic design in the following ways: Automation, image generation, design assistance, and creative decision support. Likewise, Ruiz-Arellano et al. (2022) talk about how AI tools can be used for persuasive visual discourse, indicating that AI can help in visual communication strategies by assisting in the creation of persuasive and audience-centric visual content. Cui et al. (2022) also explore applications of GAN-based technologies in graphic design, demonstrating the impact of generative systems on visual experimentation and design products. According to these studies, AI is not just about technical automation, but is also becoming an integral part of the conceptual and communicative framework of design practice.

Generative AI and the Creative Workflow

Typically, the creative process in the field of visual communication involves problem understanding, research, ideation, sketching, concept development and refinement, and final execution. Generative AI changes all that by streamlining the initial phase of the process and enabling designers to rapidly produce numerous variations of visuals. Epstein et al. (2023) make the case that generative AI is not just a technical tool, but a new medium that can impact aesthetics, ownership, creative work, and the broader media system. This perspective is pivotal as it highlights how GenAI is not just a software update but a cultural and professional transformation.

The impact of generative AI on creativity is mixed, empirical studies demonstrate. Doshi and Hauser (2024) discovered that while generative AI can boost the creativity of individual users, it has the potential to lower the diversity of the creative outputs from groups as a whole. This is particularly pertinent to the field of visual communication, as if designers use similar prompts or visual models, many generated by AI could start to converge to a more stereotyped look. Wadinambiarachchi et al. (2024) also discovered that AI image generators can impact design fixation and divergent thinking, potentially leading designers to be more influenced by generated images and generate fewer original variations. However, Ge and Hou (2025) propose that in

certain aspects, generative AI and visual stimuli can bolster design creativity, particularly when designers actively engage with AI and do not rely on it passively. The results demonstrate that the impact of GenAI on creativity can vary based on the usage patterns of designers.

Human–AI Collaboration and the Changing Role of Designers

One of the main messages in literature is the transition from the designer as a producer to the designer as a curator, editor and creative director. According to Shi et al. (2023), when designing for interaction with AI, it is essential to consider interaction, control, communication, and decision-making. This requires designers to be aware of how to interact with AI systems and retain the final visual meaning. In their study, Rezwana and Maher (2023) suggest that the design of human-AI co-creative systems ought to be centered on interaction, communication, and co-creative efforts. They found that effective AI-assisted design relies not just on the capabilities of the AI system, but also on the human designer's interactions with, assessments of, and instructions to the AI system.

Inie et al. (2023) examined the concerns and expectations of creative professionals regarding generative AI and identified that generative AI is viewed both as an opportunity and a disruption by creative professionals. This backs up an argument that AI is altering professional identity in visual communication. Designers can no longer just know the software tools, but now prompts, datasets, AI restrictions and copyright risks, and ethical responsibility. However, the use of AI in the design process also opens up new opportunities for generative exploration, and it is important to understand design methods and human decision-making, as noted by Choudhury et al. (2025). Hence, the designer's future will probably have a mix of technical skills, visual sense, morals and culture.

AI Aesthetics, Originality, and Aesthetic Homogenization

Originality in aesthetic aspects is one of the major issues in visual communication. The outputs of these AI models are based on patterns learned from the datasets they have been trained with, which can result in dominant styles, repeated compositions, and popular visual conventions. This poses the danger of aesthetic sameness, where design output is a well-sculpted yet conceptually stereotypical result. Doshi and Hauser (2024) can offer important evidence for this concern,

demonstrating that AI support can lead to a decrease in the variety of collective creative products. Wadinambiarachchi et al. (2024) also demonstrate that the increased gaze can result in less originality when ideation arises.

The problem of originality also relates to cultural authenticity. Visual communication is intricately connected to cultural codes, local symbolism, language and social context. AI systems trained primarily on data from western countries or the world at large will not necessarily generate a correct representation of local cultural identities. Epstein et al. (2023) question the impact of aesthetics and culture and suggest that it is crucial to investigate the impact of AI-generated media on cultural production. This becomes pertinent in the context of Pakistani design where visual communication involves local patterns, Urdu typography, regional colour symbolism, Islamic visual tradition and cultural storytelling. While AI can help with experimentation, designers should also be cautious of creating a uniformity of look and feel; cultural depth is important to maintain.

Ethical Issues, Copyright, and Responsible AI

Ethics is one of the most common topics in the GenAI literature. The main questions are who owns the work created by AI, if the training datasets contain copyrighted materials, if artists have consented, and how to disclose the use of AI in the design process. Gaffar and Albarashdi (2025) explore the copyright issues concerning works created by AI, and assert that the question of originality and ownership in the digital realm is still a complicated legal dilemma. Ren et al. (2024) takes a technical angle on copyright and emphasize the need to safeguard the outputs of the models as well as the source data. Moreover, Kenthapadi et al. (2023) state that Responsible AI needs to be Governed, Fair, Transparent and Accountable in real practice.

This relates to professional practice in the field of visual communication. The AI-generated pictures can be utilized for branding, advertising, packaging design, social media campaigns, or editorial design. If these outputs are not clear, or legally defensible, then the client and the designer may have authorship and ownership issues. As noted by Fleischmann (2024a), these issues need to be addressed within graphic design education in order to teach responsible GenAI usage. Furthermore, as highlighted by Huh and Miri (2025), students identify the pedagogical potential of AI-generated images while emphasizing the need for instructions on how to properly

cite, ethically use, and responsibly integrate these tools into their learning. Thus, ethical responsibly in relation to the use of AI in visual communication should involve providing transparency and disclosure of the use of AI, human oversight, copyright considerations, cultural sensitivity, and AI design decision-making.

Generative AI in Design Education

One of the biggest fields that is impacted by GenAI is design education. The literature implies that universities need to revise their curricula in order to incorporate AI literacy without being at risk of losing the fundamentals of design knowledge. Fleischmann (2024b) believes that generative AI should be integrated into design curricula as students should be aware of the impact of generative AI on their creative practice, professional expectations, and future employment. Fleischmann (2025) also points out that creative arts and design students are highly interested in acquiring workplace GenAI skills. Lee (2025) revealed that GenAI can be used to enhance the creative aspects of Visual Design courses through text/image generation projects and student experimentation. Chao (2025) further addresses the evolving landscape of design education and the impact of GenAI, highlighting how it can transform learning approaches and student engagement.

The literature also warns against deskilling. Students might rely on the output from AI and fail to build visual literacy if they don't grasp design principles. This stems the need for balanced pedagogy: while students learn about AI tools, they need to learn how to use typography, layout, composition, cultural awareness, ethical judgment etc. to make sense of what they have learned. For this reason, the literature was deemed appropriate to provide the foundation for the present study's focus of responsible and effective AI use in professional design practice. However, further localized research is required to grasp creative practitioners, designers, and students' perceptions of the influence of GenAI on creative workflow, ethical authorship, and aesthetic originality in visual communication within distinct educational and cultural settings.

Framework



Research Methodology

Research Design

The research of this study is a mixed methods approach that explores the role of AI and Generative Design in Visual Communication. Since it is a topic that can be understood from both theory and practical aspects from the design community, it is suitable to use a mixed-methods design. The qualitative component of the study will examine the current academic literature, industry conversations, and design debates surrounding AI-assisted creativity, ethical authorship, aesthetic uniformity, and professional metamorphosis. The quantitative component will be a structured questionnaire to gather measurable responses from design students, professional designers, educators and creative practitioners. Together, these will give a comprehensive insight into the impact of generative AI on creative processes, originality, ethics, and design practice.

Research Onion Framework

This study adopts a methodology that is based on the Research Onion framework. This framework is used to structure the research process in the various layers of research philosophy, approach, strategy, data collection, sampling, and analysis. The Research Onion framework is relevant in this study as it enables the researcher to link theory with research practice. The study is partly concerned with the perception of the people and partly with professional practice; this

study can be done through the Research Onion which is a systematic and academically accepted structure for conducting research.

Research Philosophy

The approach of this study is based on the philosophy of pragmatism. Pragmatism is suitable because the research does not rely solely on a particular kind of data or a particular perspective. It is, rather, a practical understanding, in the sense of making a combination out of qualitative and quantitative evidence. Given its creative and professional nature, the subject of generative AI in visual communication demands an approach that accounts for real-world design practices, ethical considerations, and quantifiable evidence. Through pragmatism, the researcher will gain insight into how AI tools are actually applied in the design process by designers and how they affect their creative practice, workflow, and design responsibility.

Research Approach

This study adopts a deductive research approach. The deductive approach starts from the literature, theories, and ideas already established in the fields of artificial intelligence, generative design, visual communication, creativity, ethics and professional design practice. Then, the existing ideas will be analyzed based on the survey results obtained from the respondents. The aim is to explore if the theoretical claims that have been made about AI-assisted design translate into designers', students', and educators' perceptions and experience.

Population and Sampling Technique

The population of this study includes visual communication designers and graphic designers, design students, design educators, creative professionals, and individuals familiar with AI-based design tools such as Midjourney, DALL-E, Adobe Firefly, Canva AI, and ChatGPT. Purposive sampling will be used, as the study requires participants with knowledge/experience in design and AI-assisted tools. This is an appropriate sampling technique since the study has no need for random public response, but for relevant response from those who have had some association with visual communication or graphic design either as a student or as a profession.

Sample Size Determination

An appropriate sample size has been justified using a statistical formula (and not just an estimated size). The number of samples will be determined using Cochran's sample size formula suitable for large population or population is not well-known. It is not possible to exactly identify the number of AI-aware designers, students, educators, and creative professionals; thus, Cochran's formula is suitable.

The formula is:

$$n_o = Z^2pq / e^2$$

Where n_o is the required sample size, Z is the confidence level value, p is the estimated population proportion, q is $1 - p$, and e is the margin of error. For this study, a 95% confidence level will be used, where $Z = 1.96$. The estimated proportion will be taken as $p = 0.5$ and $q = 0.5$ because this provides the maximum sample requirement. The margin of error will be taken as 8%, or 0.08.

$$n_o = (1.96)^2 \times 0.5 \times 0.5 / (0.08)^2$$

$$n_o = 3.8416 \times 0.25 / 0.0064$$

$$n_o = 0.9604 / 0.0064$$

$$n_o = 150.06$$

Thus, the optimum sample size is about 150 respondents. But with reference to time constraints, availability of the respondents and descriptive nature of the study a range of 100-150 respondents is appropriate. 100 responses or more will yield helpful descriptive information, and 150 responses or more will enhance the reliability of the results.

Data Collection Method

The data in this study will be collected by using a structured questionnaire that has been made in Google Forms to obtain primary data. The questionnaire will comprise close-ended questions

that will provide demographic data, usage of AI tools, perception of creative workflow, ethical considerations and challenges, authorship concerns, copyright awareness, and thoughts on originality and aesthetic diversity. The form will be distributed via academic and pro networks, including university groups, LinkedIn, Behance, WhatsApp groups, design communities etc. The secondary data will be obtained from peer-reviewed research articles, books, reports, and relevant industry sources primarily published during 2020 to 2026.

Data Analysis Technique

Qualitative portion of the study will be analyzed by thematic analysis. As previously identified in the literature, major themes will be identified, including workflow transformation, ethical anxiety, authorship, copyright issues, aesthetic homogenization, AI literacy, and responsible design practice. The percentage method and description will be used in the quantitative analysis of survey data. Answers will be given in the form of tables, graphs and interpretations. This approach will be used to clearly demonstrate the number of respondents who agree or disagree or neutral on the effect of generative AI on visual communication design.

Ethical Considerations

The study will be carried out according to ethical principles. The participants will be notified about the academic aim of the research prior to completing the questionnaire. They will be involved on a voluntary basis and no personal or sensitive information will be used for any purpose other than academic. Respondents' identities will be kept confidential. The study will also cultivate academic honesty, which will be done by citing properly all the secondary sources and avoiding plagiarism. As the topic of the research is itself related to ethics in AI-assisted design, transparency, responsibility and respecting intellectual property will be key throughout the research process.

Results

Quantitative Data Analysis

This chapter presents the quantitative analysis of the study titled “Artificial Intelligence and Generative Design in Visual Communication.” The quantitative data was analyzed by the percentage method and descriptive statistics. The questionnaire aimed to explore participants' perception and experiences with generative AI tools, their opinions on how generative AI affects their creative processes, ethical and copyright issues, aesthetic originality, cultural authenticity, as well as responsible use of generative AI in design education and practice. 150 responses were analysed. Results are reported in tabular form, giving the count and percentage for each, and then interpreted.

4.1 Demographic Profile of Respondents

Table 4.1: Gender Distribution of Respondents

Gender	Frequency	Percentage
Male	77	51.3%
Female	69	46.0%
Prefer not to say	3	2.0%
Other	1	0.7%
Total	150	100%

Table 4.1 shows that most respondents were male, representing 51.3% of the total sample, while female respondents represented 46.0%. A small proportion selected “prefer not to say” or “other.” This indicates that the sample included both male and female participants in a fairly balanced way, making the responses useful for understanding perceptions of AI and generative design across different gender groups.

Table 4.2: Age Group of Respondents

Age Group	Frequency	Percentage
18–22 years	44	29.3%
23–27 years	52	34.7%

28–32 years	35	23.3%
33–37 years	11	7.3%
38 years and above	8	5.3%
Total	150	100%

The largest group of respondents belonged to the 23–27 years category, with 34.7%, followed by the 18–22 years group at 29.3%. This shows that most respondents were young adults, which is relevant because younger designers and students are more likely to be exposed to digital tools, AI-based platforms, and generative design technologies. The presence of older respondents also adds professional experience to the dataset.

Table 4.3: Educational Qualification of Respondents

Qualification	Frequency	Percentage
Undergraduate	58	38.7%
Graduate	33	22.0%
MS/MPhil	38	25.3%
PhD	3	2.0%
Diploma/Certificate	15	10.0%
Other	3	2.0%
Total	150	100%

Table 4.3 indicates that most respondents were undergraduates, representing 38.7%, followed by MS/MPhil respondents at 25.3% and graduates at 22.0%. This shows that the sample mainly consisted of students and academically trained individuals. Since the study also focuses on design education and AI literacy, the participation of undergraduate and postgraduate respondents is highly relevant.

Table 4.4: Current Role of Respondents

Current Role	Frequency	Percentage
Design student	55	36.7%
Graphic designer	25	16.7%

Visual communication designer	32	21.3%
Design educator	15	10.0%
Creative professional	16	10.7%
Freelancer	7	4.7%
Other	0	0.0%
Total	150	100%

The largest proportion of respondents were design students, representing 36.7% of the sample. Visual communication designers formed 21.3%, while graphic designers represented 16.7%. This shows that the respondents were directly connected with visual communication, graphic design, design education, and creative practice. Therefore, their responses are suitable for analyzing the impact of generative AI on visual communication design.

Table 4.5: Design/Creative Field Experience

Experience	Frequency	Percentage
Less than 1 year	32	21.3%
1–3 years	50	33.3%
4–6 years	35	23.3%
7–10 years	15	10.0%
More than 10 years	18	12.0%
Total	150	100%

Most respondents had 1–3 years of experience, representing 33.3%, followed by 4–6 years at 23.3%. This indicates that the sample included early-career and moderately experienced designers. Since generative AI is a recent technological development, responses from early-career designers are important because they are more likely to adopt and experiment with AI-based tools.

4.2 Awareness and Use of Generative AI Tools

Table 4.6: Awareness of Generative AI Tools

Response	Frequency	Percentage
Yes	119	79.3%

No	5	3.3%
Somewhat	26	17.3%
Total	150	100%

Table 4.6 shows that 79.3% of respondents were aware of generative AI tools used in design, while 17.3% were somewhat aware. Only 3.3% were not aware of such tools. This indicates a high level of awareness among the respondents and suggests that generative AI has already entered the visual communication and design environment.

Table 4.7: AI-Based Tools Used or Heard About

AI Tool	Frequency	Percentage
ChatGPT	124	82.7%
Canva AI	100	66.7%
Adobe Firefly	80	53.3%
Midjourney	75	50.0%
DALL-E	65	43.3%
Stable Diffusion	43	28.7%
Other	9	6.0%
None	5	3.3%

The findings show that ChatGPT was the most commonly used or recognized AI tool, with 82.7% of respondents selecting it. Canva AI was also widely known, with 66.7%, followed by Adobe Firefly at 53.3% and Midjourney at 50.0%. Since this was a multiple-response question, the total percentage exceeds 100%. These results show that respondents were familiar with both text-based and image-based generative AI tools.

Table 4.8: Frequency of Using Generative AI Tools

Frequency of Use	Frequency	Percentage
Never	16	10.7%
Rarely	23	15.3%
Sometimes	51	34.0%

Often	45	30.0%
Very often	15	10.0%
Total	150	100%

The data show that 34.0% of respondents use generative AI tools sometimes, while 30.0% use them often and 10.0% use them very often. This means that 74.0% of respondents use AI tools at least sometimes. Only 10.7% reported that they never use these tools. This indicates that generative AI is becoming part of design practice, especially for creative exploration, idea generation, and visual production.

Table 4.9: Main Purpose of Using AI Tools in Design

Purpose	Frequency	Percentage
Idea generation	40	26.7%
Image generation	31	20.7%
Layout/design suggestions	14	9.3%
Content writing/caption writing	14	9.3%
Mood board creation	13	8.7%
Editing/refinement	12	8.0%
I do not use AI tools	26	17.3%
Total	150	100%

The most common purpose of using AI tools was idea generation, selected by 26.7% of respondents. Image generation was the second major purpose, selected by 20.7%. These findings suggest that respondents mainly use AI during the early stages of the design process, especially for ideation, visual exploration, and generating creative directions. This supports the idea that AI is currently being used more as a support tool than as a complete replacement for designers.

4.3 Impact of Generative AI on Creative Workflow

Table 4.10: Respondents' Views on AI and Creative Workflow

Statement	Agree	Strongly Agree	Combined Agreement	Mean Score
Generative AI is becoming important in visual communication design	62	69	87.3%	4.32
Generative AI helps designers generate ideas more quickly	69	57	84.0%	4.17
AI tools improve the speed of the creative workflow	69	58	84.7%	4.18
AI tools are useful for early-stage ideation and visual exploration	81	46	84.7%	4.10
Generative AI helps in creating multiple design variations in less time	64	62	84.0%	4.25
AI-assisted tools reduce manual effort in the design process	68	48	77.3%	3.99
Human creativity is still necessary even when AI tools are used	72	61	88.7%	4.26
AI is changing the designer's role from creator to curator/editor/creative director	71	34	70.0%	3.84

Table 4.10 shows that respondents strongly recognized AI's role in transforming the creative workflow. A high proportion of respondents agreed that generative AI is becoming important in visual communication design, with a combined agreement of 87.3%. Similarly, 84.0% agreed that AI helps designers generate ideas more quickly, while 84.7% agreed that AI improves the speed of creative workflow. The results also show that 84.7% agreed that AI tools are useful for early-stage ideation and visual exploration.

A major finding is that 88.7% of respondents agreed that human creativity is still necessary even when AI tools are used. This suggests that respondents do not view AI as a complete replacement for designers. Instead, they see AI as a support system that enhances speed, ideation, and variation. Furthermore, 70.0% agreed that AI is changing the designer's role from creator to curator, editor, or creative director. This finding supports the research objective of analyzing how generative AI transforms the traditional creative workflow in visual communication.

4.5 Ethical, Authorship, and Copyright Concerns

Table 4.11: Ethical and Professional Concerns Related to AI-Assisted Design

Statement	Agree	Strongly Agree	Combined Agreement	Mean Score
AI-generated design creates confusion about authorship and ownership	72	45	78.0%	4.01
Copyright is a major concern in AI-assisted visual design	63	49	74.7%	3.95
Designers should disclose when AI tools are used in professional design work	65	57	81.3%	4.11
AI-generated visuals may use artists' style/work without proper permission	66	29	63.3%	3.63
AI tools may create ethical issues related to bias, data use, and transparency	65	33	65.3%	3.74
Designers should remain responsible for final output even if AI tools are used	62	50	74.7%	4.00

The results show that respondents were clearly concerned about ethical and professional issues in AI-assisted visual design. A total of 78.0% agreed that AI-generated design creates confusion about authorship and ownership, while 74.7% agreed that copyright is a major concern. This indicates that AI-generated visuals create uncertainty regarding who should be considered the actual creator: the designer, the AI system, or the original artists whose works may have contributed to the training data.

The highest ethical agreement was found for disclosure, where 81.3% of respondents agreed that designers should disclose when AI tools are used in professional design work. This suggests that transparency is an important concern among designers and design students. Furthermore, 74.7% agreed that designers should remain responsible for the final output even if AI tools are used. This finding is important because it supports the idea that AI should be used under human control, with designers maintaining ethical responsibility and professional accountability.

4.6 Aesthetic Diversity, Originality, and Cultural Authenticity

Table 4.12: Respondents' Views on Originality and Cultural Authenticity

Statement	Agree	Strongly Agree	Combined Agreement	Mean Score
AI-generated designs often look visually similar or repetitive	61	32	62.0%	3.67
Excessive use of AI may reduce originality in visual communication design	66	27	62.0%	3.59
AI tools can support creativity when used with human judgment	65	65	86.7%	4.27
AI-generated visuals may not fully represent local cultural identity and context	55	40	63.3%	3.73
Human designers are needed to maintain cultural authenticity in AI-assisted design	67	63	86.7%	4.26

Table 4.12 shows that respondents recognized both the creative potential and the aesthetic risks of generative AI. A total of 62.0% agreed that AI-generated designs often look visually similar or repetitive, and the same percentage agreed that excessive use of AI may reduce originality in visual communication design. This indicates that respondents were aware of the risk of aesthetic homogenization, where AI-generated visuals may become repetitive, generic, or overly dependent on existing visual patterns.

At the same time, the results show a strong belief in human-AI collaboration. A total of 86.7% agreed that AI tools can support creativity when used with human judgment. Similarly, 86.7% agreed that human designers are needed to maintain cultural authenticity in AI-assisted design. These findings suggest that respondents do not reject AI, but they emphasize that AI must be guided by human creativity, cultural understanding, and contextual decision-making. The results also show that 63.3% agreed that AI-generated visuals may not fully represent local cultural identity and context, which is highly relevant to visual communication in culturally specific environments.

4.7 Responsible AI Use and Design Education

Table 4.13: Respondents' Views on AI Literacy, Guidelines, and Design Education

Statement	Agree	Strongly Agree	Combined Agreement	Mean Score
Design education should include AI literacy and prompt engineering	75	51	84.0%	4.10
Students should be taught ethical guidelines for using AI in visual design	78	53	87.3%	4.19
AI should be used as a supportive tool rather than a replacement for designers	64	67	87.3%	4.28
Professional design practice needs clear guidelines for responsible AI use	53	71	82.7%	4.25
AI can improve the future of visual communication if used ethically and responsibly	64	71	90.0%	4.34

The results strongly support the need for responsible AI education and professional guidelines. A total of 84.0% of respondents agreed that design education should include AI literacy and prompt engineering. This shows that respondents believe design institutions must update their curricula in response to technological changes in the field. Moreover, 87.3% agreed that students should be taught ethical guidelines for using AI in visual design, indicating that AI education should focus not only on technical skills but also on responsibility, originality, authorship, and

transparency. The findings also show that 87.3% agreed that AI should be used as a supportive tool rather than a replacement for designers. This is one of the strongest findings of the study and directly supports the central argument that AI should enhance human creativity rather than replace it. Furthermore, 82.7% agreed that professional design practice needs clear guidelines for responsible AI use. The highest agreement in this section was for the statement that AI can improve the future of visual communication if used ethically and responsibly, with a combined agreement of 90.0%. This shows that respondents are optimistic about AI, but their optimism depends on ethical and responsible use.

4.8 Overall Perception of Generative AI in Visual Communication

Table 4.14: Overall View of AI's Impact on Visual Communication Design

Overall View	Frequency	Percentage
Very negative	6	4.0%
Negative	5	3.3%
Neutral	30	20.0%
Positive	71	47.3%
Very positive	38	25.3%
Total	150	100%

Table 4.14 shows that the overall perception of the respondents towards the use of generative AI in visual communication design was largely positive. Overall, 47.3% considered the impact of AI to be positive, and 25.3% found it very positive. Overall, 72.6% of the respondents had a positive or very positive opinion of generative AI. Just 7.3% referred to its impact as negative or very negative and 20.0% were neutral. The results indicated that while the majority of respondents are positive about the increasing presence of AI in visual communication, their acceptance depends on the ethical application of AI, human involvement, and responsible design practices.

4.9 Summary of Quantitative Findings

The quantitative results indicate that recognition and utilization of generative AI in visual communication design is on the rise. The vast majority of those surveyed were familiar with AI

tools and a significant portion used them occasionally. Some of the most well known tools were: ChatGPT, Canva AI, Adobe Firefly, Midjourney, and DALL-E. The data reveals that designers primarily utilize AI for ideation services, generating images, providing layout suggestions and for initial creative exploration. The findings also indicate that AI has a significant impact on creative processes. It was agreed that AI enables quick idea generation, accelerates workflow, aids ideation, and facilitates producing several design variations in lesser time. The discoveries also prove, however, the importance of human creativity. Respondents were strongly of the opinion that AI should not replace designers but rather be used as a complement or helper.

There was also a significant focus on moral issues. Respondents agreed AI generated design contributes to confusion of authorship, ownership, copyright, transparency and accountability. Additionally, many respondents favored the view that designers should inform users about the use of AI while still taking responsibility for the final design product. Based on these findings, it is clear that there is a need for clear guidelines for professionals in the use of AI for visual design. There were also issues of authenticity and originality identified during the study. Many of the respondents thought that the generated designs by the AI might become visually similar or repetitive, and they were concerned about the potential for overreliance on AI, which could diminish originality. Respondents also thought that AI can help with creativity, however, with human judgment. This underscores the role of human designers in preserving cultural significance, contextually accurate, and visually authentic.

4.10 Qualitative Data Analysis

This section is the qualitative analysis of the study “Artificial Intelligence and Generative Design in Visual Communication”. The qualitative data has been gathered and analyzed from secondary sources such as peer-reviewed journal articles, conference papers, design education studies, legal studies, and responsible AI literature primarily from the period of 2020 to 2026. In the context of this qualitative analysis, the emphasis was placed on the identification of the repeated patterns, ideas, and concerns and arguments concerning the role of generative AI in visual communication design. Thematic analysis was used for the qualitative analysis. Selected literature was thoroughly analysed and key findings coded as initial codes. The codes were then clustered into larger themes of research objectives. The analysis centered on the impact of AI on creative workflow, the evolving role of designers, ethical and copyright considerations, the implications

for originality and aesthetic diversity, and the importance of AI literacy in design and design education.

4.10.1 Qualitative Data Source

Table 4.15: Nature of Qualitative Data Sources

Type of Source	Focus Area	Purpose in Analysis
Review articles	AI in creative industries and graphic design	To understand broad developments in AI-assisted creative practice
Conceptual papers	GenAI, aesthetics, culture, and authorship	To understand theoretical debates around AI-generated visual media
Experimental studies	Creativity, design fixation, and originality	To examine how AI affects creative thinking and visual diversity
HCI and design studies	Human-AI collaboration and co-creation	To understand changing designer-AI interaction
Legal studies	Copyright, ownership, and AI authorship	To examine ethical and legal issues in AI-generated design
Design education studies	AI literacy, pedagogy, and student learning	To understand the role of AI in future design education

Table 4.15 shows that the qualitative data were collected from different types of academic and professional sources. This is important because the topic of generative AI in visual communication is multidisciplinary. It is not only a technical issue but also a creative, ethical, legal, cultural, and educational issue. Therefore, the use of different types of literature helped in developing a wider and more balanced understanding of the research problem.

4.10.2 Thematic Coding Summary

Table 4.16: Final Themes Generated from Qualitative Analysis

Theme No.	Final Theme

T1	Creative Workflow Transformation
T2	Designer as Collaborator and Curator
T3	Ethical, Authorship, and Copyright Concerns
T4	Aesthetic Homogenization and Originality Risk
T5	AI Literacy and Design Education
T6	Responsible and Human-Centered AI Use

Table 4.16 presents the six major themes generated through thematic analysis. These themes are directly linked with the research questions of the study. The first two themes focus on the transformation of creative workflow and the changing role of designers. The third theme addresses ethical, authorship, and copyright issues. The fourth theme focuses on originality and aesthetic diversity. The fifth theme connects the findings with design education, while the final theme provides a broader direction for responsible and human-centered AI use in visual communication.

4.10.3 Theme 1: Creative Workflow Transformation

The first major theme identified from the literature is creative workflow transformation. The reviewed studies show that generative AI is changing the way designers move through different stages of the design process. Traditionally, visual communication design involved research, sketching, mood boarding, concept development, experimentation, revision, and final execution. However, AI tools now support several of these stages by generating ideas, images, layouts, visual references, and design variations in a short time. Feuerriegel et al. (2024) explain that generative AI can produce different forms of content, including text, images, audio, and visual outputs. This makes GenAI highly relevant for visual communication because design practice depends on the production and interpretation of visual material. Li et al. (2024) also found that AI is reshaping graphic design through automation, image generation, decision support, and new design challenges. Similarly, Ruiz-Arellano et al. (2022) suggest that AI tools can support visual persuasive discourse by assisting design strategies and visual communication processes.

Table 4.17: Analysis of Creative Workflow Transformation

Key Finding	Initial Codes	Final Interpretation
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AI speeds up ideation and visual exploration	Ideation, automation, quick variations	AI reduces time in early design stages
AI supports image generation and layout suggestions	Visual generation, design assistance	AI functions as a production-support tool
AI introduces new decision-making demands	Human selection, editing, refinement	Designers must judge and refine AI outputs

The analysis shows that generative AI does not simply automate design; it changes the structure of the design process. AI can help designers produce more options in less time, especially during ideation and prototyping. However, this also increases the importance of human judgment because designers must evaluate which AI outputs are conceptually strong, visually suitable, and ethically acceptable. Therefore, AI transforms the workflow from manual production toward AI-assisted exploration and human-led refinement.

4.10.4 Theme 2: Designer as Collaborator and Curator

The second theme is the changing role of the designer. The literature shows that AI is shifting the designer's role from only being a manual creator toward becoming a collaborator, curator, editor, prompt director, and creative decision-maker. In this new workflow, the designer may not create every visual element manually but remains responsible for guiding the process, selecting outputs, refining visuals, and ensuring that the design communicates the intended message.

Anantrasirichai and Bull (2022) argue that AI works best in creative industries when it augments human creativity rather than replacing creative professionals. Shi et al. (2023) explain that human-AI design collaboration involves different forms of interaction, including AI assisting designers and designers guiding AI systems. Rezwana and Maher (2023) also emphasize that effective co-creative AI systems require interaction, communication, control, and partnership between human and machine. Inie et al. (2023) further show that creative professionals view GenAI as both an opportunity and a disruption because it affects workflow, professional identity, and creative control.

Table 4.18: Analysis of Designer Role Shift

Key Finding	Initial Codes	Final Interpretation
AI supports designers rather than fully replacing them	Augmentation, support, assistance	AI should be treated as a collaborative tool
Designers must guide and evaluate AI outputs	Curation, editing, decision-making	Designer becomes curator and creative director
Professional identity is changing	Role shift, anxiety, adaptation	Designers need new AI-related skills

The analysis shows that the designer's role is becoming more strategic. Technical execution remains important, but the designer's value increasingly depends on visual judgment, prompt writing, concept evaluation, ethical awareness, and cultural understanding. This supports the argument that AI does not remove the need for designers; instead, it changes what designers are expected to do. The future designer must be able to collaborate with AI while maintaining creative control and professional responsibility.

4.10.5 Theme 3: Ethical, Authorship, and Copyright Concerns

The third theme relates to ethical, authorship, and copyright concerns. The reviewed literature consistently shows that generative AI creates uncertainty about ownership, originality, disclosure, and accountability. In visual communication design, these issues are especially important because designers often create commercial visual outputs such as logos, posters, branding materials, advertisements, social media campaigns, and illustrations. If AI-generated visuals are based on training data that includes copyrighted works, questions arise about who owns the final output and whether the original creators should be acknowledged or compensated.

Epstein et al. (2023) argue that generative AI affects ownership, aesthetics, culture, creative labor, and media ecosystems. Kenthapadi et al. (2023) emphasize that responsible AI requires fairness, accountability, transparency, safety, and governance. Gaffar and Albarashdi (2025) explain that AI-generated works create difficult copyright questions related to originality, ownership, legal protection, and human involvement. Saw and Lim (2026) further discuss the possibility of AI authorship and the need for copyright law to respond to advanced generative systems.

Table 4.19: Analysis of Ethical and Copyright Issues

Key Finding	Initial Codes	Final Interpretation
AI creates uncertainty about ownership	Copyright, authorship, originality	Legal status of AI-generated design remains unclear
AI use requires transparency	Disclosure, accountability, responsible use	Designers should disclose AI involvement
Human involvement remains important	Human authorship, creative control	Final responsibility should remain with the designer

The analysis shows that ethical and legal concerns are central to AI-assisted visual communication. AI-generated designs may appear original, but their connection with training data creates uncertainty. This makes transparency important in professional design practice. Designers should not use AI outputs blindly; they should check originality, avoid copying identifiable styles, disclose AI assistance where necessary, and remain accountable for final design decisions. This theme directly supports the second research objective, which focuses on ethical dilemmas and copyright concerns in AI-assisted visual design.

4.10.6 Theme 4: Aesthetic Homogenization and Originality Risk

The fourth theme is aesthetic homogenization and originality risk. The literature shows that generative AI can support creativity, but it can also reduce diversity if many designers depend on similar AI systems, prompts, and visual datasets. Since AI models are trained on existing visual material, they often reproduce dominant visual patterns, styles, and compositions. This creates a risk that AI-generated designs may become attractive but repetitive, generic, or culturally shallow.

Doshi and Hauser (2024) found that generative AI can enhance individual creativity but may reduce the collective diversity of creative outputs. This means AI can help one designer produce better ideas, but when many users depend on similar systems, outputs may become more alike.

Wadinambiarachchi et al. (2024) also found that exposure to AI-generated images can increase design fixation and reduce divergent thinking. Naqvi et al. (2025) similarly identify tensions around creativity, ownership, and design identity in generative AI-supported design education and practice.

Table 4.20: Analysis of Aesthetic Homogenization and Originality Risk

Key Finding	Initial Codes	Final Interpretation
AI may improve individual creativity	Inspiration, idea generation, support	AI can help designers explore possibilities
AI may reduce collective diversity	Similar outputs, repeated styles	Overuse may create aesthetic homogenization
AI can increase design fixation	Fixation, reduced divergence	Designers may become limited by AI suggestions

The analysis shows that AI has a dual impact on creativity. On one side, it supports idea generation and visual experimentation. On the other side, it may reduce originality if designers depend too much on machine-generated suggestions. This is highly relevant for visual communication because good design must communicate meaning, identity, and context rather than simply appear polished. Human designers must therefore critically modify AI outputs, add cultural relevance, and avoid accepting generic visuals without deeper conceptual development.

4.10.7 Theme 5: AI Literacy and Design Education

The fifth theme is AI literacy and design education. The reviewed literature strongly suggests that design education must be updated to include AI literacy, prompt engineering, ethical awareness, copyright understanding, and critical visual thinking. Since AI tools are becoming common in creative practice, design students need to learn how to use them responsibly. However, the literature also warns that AI should not replace foundational design skills such as typography, layout, color theory, composition, sketching, and conceptual thinking.

Fleischmann (2024a) argues that design curricula should include structured GenAI training while also addressing ethics, copyright, and critical design thinking. Fleischmann (2024b) found that

students use GenAI for design learning and ideation but require guidance to avoid weakening the core creative process. Lee (2025) suggests that GenAI can improve creativity-related learning in visual design courses when integrated through structured projects. Huh and Miri (2025) also show that students recognize the usefulness of AI-generated images but connect AI use with ethical responsibility, authorship, and career implications.

Table 4.21: Analysis of AI Literacy and Design Education

Key Finding	Initial Codes	Final Interpretation
AI should be included in design curricula	AI literacy, prompt engineering	Students need future-ready design skills
AI use requires ethical training	Copyright, disclosure, responsibility	Design education must teach responsible AI
Foundational design skills remain necessary	Visual literacy, critical thinking	AI should not replace core design learning

The analysis shows that AI education should be balanced. Students should learn how to use AI tools, but they must also understand when and how to use them responsibly. Without proper guidance, students may become dependent on AI-generated outputs and may not develop strong visual judgment. Therefore, design education should combine AI literacy with traditional design principles, ethical reasoning, and human-centered creativity. This theme supports the study's objective of proposing responsible guidelines for AI use in professional design practice.

4.10.8 Theme 6: Responsible and Human-Centered AI Use

The final theme is responsible and human-centered AI use. The literature suggests that the future of visual communication should not be based on replacing designers with AI. Instead, AI should be used as a supportive tool that enhances creative efficiency while remaining under human direction. Human-centered AI use means that designers must remain responsible for meaning, context, ethics, cultural identity, and final communication value.

Kenthapadi et al. (2023) argue that responsible AI requires accountability, transparency, fairness, and governance. Epstein et al. (2023) show that generative AI affects broader cultural and

creative systems, which means that its use must be carefully evaluated. Anantrasirichai and Bull (2022) also support the view that AI should augment human creativity rather than replace it. These studies collectively show that responsible AI use in visual communication requires human oversight, ethical review, and cultural sensitivity.

Table 4.22: Analysis of Responsible and Human-Centered AI Use

Key Finding	Initial Codes	Final Interpretation
AI should support, not replace, designers	Augmentation, human-centered AI	AI is most useful as a design assistant
Responsible use requires governance	Transparency, fairness, accountability	Professional guidelines are needed
Human judgment remains central	Culture, ethics, meaning	Designers must control final communication

The analysis demonstrates that the use of AI is responsible, which is the main answer to the challenges identified in this study. While AI can drive innovation, efficiency, and experimentation, it is essential to cultivate human creativity, ethical considerations, and cultural sensitivity to harness its potential. The designer in the field of visual communication is not merely to make beautiful designs, but also to make meaningful, authentic and socially responsible communication. Thus, it is believed that the study proposes a human-centric approach with AI as a supportive tool in the creative process rather than a final designer.

4.10.9 Summary of Qualitative Findings

The qualitative analysis identified six major themes: creative workflow transformation, designer as collaborator and curator, ethical and copyright concerns, aesthetic homogenization and originality risk, AI literacy in design education, and responsible human-centered AI use. These themes reveal generative AI's influence over visual communication design on several fronts.

In the first place, AI is revolutionizing the creative workflow by streamlining the ideation, prototyping, image generation, and visual exploration process. Second, the designer's job has now transitioned from simply creating it to becoming a curator, editor, prompt director and

ethical decision-maker. Third, the literature identifies issues of serious ethical concern on issues of authorship, copyright, ownership, disclosure and accountability. Fourth, while AI can assist with creativity, relying too heavily on AI-generated images can lead to a lack of originality and a uniformity in visual presentation. Fifth, AI literacy, prompt engineering, copyright and responsible design thinking need to be integrated into design education. Lastly, the literature clearly indicates that there is a need for human-centred AI that treats AI as a tool to support rather than replace designers.

Discussion

The results of this work indicate that AI and Generative Design have been revolutionizing the practice of visual communication. Most respondents reported awareness of generative AI tools with the quantitative findings showing that many were already using these tools to generate ideas, images, visual exploration, and workflow. This is in line with Feuerriegel et al. (2024) as they state that generative AI is a powerful socio-technical system that can generate text, images, audio, and other digital content. In the same way, Li et al. (2024) noted that AI is shaping graphic design in various aspects, including the automation of design tasks, image generation, design assistance, and creativity. The current study aligns with this result as the respondents strongly agreed that AI aids in the generation of ideas in a quick manner and that it enhances the speed of workflow, and also aids in early ideation. The initial key aim of this study is to examine the changes in the creative process with the advent of Generative AI. The findings distinctly demonstrate that AI shifts the conventional design approach from a labor-intensive manual trial and error method to a more agile and efficient AI-driven exploration. Majority of the respondents indicated that AI can generate several different designs within a shorter time frame and minimize manual labour in design practice. The findings are closely related to Epstein et al. (2023), who suggest that generative AI is more than just a tool—it is a new creative medium that influences aesthetics, ownership, labor, and even the media landscape. The results, however, also indicate that human creativity is still required with the use of any AI tool. This is consistent with the findings of Anantrasirichai and Bull (2022) who state that AI should not be used to replace creative professionals, but should be used to supplement their creativity.

It is also revealed that the involvement of the designer as a professional is changing. The respondents agreed that AI is evolving the designer's role to become, not only a creator, but also a curator, editor, and creative director. This is well supported by Shi et al. (2023), who reveal that human-AI design collaboration requires interaction, control, communication, and decision-making between the designers and the AI systems. Rezwana and Maher (2023) also highlight the need for copresence and copresence of human and machine in a co-creative AI system. Thus, the current research has corroborated that the future designer will not only be a manual maker, but he will also be a prompt writer, evaluator, editor, ethical decision maker and a cultural interpreter. The second study aim was to uncover ethical issues and copyright issues within AI-assisted visual design. The results indicate high concern about authorship, ownership, copyright, transparency and responsibility. A significant number of respondents concurred that, by using AI design, it becomes unclear who owns the rights to the creation and that designers should declare their use of AI in professional projects. The results align with those of Gaffar and Albarashdi (2025) that AI-generated works raise intricate legal queries surrounding originality, authorship, and ownership. Epstein et al. (2023) also point to the issues of ownership, credit, creative work, and cultural creation that are associated with generative AI. This current study thus validates the need for ethical guidelines in the use of AI in visual communication design.

Third was to investigate the impact of generative design tools on variety and originality of aesthetics. The findings indicate that the respondents feel that the visualizations created by AI can become repetitive and that over-reliance on AI may diminish creativity. This discovery is firmly connected with the work of Doshi and Hauser (2024), who discovered that while generative AI could boost individual creativity, it might diminish the diversity of creative outputs in groups. Wadinambiarachchi et al. (2024) also discovered that AI-generated image support can enhance design fixation and decrease divergent thinking in visual ideation. The above studies corroborate the present study's worry about the emergence of a generalized, repetitive, and visually homogenized visual communication output, given that many designers would rely on the same AI system and prompt. Another key discovery is in regard of cultural authenticity. The respondents agreed that the visuals produced by AI can't adequately depict local cultural identity and that human designers must be involved in AI-assisted design to preserve cultural authenticity. This is a significant discovery in the realm of visual communication; design is not just creating beautiful visuals, it's a matter of meaning, identity, audience and cultural relevance.

While AI tools can produce aesthetically appealing pictures, they might miss the nuances of local symbols, regional aesthetics, cultural sensitivities, and social meaning. Hence, human designers will continue to play a pivotal role in making sure the AI-generated content is contextually relevant and culturally appropriate.

The study also indicated that there was a high level of agreement regarding the importance of the education of AI literacy and responsible design. The majority of the respondents feel that design education should incorporate AI literacy, prompt engineering, and ethical principles. This result is consistent with Fleischmann (2024a), Fleischmann (2024b), Lee (2025), and Huh and Miri (2025), who share the view that design education should prepare students to use AI in their professional practice and simultaneously instill the importance of ethical awareness, originality, and critical visual judgment. The findings indicate that while universities should not dismiss the use of AI tools, there is a need to be responsible in using them in curricula. Pupils must acquire both AI-based skills and key design fundamentals like typography, layout, colour theory, composition, cultural awareness and conceptual thinking.

Conclusion

This study examined the role of Artificial Intelligence and Generative Design in Visual Communication with a focus on creative workflow, ethical concerns, authorship, copyright, aesthetic originality, cultural authenticity, and responsible design practice. The results indicate that generative AI is emerging as a significant tool in the toolkit of modern visual communication design, aiding in the swift generation of ideas, enhancement of design workflows, production of visual variations, and facilitating early-stage ideation. A primary quantitative finding was that a majority of the respondents were aware of AI-based design tools and had a positive impression about the impact that AI had on visual communication, overall. The study also revealed that AI poses significant professional and ethical issues. Participants voiced worries regarding the authorship, ownership, copyright, transparency, and responsibility of AI-generated design. This concern was corroborated by the qualitative analysis, which indicated that the literature reviewed in the past few years also highlights legal and ethical uncertainty as a significant concern in AI-assistance for creative tasks. Thus the study can be concluded that AI should be utilized with ethical standards and professional responsibilities.

The study also revealed that generative AI can affect aesthetic variety and originality. AI tools can help with creativity, but relying solely on AI-generated content can result in bland, generic, or culturally nuanced visuals. This demonstrates that creativity, cultural insight, and critical visual judgment is still an important part of visual communication for humans. It's important for designers to carefully consider AI-generated content, filter out any inaccuracies, and adapt it to suit specific contexts, audiences, and cultural nuances. The study also reveals how important it is to have AI literacy in design education. Both design institutions and students need to be equipped to address the responsible use of AI tools and enhance fundamental design capabilities. The future of visual communication isn't about replacing designers with AI; it's about fostering a harmonious balance between the two. It is important to note that AI is a tool to facilitate innovation and that the designers should ultimately make decisions regarding originality, ethics, meaning, and cultural authenticity.

Future Recommendations

1. Design institutions should include AI literacy, prompt engineering, and ethical AI use in visual communication curricula.
2. Professional design agencies should develop clear policies for disclosing the use of AI-generated visuals in client-based projects.
3. Designers should use AI as a supportive tool for ideation and experimentation, not as a full replacement for human creativity.
4. Future researchers should conduct comparative studies between human-made designs and AI-generated designs to evaluate originality, emotional impact, and audience perception.
5. More localized research should be conducted in Pakistan to examine how AI-generated visuals represent regional culture, Urdu typography, local symbols, and visual identity.
6. Copyright and authorship guidelines should be developed for AI-assisted design work to protect designers, clients, and original artists.
7. Design students should be trained in foundational visual skills such as layout, typography, color theory, composition, and cultural research before relying heavily on AI tools.

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