



IMPACT OF AI-DRIVEN DESIGN TOOLS ON CREATIVITY AND ORIGINALITY IN BRANDING

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Abstract

As generative artificial intelligence (GenAI) increasingly integrates into design processes, branding a domain where creativity and originality are key strategic assets—encounters both opportunities and challenges. This theoretical paper merges new empirical research, legal updates, and human-computer interaction (HCI) viewpoints to explore how AI-powered design tools influence creative thought and the originality of brand outcomes. We combine studies on human-AI collaboration, divergent and convergent thinking, automation bias, and intellectual property (IP) frameworks with a conceptual methods section that offers a framework for assessing “originality” and “creativity” in the context of AI enhancement. Evidence indicates that AI tools can enhance the speed of ideation, broaden the range of concepts explored, and improve the perceived creative quality among peers; however, they may also lead to design fixation, standardize visual styles, and create challenges regarding authorship and trademark uniqueness. Originality in branding within the context of artificial intelligence should be reconceptualized as a team property that emerges from human direction, data provenance, and system affordances, rather than solely as a characteristic of output artifacts. A governance-by-design agenda is proposed, incorporating bias-aware prompts, mixed-initiative interaction, and legal-ethical guardrails to maintain distinctiveness and cultural authenticity in brand identity systems.

Keywords

GenAI, Branding, Creativity, Originality and Governance

Introduction

Branding creates memorable, unique, and significant identity systems by fusing semiotics, strategy, and craft. Accelerated conceiving and execution are promised by the emergence of AI-driven design tools, such as text to image generators, auto layout and font pairing assistants, and style transfer models. AI is now used in mood boarding, logo exploration, naming assistance, color palette creation, and quick iterations of artwork. However, the same affordances that increase volume and speed could also lead to new creative limitations. AI support can boost “weirdness” or novelty ratings without enhancing usefulness or brand alignment, according to early HCI experiments, underscoring a decoupling of creativity’s traditional dual components (novelty × usefulness).

According to other controlled studies, exposure to AI-generated examples increases design fixation and decreases idea variety and originality, endangering the distinctiveness that is essential to branding assets. Logos, mascots, and other brand signifiers are directly impacted by the authorship, originality, and ownership of AI-assisted outputs that legal regimes are grappling with. A “human authorship” requirement is upheld by U.S. guidelines; content created solely by AI is not protected by copyright unless a human’s creative input is sufficiently determinative. Concerns regarding visual

plagiarism and downstream infringement risks for companies that use AI imagery are also raised by studies into model "memorization" and image regurgitation.

Against this backdrop, this paper poses three guiding questions:

1. How do AI-driven design tools influence the *process* of creativity in branding particularly divergent and convergent phases?
2. How do these tools affect the *originality* and *distinctiveness* of brand artifacts under real-world legal and cultural constraints?
3. What design and governance strategies can preserve human agency and brand identity uniqueness in AI-augmented workflows?

We first review the literature, then propose a conceptual methods framework for evaluating AI's impact on creativity and originality in branding, followed by a discussion and implications.

2. Review of Literature

2.1 Generative AI and Creative Workflows

Recent HCI and management reviews portray a shift from automation to *co-creation*, where AI acts as a partner whose generative capabilities can expand search spaces, scaffold ideation, and support non-linear iteration. Large-scale analyses of text-to-image platforms indicate that AI boosts creative productivity (e.g., more artworks per creator) and increases the probability of peer appreciation, while average visual novelty may decline suggesting an expanding but inefficient idea space where standout novelty coexists with more homogeneity. In design education, survey-based research suggests AI can enhance creative cognition through increased self-efficacy and reduced anxiety, but the effects are mediated by learner characteristics a reminder that creative gains are contingent, not guaranteed. Systematic reviews similarly highlight rapid growth of GenAI research in creative contexts, with calls for nuanced models of adoption, ethics, and long-term socio-economic effects.

2.2 Divergent vs. Convergent Thinking under AI Assistance

Digital tools frequently encourage teams to move towards convergence (selection, refinement) rather than divergence (exploration), according to classic studies. This is significant because branding ideation necessitates both extensive exploration and strict alignment with positioning. A preliminary meta-analysis of creativity support tools reveals an imbalance: most tools prioritise idea generation, but idea evaluation and selection are still undervalued. If this imbalance is not purposefully addressed, AI may exacerbate it (Frich et al., 2021; Rodrigues et al., 2023).

Crucially, a CHI 24 experiment revealed that AI image generation decreased output variety and originality and increased fixation on initial examples, warning that simple prompt and select workflows can limit exploration. However, other research suggests that co-creative processes can improve creative performance with the right kind of support, particularly by assisting beginners in coming up with ideas and allowing experts to hone and improve (Wang et al., 2025).

2.3 Bias, Automation Bias, and Prompt Bias

Biases can permeate both human and model behaviour beyond fixation. Reviews of automation bias, or an excessive dependence on automated outputs, caution against accepting fluent AI suggestions without question, which would undermine critical verification and creative agency. Research on exploratory design reveals a related "prompt bias," in which the way prompts are phrased directs results into small stylistic basins, subtly influencing creative direction. Additionally, organisational commentary warns that unquestioned AI defaults may establish cultural "good enough" benchmarks that subtly standardise aesthetics and tone (Romeo & Conti, 2025; Kahn et al., 2024; Popescu & Schut, 2023; Colon & Colon, 2025).

2.4 Legal and IP Considerations for Originality in Branding

The uniqueness of brand assets is not solely about their visual appeal it serves as the foundation for legal protection and market identity. U.S. legal precedents and guidance from the Copyright Office in 2025 emphasize that works need to reflect human creativity to qualify for copyright; outputs generated entirely by machines, lacking adequate human oversight, typically do not pass the authorship criteria. Comparative

studies of laws and policy reviews (EU, UK, Asia) demonstrate a general alignment toward authorship centered on human contribution, although the specifics may differ (Kukkonen & Tait, 2023; U.S. Copyright Office, 2025; Gaidartzi & Stamatoudi, 2025; Ambartsumian & T. Cannon, 2025).

Simultaneously, evidence of “visual regurgitation” by image models raises potential infringement risks if AI reproduces training data elements too closely—an acute concern for logos and campaign imagery meant to be unique. WIPO emphasizes the need for copyright infrastructure—transparency, consent, licensing—to balance creators’ rights with innovation as GenAI scales (Marcus & Southen, 2024; Jones, 2024).

2.5 AI in Marketing and Branding Practice

Recent marketing science and industry reports indicate a growing adoption of GenAI for content and creative development, leading to increased efficiency and, in some instances, enhanced engagement. Nevertheless, scholars highlight the necessity of safeguarding brand voice, preserving authenticity, and upholding ethical standards to mitigate risks of diminished trust and content uniformity. Industry practitioners acknowledge the advantages of GenAI in terms of speed and personalization, yet underscore the critical need to manage dataset provenance, licensing conditions, and the non-exclusive rights commonly linked to AI-generated content (Grewal et al., 2024; Hayes & Downie, 2025; Kujore et al., 2025).

3. Methods: A Theoretical Framework to Study AI’s Impact on Branding Creativity and Originality

Given the mixed and context-dependent nature of empirical findings, this paper introduces a theoretical, *multi-level* evaluation framework to examine the impact of AI on creativity and originality in branding. The framework integrates cognitive, interaction design, and legal-cultural dimensions.

3.1 Constructs and Levels

Level A: Cognitive Process

- This level encompasses divergent production, including fluency, flexibility, and originality, as well as convergent evaluation, which assesses appropriateness and brand fit (Frich et al., 2021; Erwin et al., 2022). *Fixation* and *biases* (automation and prompt bias) as moderating variables (Romeo & Conti, 2025; Popescu & Schut, 2023).

Level B: Interaction–System

- *Initiative structure* (user-initiated versus mixed-initiative), transparency and explainable artificial intelligence (XAI), and serendipity controls are implemented to balance operational speed with reflective processes (Kadenhe et al., 2025; Salma et al., 2025).

Level C—Artifact—Outcome:

- *Originality* (novelty relative to competitive set), *distinctiveness* (trademark registrability proxies), *brand coherence*, and *cultural resonance* (Grewal et al., 2024).
- *Legal robustness* (copyrightability with human authorship; low infringement risk/regurgitation) (U.S. Copyright Office, 2025; Marcus & Southen, 2024).

Level D—Governance—Context:

- *Data provenance* and licensing transparency; organizational policies mitigating automation bias and ensuring human review (Kahn et al., 2024).

3.2 Theoretical Propositions

P1: Mixed-initiative co-creation enhances *effective* originality by expanding the scope of exploration while maintaining human selection standards. Systems that integrate AI-generated suggestions with human curation and explicit evaluation rubrics are likely to surpass prompt-and-select workflows in terms of

originality, without compromising alignment with brand requirements (Kadenhe et al., 2025; Frich et al., 2021).

P2: Bias-aware prompt scaffolds reduce fixation and stylistic convergence. Constraints that diversify prompts (e.g., negative prompts against trending styles, cultural range cues) and require periodic “prompt resets” will increase variety and reduce similarity to known exemplars (Popescu & Schut, 2023).

P3: Bias-aware prompt scaffolds mitigate fixation and stylistic convergence. Implementing constraints that diversify prompts, such as negative prompts targeting trending styles and cues for cultural range, as well as requiring periodic prompt resets, is expected to increase variety and decrease similarity to established exemplars (U.S. Copyright Office, 2025; Lim, 2023).

P4: Ensuring transparency regarding training data and the use of style filters can reduce infringement risk with minimal impact on creative output. Implementing model-side citational transparency or style blocklists, such as excluding living artists or specific styles, is likely to have a negligible effect on creative ratings while significantly decreasing perceived legal risk (Marcus & Southen, 2024).

3.3 Operationalizing Measures

- **Originality/Distinctiveness:** Nearest-neighbor visual similarity against market category sets; lexical-semiotic uniqueness for names/taglines; preliminary trademark screen proxies (Grewal et al., 2024).
- **Fixation:** Linkography and entropy-based measures across ideation sequences; variety indices across concept clusters (Frich et al., 2021).
- **Legal Robustness:** Human authorship logs, edit traceability, and automated checks for potential regurgitation patterns (U.S. Copyright Office, 2025; (Marcus & Southen, 2024).
- **Process Health:** Automation-bias scales and verification-effort metrics; self-efficacy and anxiety measures (Romeo & Conti, 2025; Hwang & Wu, 2025).

4. Discussion

4.1 Reconciling Mixed Evidence on Creativity

Empirical findings are inconsistent: certain experiments suggest that AI enhances perceived creativity, such as novelty or unusualness, without improving brand alignment, while others report diminished originality and variety due to fixation. This apparent contradiction can be resolved by considering the effects of AI as dependent on the stage of the creative process. During initial exploration, AI may increase perceived novelty by generating out-of-distribution imagery. However, with repeated prompting, the search process can become constrained within stylistic boundaries, leading to increased fixation on local optima, particularly when prompts reuse previous outputs.

Accordingly, *workflow design* matters. Mixed-initiative, diversity-encouraging interactions and explicit alternation between divergent and convergent cycles (Double Diamond) should counteract drift toward homogenization (Kadenhe et al., 2025; Rodrigues et al., 2023).

4.2 Originality as a Team Property

Brand originality is often framed as output-centric. Under AI augmentation, originality becomes a *team property* arising from: (1) human strategic framing, taste, and selection; (2) tool affordances and guardrails; (3) data provenance; and (4) socio-legal context. The human role shifts upstream (defining brand territories) and downstream (curating and composing), aligning with research that co-creative workflows enhance novices’ ideation and experts’ refinement (Wang et al., 2025).

This reframing is consistent with the copyright “human authorship” doctrine and supports the World Intellectual Property Organization’s call for infrastructures that facilitate consent, transparency, and compensation. Demonstrable human control, such as compositing, redrawing, or typographic decisions, fulfills legal requirements and contributes to brand coherence and sustained equity (U.S. Copyright Office, 2025).

4.3 Managing Risk: From Visual Plagiarism to Automation Bias

Visual plagiarism presents a significant concern for branding. Evidence indicates that certain models are capable of generating near-verbatim scenes or styles, which creates substantial infringement risks for commercial applications, even in the absence of explicit references. Brands are advised to select models trained on licensed corpora, implement style filters, and maintain internal 'no-go' lists that include protected characters and living artists. When combined with human-led redraw and vectorization, these measures reduce the risk of similarity while preserving brand distinctiveness (Marcus & Southen, 2024; Jones, 2024).

On the cognitive side, automation bias can lull teams into accepting AI outputs as “objective,” compressing the refinement loop and degrading originality and fit. Process interventions—forced alternative generation, explainability prompts (“why this layout?”), and verification tasks—reduce complacency and improve decision accuracy. (Romeo & Conti, 2025; Kahn et al., 2024)

4.4 Branding Strategy Implications

Efficiency vs. Distinctiveness. Marketing scholarship documents efficiency and personalization gains from GenAI, but warns against over-standardization that blunts brand voice. For identity systems, the imperative is to *spend saved time on strategy and craft*—more research, better semiotic mapping, and intentional typographic/graphic systems that cannot be trivially replicated (Grewal et al., 2024; Hayes & Downie, 2025).

Measurement Upgrades. Traditional reviews rely on taste and heuristics. We advocate category-aware similarity audits and longitudinal novelty tracking to detect homogenization over time. This complements legal screening, supports distinctiveness claims, and guides brand refresh cycles (Grewal et al., 2024).

Education and Upskilling. Given evidence that self-efficacy mediates creative benefits and that novices and experts benefit differently from co-creation, team training should differentiate roles: prompt librarianship and exploration facilitation for juniors; critical curation, narrative synthesis, and system design for seniors (Hwang & Wu, 2025; Wang et al., 2025).

Ethics and Culture. The semiotics of brands are culturally situated. Over-reliance on globally trained models risks cultural flattening. Designers should use *local corpora*, community feedback, and sensitivity reviews to ensure resonance and avoid stereotype amplification (Heigl, 2025).

4.5 A Governance-by-Design Toolkit

1. **Mixed-Initiative Co-Creation:** Alternate divergent prompts with human critique sessions; enable AI to propose *rationales*, not just artifacts (Kadenhe et al., 2025).
2. **Diversity Controls:** Use prompt templates that force lateral moves (e.g., “negate essential attribute,” random metaphor injection), countering fixation documented in controlled studies (Frich et al., 2021).
3. **Bias-Aware Protocols:** Rotate prompt framings, require cross-model checks, and log prompt lineage to surface prompt bias (Popescu & Schut, 2023).
4. **Human Authorship Checkpoints:** Mandate hand-drawn passes, typographic decisions, compositing, and rationale documentation for registrability and portfolio integrity (U.S. Copyright Office, 2025).
5. **Provenance & IP Filters:** Prefer licensed datasets; apply style/artist filters; run internal similarity sweeps before public release (Marcus & Southen, 2024).
6. **Automation-Bias Mitigations:** Calibrate trust through verification tasks, uncertainty displays, and *challenge-the-AI* rituals in design reviews (Romeo & Conti, 2025).

5. Conclusion

AI-driven design tools are reshaping branding’s creative landscape. Evidence shows that AI can elevate ideation productivity and peer-perceived novelty, but also that uncritical use may narrow exploration, induce fixation, and compromise originality and legal protectability. The path forward is not to reject AI,

but to *re-architect* workflows so that human strategic judgment, cultural literacy, and craft anchor the process—and AI augments exploration and execution under transparent, ethical, and legally sound constraints. By adopting mixed-initiative systems, bias-aware prompts, provenance controls, and authorship documentation, branding teams can harness AI as a *creativity amplifier* while safeguarding the distinctiveness that underpins brand equity (Zhou & Lee, 2024; U.S. Copyright Office, 2025).

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