IMPACT FACTOR 7.50 (SJIAI)

BIHAR SHODH SAMAAGAM

Multidisciplinary, Multi-Lingual, Peer Reviewed /Refereed Open Access Journal
Vol. 4, Issue 3 July-September, 2026
Available online : https://www.biharshodhsamaagam.com/
https://doi.org/10.5281/zenodo.22999369

ISSN : 3048-6971

When the Line Remembers: Human Creative Agency and Cultural Memory in AI-Assisted Warli-Inspired Visual Transformation

Leena Dass[1]*, Mamta Rana[1], and Rajinder Kaur[2]

[1] Department of Fine Arts, RIMT University, Mandi Gobindgarh, Punjab, India

[2] Department of Fine Arts, Lovely Professional University, Phagwara, Punjab, India

***Corresponding author: Leena Dass, Research Scholar, Department of Fine Arts, RIMT University, Mandi Gobindgarh, Punjab, India | leena@rimt.ac.in**

ORCID: 0009-0007-3431 738X

Abstract

Warli visual language has moved through changing materials and spaces for decades, but generative artificial intelligence introduces a different kind of transformation because the image itself can now be proposed, varied, and recombined by a computational system. This practice-based qualitative study follows six retained stages in the development of one Warli-inspired digital artwork, Who Owns the Line?, to examine where human creative agency remains visible in an AI-assisted process. The analysis considers relational composition, simulated earthen materiality, the role of a central hand, digital fragmentation, and the reasons particular outputs were rejected. The strongest stages were not simply the most polished. They were the ones that kept people, animals, movement, and environment in relationship and allowed digital elements to enter the composition without reducing Warli-inspired forms to isolated decoration. The study argues that creative agency in this workflow is most clearly seen in framing, comparison, refusal, selection, redirection, interpretation, and responsibility for how the final image is named and presented. The paper does not claim traditional Warli authenticity or community authorship. Instead, it treats the retained decision trail as evidence for practice-based Fine Arts research and as a way to discuss responsible contemporary engagement with a culturally rooted visual language.

Keywords: Warli-inspired art, generative AI, creative agency, cultural memory, practice-based research, visual transformation

When the Line Remembers: Human Creative Agency and Cultural Memory in AI-Assisted Warli-Inspired Visual Transformation

A generated image can appear in seconds, but an artwork rarely arrives that quickly. Between the first output and the image an artist keeps lies a quieter process of looking again, noticing what feels false, asking for a different balance, and sometimes rejecting a polished result because it says the wrong thing. That middle space matters when generative AI becomes part of artistic practice.

The question becomes more delicate when the visual language belongs to a living cultural tradition. Warli painting, associated with Warli communities of western India, is recognised through circles, triangles, lines, human and animal figures, trees, houses, and scenes of shared activity. Scholarship connects these forms with ritual, oral memory, agriculture, social life, and community relationships rather than treating them as free-floating decoration (Dalmia, 1984, 1988; Heredia & Dandekar, 2000).

Warli art has also travelled across media. In Fields of Sight, Gauri Gill and Warli artist Rajesh Vangad combine photography and drawing so that local memory and narrative inhabit the photographed landscape (Grewal, 2015; Schwachenwald, 2019). Recent scholarship likewise reads Warli practice through Indigenous worldviews and ecological relations rather than through isolated motifs alone (Ghosal & Karmakar, 2026).

Generative AI adds another layer because the system proposes visual alternatives rather than simply receiving an image on a new surface. This shifts some labour from direct mark-making toward judgement: the artist must decide what belongs, what weakens the idea, and what should be refused. This study examines that decision-making through one artwork-development sequence.

Literature and Conceptual Context

Warli as a Relational Visual Language

Warli painting is often introduced through geometry because geometry is immediately visible. Yet a group of dancers, a field scene, or figures gathered around an activity creates meaning through relationship. Dalmia (1984, 1988) places Warli form within ritual and worldview, while Heredia and Dandekar (2000) stress oral tradition and community memory. For this study, relational composition therefore matters more than simply counting recognisable motifs.

The analysis asks whether people, animals, vegetation, movement, and space still appear to belong to one shared visual world or whether they have been reduced to disconnected stylistic tokens. That distinction became a practical criterion for comparing the retained stages.

AI, Cultural Imagery, and Human Decision-Making

Computational generation has already been applied to Warli-like stick figures. Das et al. (2023) used a generative adversarial network approach to synthesize Warli-style figures, showing how formal features can be modelled computationally. Work with Dayak motifs and Ao Naga oral traditions further shows that technical generation is not the same as cultural adequacy: structured cultural knowledge can improve specificity, while multimodal systems can also flatten or stereotype Indigenous representation (Hatef Jalil & Abdullah, 2026; Supongtemjen & Hangsing, 2026).

Audience response adds another concern. Feng and Hu (2026) found that perceived authenticity shaped responses to AI-generated heritage design, while Haidemariam (2026) describes generative creativity as an iterative arrangement in which human actors remain central to evaluation and contextual meaning. These studies support looking beyond generation itself to the decisions that follow it.

Research Gap and Questions

Much of the literature on AI and cultural imagery focuses on generation, preservation, cultural accuracy, or audience response. Less attention is given to what happens after an image appears on screen. An artist may receive several plausible outputs and keep none of them. Those refusals can reveal the working criteria of the practice, yet they are rarely documented as research evidence.

The study therefore asks three questions: (a) How does a human-directed generative process alter the visual relationships within Warli-inspired imagery? (b) Which artistic decisions lead to acceptance, rejection, or redirection of generated outputs? and (c) How can a final artwork acknowledge computational generation while still making human judgement and cultural responsibility visible?

Method

Research Design

The study uses a practice-based qualitative design in which the artist and researcher are the same person and the making process is treated as a site of inquiry. The purpose is interpretive rather than experimental. Retained images were compared through explicit visual criteria, and the reasons for major acceptance or rejection decisions were recorded so that the reflexive position of the artist-researcher remained visible.

The corpus contains six retained stages from Who Owns the Line? Earlier variations were produced through Gemini and the final refinement through ChatGPT image generation under artist-directed instructions. The stages were compared for relational composition, line and movement, simulated materiality, the role of the hand, digital fragmentation, and conceptual coherence.

Scope and Ethical Boundary

The generated works are described as Warli-inspired, not as traditional, ritual, or community-authored Warli paintings. The artist-researcher's judgement is not treated as proof of cultural authenticity; such validation would require consultation with Warli artists and knowledge holders. The paper is also separate from the author's doctoral material research and reports no alcohol-ink experiments, acrylic surfaces, home-decor prototypes, questionnaire data, participant responses, durability tests, or final PhD studio outcomes.

Table 1 summarises the decision record used to compare the six retained stages.

Table 1

Decision Record for the Six Retained Visual Stages

Stage	Visual condition	Decision	Reason
I01	Dense shared field; large hand; strong digital zone.	Retain as process evidence	Digital side overpowered the composition.
I02	Sparse hand-and-grid scene; few figures.	Reject	Too empty; figures read as isolated signs.
I03	Earthen field; added thread-like forms near hand.	Reject	Extra symbolism became too directive.
I04	Sparse earthen field; limited digital marks.	Reject	Too little movement and relational depth.
I05	Shared field with overlapping digital structures.	Retain	Best pre-final balance.
Final	Earthen and digital fields overlap around an active hand.	Select	Strongest balance of memory, direction, and transformation.

Note. The table records the artist-researcher's comparative decisions and is not an external cultural-authenticity rating.

Results and Visual Analysis

Relationship Was More Important Than Motif Count

The clearest difference across the sequence was not motif count but relationship. In stronger stages, people, animals, vegetation, and movement formed a shared field. In weaker stages, similar figures behaved like icons placed inside a graphic system. I02 was visually tidy but felt uninhabited because the figures were contained by the grid rather than connected through activity. I05 restored movement and density without becoming crowded.

A generated image could therefore look immediately Warli-like and still lose the sense of collective action that gave the visual language depth. Relational composition became a stronger basis for artistic judgement than surface recognisability.

Material Reference, the Hand, and Digital Overlap

Terracotta, ochre, cracks, and wall-like texture were used as digital references to an earth-associated setting. These were simulations, not physical material evidence. Used quietly, they helped the figures feel situated; used too heavily, they became theatrical. I03 was rejected because extra thread-like forms around the hand began to dictate a fixed symbolic story.

The hand became more important as the sequence developed. It shifted from a bridge between earthen and digital zones to an ambiguous sign of selecting, releasing, interrupting, or directing. That ambiguity reflected the workflow: the artist did not draw every generated line, but the system did not decide the cultural boundary, the reasons for rejection, or the final interpretation. The final version also softened the hard split between "tradition" and "technology" by allowing the two visual fields to overlap.

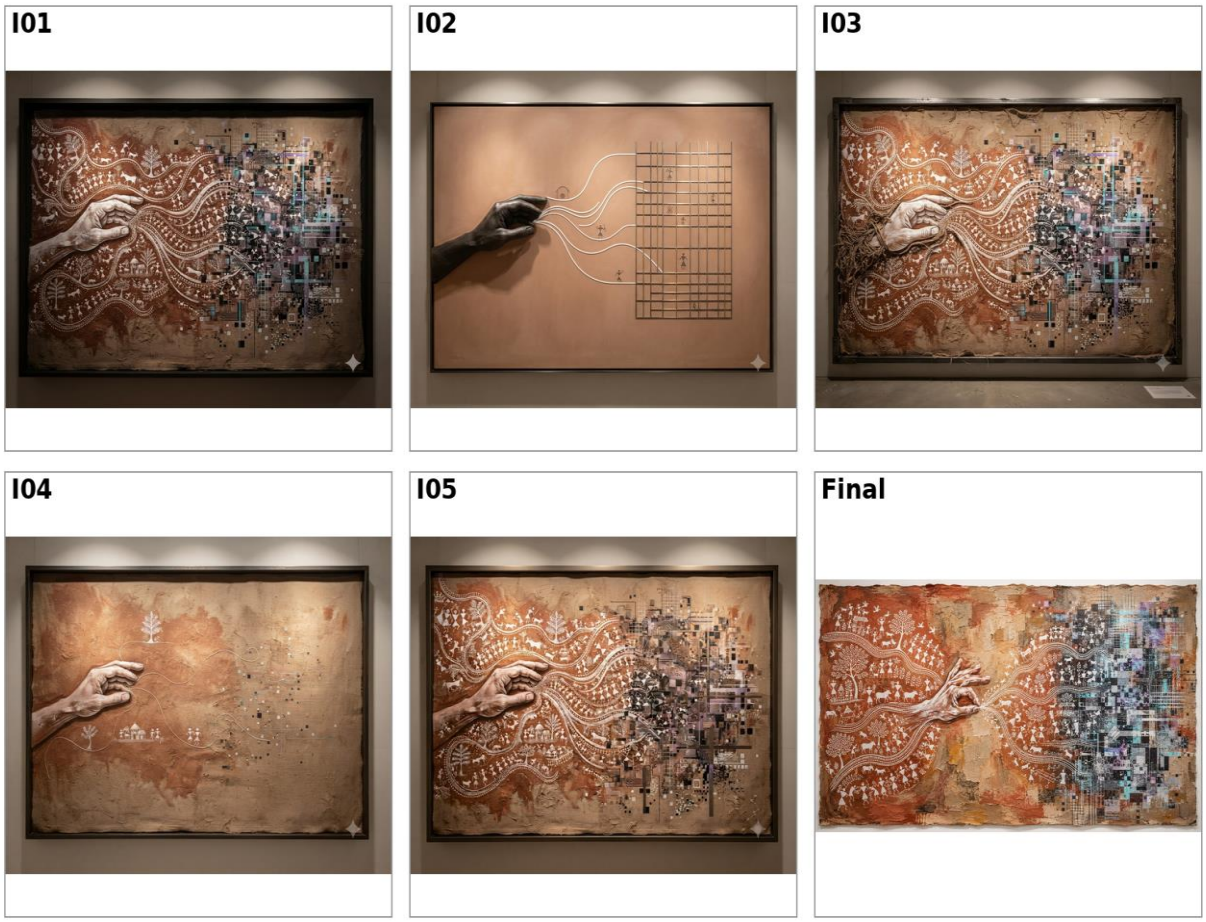
Rejection as Creative Labour

Several discarded outputs were attractive as standalone images but were rejected because they were too decorative, sparse, symbolic, or digitally dominant. Rejection therefore became evidence of creative labour. In a process that can produce many plausible images quickly, the pattern of what is refused can make artistic judgement more visible than the final image alone.

Figure 1 shows the retained stages discussed in the analysis.

Figure 1

Selected Stages in the Human-Directed Development of Who Owns the Line?



Note. Composite process image prepared by the first author from six retained AI-assisted visual stages generated under artist-directed instructions using Gemini and ChatGPT image generation.

Discussion

The study suggests that human agency in generative art is easier to see when attention moves beyond the prompt. The final work emerged through framing, comparison, refusal, redirection, and interpretation. This is consistent with Haidemariam's (2026) account of AI-mediated creativity as a workflow in which generative systems expand possible outputs while human actors remain central to evaluation and contextual meaning.

The decision trail also separates visual generation from cultural judgement. A model can produce circles, triangles, repeated figures, and earthen-looking texture, but those cues do not establish responsible cultural use. Research on Dayak motifs and Ao Naga oral traditions similarly shows why culturally specific knowledge and evaluation remain necessary when generative systems engage Indigenous heritage (Hatef Jalil & Abdullah, 2026; Supongtemjen & Hangsing, 2026).

The most useful distinction was between a recognisable motif and a relational scene. The weakest stages still looked Warli-like in a superficial sense, yet they felt conceptually thin because figures had become isolated signs. This supports scholarship that reads Warli meaning through ritual, social memory, place, and environmental relationship rather than geometry alone (Dalmia, 1984, 1988; Ghosal & Karmakar, 2026).

Contribution and Implications

The main contribution is methodological: the decision trail around a generated image is treated as part of the research evidence. In practice-based Fine Arts research, preserved iterations, rejection reasons, and moments of redirection can make otherwise invisible artistic labour discussable. Culturally inspired outputs should therefore be judged not only by recognisability, but also by what relationships they retain, what they simplify, and what authority the artist claims when describing them.

Limitations and Future Research

This is a small reflexive study of one artist-researcher and one artwork-development sequence. It cannot be generalised to all artists, platforms, or uses of Warli visual culture. It includes no Warli community consultation, expert cultural validation, or audience testing and therefore makes no claim that the final work is culturally approved or authentically Warli. Future research should add community-grounded review and comparison across generative systems.

Conclusion

Who Owns the Line? began as an image-making experiment but became a question about where creative responsibility sits when a generative system enters a culturally rooted visual process. The strongest stages kept people, animals, movement, and environment in relationship, used earth-associated texture with restraint, and allowed digital structure to overlap the cultural field without replacing it.

Human creative agency in this study is therefore understood as a sequence of decisions: framing an intention, recognising when an output is wrong for that intention, refusing attractive but misleading solutions, redirecting the system, interpreting the result, and taking responsibility for how the work is named and presented.

Generative AI can produce cultural-looking forms quickly; cultural memory does not arrive with the same speed. It has to be approached through knowledge, restraint, acknowledgement, and judgement. The line may be computationally generated, humanly selected, and culturally inherited at the same time.

References

1. Dalmia, Y. (1984). The Warli chawk: A world-view. *India International Centre Quarterly, 11*(4), 79–90.
2. Dalmia, Y. (1988). *The painted world of the Warlis: Art and ritual of the Warli tribes of Maharashtra*. Lalit Kala Akademi.
3. Das, N., Kundu, S., Deb, S., & Saha, S. (2023). Generative adversarial neural approach towards construction of Warli-stick figure aboriginal artwork. *Procedia Computer Science, 218*, 2071–2080. https://doi.org/10.1016/j.procs.2023.01.183
4. Feng, L., & Hu, W. (2026). From aesthetics to authenticity: A stimulus-organism-response model of audience responses to AI-generated intangible cultural heritage design. *Scientific Reports*. Advance online publication. https://doi.org/10.1038/s41598-026-69396-4
5. Ghosal, A., & Karmakar, G. (2026). Indigenous worldviews and decoloniality in *The Deep*: Warli art and the politics of decanonization. *South Asian Review*. Advance online publication. https://doi.org/10.1080/02759527.2026.2673756
6. Grewal, I. (2015). Gauri Gill and Rajesh Vangad: "Fields of Sight." *Trans-Asia Photography Review, 5*(2). https://doi.org/10.1215/215820251_5-2-205
7. Haidemariam, T. (2026). After generative AI: Authorship, labour, and cultural governance. *AI & Society*. Advance online publication. https://doi.org/10.1007/s00146-026-03189-1
8. Hatef Jalil, M., & Abdullah, J. (2026). An inference stage taxonomy-guided prompt framework for culturally aware generation of indigenous motifs. *Discover Artificial Intelligence, 6*, Article 959. https://doi.org/10.1007/s44163-026-01944-3
9. Heredia, R. C., & Dandekar, A. (2000). Warli social history: An introduction. *Economic and Political Weekly, 35*(50), 4428–4436. https://doi.org/10.2307/4410060
10. Schwachenwald, F. (2019). Articulating the contemporary? Collaborative aesthetics and Indigenous knowledge in Gauri Gill and Rajesh Vangad's *Field of Sight* (2013-ongoing). *Global Histories: A Student Journal, 5*(2), 92–108. https://doi.org/10.17169/GHSJ.2019.328
11. Supongtemjen, & Hangsing, P. (2026). Generative artificial intelligence and Indigenous heritage in libraries: A proof-of-concept study using Ao Naga oral traditions. *IFLA Journal, 52*(2), 184–193. https://doi.org/10.1177/03400352251412907