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How Technology Discriminates Against Handloom Workers

By Osama Manzar



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8 Min Read

It is time to treat handloom clusters as digital destinations armed with public infrastructure and healthcare, like the smart-city model

Every year on National Handloom Day, the same conversations come back. The decline of the sector, lack of policy support, shrinking market share, and the broken value chain. The mood is often one of lament—understandable, but predictable. Perhaps, it is time to shift the frame of inquiry.

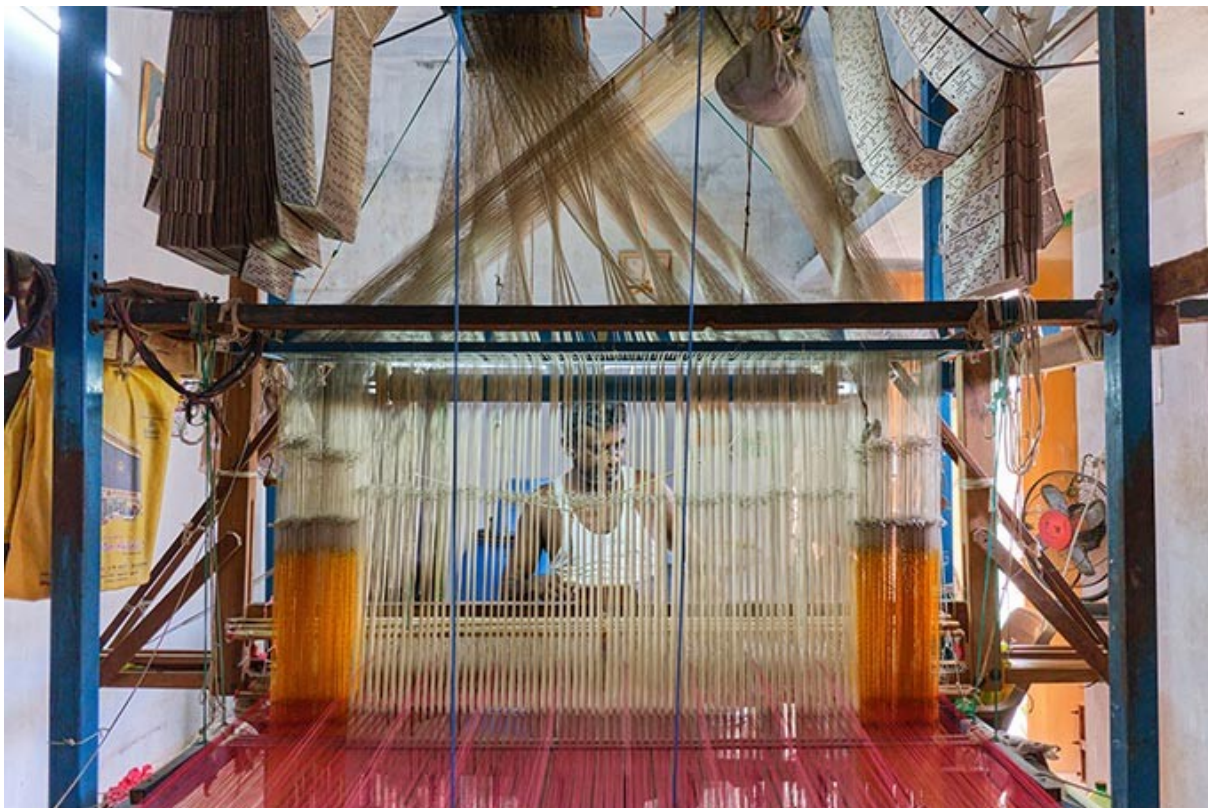
At its core, the handloom is a machine, rudimentary perhaps, but no less

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engineering passed down generations. The person who sets up and operates a loom is a technician, a thinker, an innovator. In today's digitally driven world, that insight should be obvious, but it still is not.

Despite the complex processes involved, from weaving intricate ikat patterns and calibrating thread tension to operating the jacquard machine (one of the earliest forms of programmable computing), the handloom worker continues to be seen as a labourer, not a technologist. In reality, handloom weaving is a form of knowledge work. It involves spatial logic, systems thinking, design sensibility, and physical precision. Yet, the system continues to treat these artisans as unskilled, peripheral contributors, inferior to fashion designers, buyers, or bureaucrats who legislate over their futures.



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market interventions suit rely on outdated ways of thinking. Frequently asked questions focus on how artisans can sell online or compete with power looms. But these miss the more urgent questions: are we truly empowering weavers as knowledge workers? Are we building a foundation that recognises their role as cultural and technological contributors?

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The Scale of What We are Ignoring

The argument for a new approach is both demographic and economic. India is home to over 200 million artisans, including 3.5 million handloom workers. More than 72 per cent are women. The 470 handloom clusters, across 2.3 million looms, contribute more than ₹24,000 crore to the economy annually.





Yet, 78 per cent of handloom Micro, Small and Medium Enterprises (MSMEs) lack access to finance. Only 30 per cent bank branches are located in rural India, which is home to nearly 910 million people.

Financial exclusion is not incidental; it is structural. In the era of UPI and Aadhar-linked banking, not having financial inclusion is digital exclusion.

Digital Expansion versus Exclusion

The exclusion extends into the digital realm. India boasts 445 million rural internet users and 425 million rural smartphone users. But only 122 million rural users have ever made an online payment. Even more telling is that only six percent of 122 million accounts for 45 per cent of all digital transactions, indicating a heavily skewed usage pattern according to the Nielson India Report 2023.

If this is the level of digital engagement across rural India, how many in the handloom sector, already marginalised, are truly active in the digital economy? The answer, in all likelihood, is very few.

At its core, the handloom is a machine, rudimentary perhaps, but no less a technology.

This is even more stark when we look at Geographical Indication (GI)

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These are economic goods, as well as cultural artefacts. Yet, the very people safeguarding these legacies are excluded from the digital tools that could help preserve, promote, and earn profit for them.

A Digital Public Infrastructure for the Loom

It is time to treat handloom clusters as digital destinations, not just production nodes. Much like the “smart city” model, handloom clusters deserve a public digital infrastructure. This should include reliable internet access, affordable mobile connectivity, digitally integrated schools, and primary health centres.



DEF has helped built a local digital ecosystem across Chanderi, Madhya Pradesh.

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Every micro and nano enterprise, even those running from a weaver’s home, should receive subsidised digital access. But infrastructure alone

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must reflect the value they create, not in sympathy, but in parity with other knowledge sectors like design, tech, and fashion.

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Chanderi and Beyond

The Digital Empowerment Foundation (DEF) has been implementing these ideas since 2009, starting with Chanderi, Madhya Pradesh. There, DEF built a local digital ecosystem across homes, schools, and health centres. Over 50,000 weaving designs were digitised. During the COVID-19 lockdown, the number of operational looms rose from 4,000 to 5,500, because of the digital training and market connectivity. The project included Community Information Resource Centres and trained 10,000 artisans in digital literacy, design, and e-commerce.

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A workshop being undertaken for Paithani weavers by DEF | Intersections

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DEF's Digital Cluster Development Program has since expanded to 10 handloom and handicraft clusters across states like Rajasthan, Uttar Pradesh, Tamil Nadu, Maharashtra, Odisha, Karnataka, and Telangana, reaching nearly 50,000 artisans and weavers.

In Tamil Nadu, DEF has focused on GI-tagged clusters in Salem (Silk Fabric as GI), Pattamadai (mat as GI), and the Toda Community in Nilgiris (embroidery as GI), working to enhance digital skilling and market access. These efforts aim to expand customer reach, improve income, and secure cultural recognition for weavers by making them visible in the digital world.

It is a call to action for policymakers, designers, educators, financiers, and technologists. A call to finally rise for the weavers, not just in words, but in systems that centre their value and agency. Let's design each handloom cluster and each GI as digitally enabled Smart Cluster and Smart GI.

Osama Manzar is the Founder and Director of the Digital Empowerment Foundation (DEF) and Co-Chair of the Digital Artisans of India Award.

Banner: Female artisans at work on the laptop.

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