CHAPTER - 20
CIRCULAR ECONOMY PRACTICES IN ARTISANAL PRODUCTION: EVIDENCE FROM JAIPUR'S BLUE POTTERY INDUSTRY

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Abstract

The transition towards a circular economy has gained increasing attention as a means of improving resource efficiency and promoting sustainable production. However, limited research has examined how circular economy principles operate within traditional artisan industries, particularly informal production systems. This study investigates the extent to which circular economy practices are present in Jaipur's Blue Pottery industry and their potential economic implications for artisans, consumers, and the wider sector. The study adopts a mixed-method exploratory approach, combining semi-structured interviews with eight Blue Pottery artisans, direct observations of four workshops, and a consumer perception survey of 100 respondents. The research examines production practices, material use, consumer behaviour, and resource management through a circular economy framework. The findings indicate partial circularity within Jaipur's Blue Pottery industry. Material reuse, demand-responsive production, and the repair or discounted sale of defective products indicate resource efficiency and potential value retention, while artisan interviews report an average 12% reduction in material costs associated with reuse. Consumer findings indicate strong sustainability perceptions and stated willingness to pay for handmade products, with respondents reporting a mean stated willingness-to-pay premium of 15.4%. However, reliance on externally sourced raw materials, kiln-dependent production, limited waste recovery, and the absence of formal monitoring mechanisms constrain the development of a more comprehensive circular production system. The study extends circular economy analysis to traditional informal artisanal production and provides evidence relevant to the sustainable development and economic resilience of traditional handicraft industries.

Keywords: *Circular economy; Jaipur Blue Pottery; Traditional handicrafts; Consumer behaviour; Resource efficiency; Informal economy*

Introduction

The transition towards a circular economy has emerged as a significant response to the environmental and economic limitations of conventional linear production systems, which extract, produce, consume, and dispose of resources in a one-directional manner, contributing to resource depletion, waste generation, and environmental degradation (Ghisellini et al., 2016; Geissdoerfer et al., 2017). The circular economy offers an alternative framework focused on reuse, repair, recycling, and refurbishment, thereby improving resource efficiency and extending product lifecycles (Kirchherr et al., 2017; Korhonen et al., 2018). Much of the existing literature, however, focuses on industrial manufacturing and formal supply chains, with comparatively little empirical attention given to traditional artisan industries and informal production systems, where circular practices such as material

conservation and repair may operate without formal recognition within established frameworks (Gregson et al., 2015). Recent research on Indian SMEs and handicraft enterprises further highlights the importance of resource efficiency, sustainability, resilience, and structural constraints within small-scale traditional production systems (Agarwal et al., 2023; Nudurupati et al., 2022). Examining these practices therefore provides an opportunity to assess forms of circularity that may operate without formal recognition as circular-economy interventions.

Jaipur provides an appropriate setting for such an investigation because of its established handicraft traditions, which form an important part of the city's cultural and economic landscape. Within this context, Blue Pottery is a distinctive traditional craft that was revived in Jaipur during the twentieth century, uses a quartz-based composition rather than clay and is produced through skilled, predominantly handmade techniques within artisan workshops (Mathur & Shukla, 2014). These characteristics make Blue Pottery a suitable case for examining resource use, production practices, and potential circularity within traditional informal production. Against this background, this study investigates the extent to which circular economy principles are reflected in Jaipur's Blue Pottery industry and examines their potential economic implications for artisans, consumers, and the wider sector, with particular attention to resource use, production efficiency, material recovery, repair practices, and consumer behaviour.

Methodology

This study adopts a mixed-method exploratory case study design focused on Jaipur's Blue Pottery industry. The approach combines qualitative evidence from semi-structured artisan interviews and direct workshop observations with descriptive quantitative evidence from a structured consumer perception survey, enabling examination of circular practices from both producer and consumer perspectives.

Primary data were collected between November 2025 and February 2026. Semi-structured interviews were conducted with eight Blue Pottery artisans selected through purposive sampling, examining material use, reuse practices, defect handling, repair, production patterns, and waste management. Direct observations were conducted across four workshop–showroom units at different locations, focusing on production processes, material handling, reuse, defect correction, and observable resource-management practices. A structured survey of 100 respondents examined sustainability perceptions, stated willingness to pay for handmade products, attitudes towards repair, and factors influencing Blue Pottery purchases.

Interview and observational evidence were analysed thematically by identifying recurring patterns relating to resource efficiency, material reuse, defect management, repair, and production practices. Survey responses were analysed descriptively using frequencies and percentages. Evidence from the three primary sources was then triangulated to identify areas of convergence and divergence between producer and consumer perspectives. Findings were interpreted in relation to the conceptual framework established in the preceding section.

Results & Discussion

The primary evidence from artisan interviews, workshop observations, and the consumer survey indicates that Jaipur's Blue Pottery industry exhibits partial and largely informal circularity. The strongest evidence concerns material reuse, retention of value from defective products, demand-

responsive production, and consumer interest in handmade products. Together, these findings indicate potential economic benefits through resource efficiency and value retention, although they do not establish a fully circular production system or a causal relationship between circular practices and profitability.

Production Practices and Resource Efficiency

Material reuse emerged as the clearest circular characteristic on the producer side. The eight interviewed artisans reported an average of 8% unused material after production, of which approximately 85% was reused. Reuse was reported by all eight artisans and was also observed across all four workshop–showroom units. This indicates that material reuse forms part of routine production practices among the artisans studied.

The practice also has a direct economic dimension. Artisans reported an average 12% reduction in material expenditure through reuse, equivalent to approximately ₹1,350 per batch, from an average reported raw-material expenditure of ₹11,250. This is consistent with research identifying resource efficiency and cost reduction as potential benefits of circular-economy adoption among Indian SMEs (Nudurupati et al., 2022). For the artisans studied, reuse therefore appears to function both as resource conservation and as a means of controlling production costs. However, the reported savings should not be interpreted as an equivalent increase in profit, as complete operating costs and profitability were not measured. Artisans reported that approximately 80% of production was demand-driven, particularly through tourist orders and restocking of popular products. Such alignment between production and demand may help limit unnecessary inventory and is consistent with the importance of demand conditions within Indian handicraft enterprises (Agarwal et al., 2023). However, because unsold inventory was not independently measured, the study cannot establish that demand-responsive production eliminates overproduction.

Defect management provides a further mechanism for retaining economic value. Artisans reported an approximate average defect rate of 18%, ranging from 10% to 25%. Three artisans reported repairing defective products, five reported selling them at a discount of approximately 20–40%, and four indicated that defective pieces could also be retained as design or colour references. Workshop observations recorded repair in two units and discounted sale in two others. Artisans reported approximately 60% recovery of original value through repair or discounted sale, indicating that defective products do not necessarily result in complete economic loss. This is consistent with the circular principle of retaining product value through recovery and continued use (Kirchherr et al., 2017). However, the 60% estimate is artisan-reported and should therefore be regarded as indicative rather than independently verified.

Consumer Behaviour and Market Value

The consumer survey provides evidence of a substantial demand-side component to the potential economic value of Blue Pottery. Eighty per cent of respondents reported a positive willingness to pay (WTP) a premium for handmade products, while 20% reported no such willingness. Among respondents willing to pay more, the mean stated willingness-to-pay premium was 15.4%, compared with 17.5% among foreign respondents and 12.8% among local respondents. Among willing respondents, 38% selected a premium of 10–20%, 26% selected 20–30%, and 11% selected more than 30%. This finding

aligns with Christoph et al. (2015), who reported consumer WTP premiums of nearly 17% for handmade products, closely comparable to the 15.4% mean and the 17.5% premium among foreign respondents observed here. The foreign-local gap is similarly consistent with GI consumer behaviour research showing that product attributes, origin labelling, and price jointly shape heterogeneous WTP across segments, with weaker reference pricing and stronger cultural-heritage emphasis plausibly driving higher premiums among foreign consumers (Krithika et al., 2026).

Sustainability perceptions further point to potential consumer value. Seventy-four per cent of respondents reported considering sustainability when purchasing products, and 71% believed handmade products to be more sustainable. Both proportions were notably higher among foreign respondents (84% and 80%, respectively) than among local respondents (62% and 60%). These findings are broadly consistent with research linking traditional craft production to sustainability and socioeconomic value within Indian craft ecosystems (Anand et al., 2026). Consumer priorities also reveal clear market differentiation. Handmade value was the most important factor overall, selected by 32% of respondents, followed by design at 28%, while price and durability each accounted for 20%. Handmade value was selected by 44% of foreign respondents but only 18% of local respondents. Conversely, price was selected by 33% of local respondents compared with 9% of foreign respondents. Attitudes towards repair provide a further indication of potential product-life extension. Sixty per cent of respondents stated that they would repair a damaged item rather than replace it, including 69% of foreign and 49% of local respondents. This measures stated preference rather than actual behaviour, but indicates consumer acceptance of continued product use, consistent with the circular-economy principle of extending product lifecycles (Geissdoerfer et al., 2017).

Economic Evaluation

Two mechanisms link the observed practices to potential economic benefit: cost efficiency from material reuse and value retention through defect recovery and consumer willingness to pay. This pattern is consistent with evidence from Indian SMEs, where circular practices generate cost savings within resource and implementation constraints (Nudurupati et al., 2022). Moitra et al. (2025) similarly found consumer demand for sustainable handicraft attributes, though only 40% of their respondents reported willingness to pay a premium, against 80% here, suggesting the present sample places unusually high value on craftsmanship-related attributes. The findings also suggest circular practices arise as much from economic necessity as from environmental intent: reuse reduces input expenditure, defect recovery limits loss, and demand-responsive production aids inventory management. This aligns with Dorland and Jørgensen (2025), who found financial motivation to outweigh environmental motivation in consumer repair decisions, and with wider evidence on artisan livelihoods and economic resilience in Indian craft production (Anand et al., 2026; Bhaskar & Ramananda, 2023). As throughout this section, these results indicate the economic potential of circular practices rather than a demonstrated increase in profitability.

Conclusion

This study finds that Jaipur's Blue Pottery industry shows partial, informal circularity rather than a fully closed-loop system. On the producer side, artisans reuse about 85% of unused materials, cutting material costs by 12% on average, while repair or discounted sale of defective goods and demand-responsive production add further value retention. These savings should not be read as higher

profitability, since full costs and revenues were not measured. On the consumer side, 80% of respondents stated they would pay more for handmade products, with a 15.4% average willingness-to-pay premium among those willing. Foreign consumers showed stronger sustainability preference and willingness to pay, while local consumers were more price-sensitive, pointing to market differentiation. Stated willingness to pay, however, does not guarantee realised prices or artisan income gains. Circularity is limited by production defects, dependence on external inputs, weak monitoring, and the absence of a closed material loop. Given the small, cross-sectional, self-reported sample, findings remain exploratory. Strengthening circularity would require better resource monitoring, kiln efficiency, artisan training, and branding or market support, with future research extending coverage to more sectors, larger samples, and systematic measurement of material, energy, and waste flows.

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