Algorithmic Recommendation and the Attention Economy: The Impact of Social Media on Traditional Craft Communication

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Abstract. Against the backdrop of globalization and digitalization, the protection of intangible cultural heritage is confronted with unprecedented opportunities alongside intricate challenges. Digital technologies offer novel avenues for the preservation, dissemination and innovation of intangible cultural heritage, yet they also give rise to non-trivial predicaments.This study examines how algorithmic recommendation systems operating within the attention economy reconfigure the communication and reception of traditional crafts, with Su Embroidery selected as a paradigmatic case. Employing content and textual analysis of short-form videos on TikTok and Rednote, complemented by semi-structured interviews and participant observation, the research explores how algorithms transform narrative modalities, visual aesthetics, and cultural cognition. Findings indicate that algorithmic logic—centered on maximizing visibility and user engagement, which drives the visualization, entertainmentization, and modernization of traditional crafts, thereby enhancing dissemination efficiency while undermining cultural depth. This study makes contributions by proposing digital communication strategies for the sustainability of intangible cultural heritage and by highlighting the ethical and educational obligations of platforms and cultural institutions in balancing visibility with cultural significance.

Keywords: Algorithm recommendation, Attention economy, Cultural Communication, Su embroidery, Social Media

1 Introduction

Amid the rapid advancement of information and communication technologies, human society has entered the era of the attention economy, wherein attention rather than information has emerged as the most scarce and valuable resource. Social media platforms, including TikTok and Xiaohongshu (Rednote) , compete for user engagement via algorithmic recommendation systems designed to maximize visibility and user retention. Such algorithms have profoundly reshaped the production, presentation, and consumption of cultural content. Although existing scholarship has extensively explored algorithmic influence in commercial and entertainment spheres , insufficient attention has been devoted to its implications for intangible cultural heritage. Traditional

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crafts, exemplified by Su Embroidery—celebrated for its meticulous craftsmanship , patience, and time-intensive production processes —were historically transmitted through apprenticeship systems and embodied learning practices. Yet within algorithm-mediated media ecosystems , these crafts are increasingly mediated through short-form video content that reconfigures their narrative cadence and aesthetic articulation. This study therefore explores how algorithmic recommendation mechanisms reconfigure the communication of traditional crafts. Drawing on Attention Economy Theory (Herbert A. Simon) and Media Ecology Theory (Marshall McLuhan & Neil Postman), it endeavors to unpack how the logic of digital visibility reconstructs the tripartite relationship between traditional craftsmanship, audience, and cultural meaning.

2 Social Media Characteristics and the Definition of Traditional Culture (Case: Su Embroidery)

In the digital age, social media platforms have become the dominant sites of cultural transmission, shaping not only the cultural content individuals consume but also their perceptions and valuation of culture. As Herbert A. Simon posited, "a wealth of information creates a poverty of attention,"[1] signifying that the scarcest commodity in an information-saturated society is no longer data itself but human attention. Across social media platforms operating within the attention economy, visibility and user engagement with specific thematic content are allocated based on algorithmic indicators such as viewing time and clicks. Social media platforms deploy machine learning algorithms that continuously adapt to user behavior, predicting preferences and amplifying emotionally charged or visually stimulating content. A recent large-scale empirical study of short-form video platforms found that top performing videos exhibit a stronger capacity to capture collective attention relative to long-form content, underscoring how algorithms prioritize content optimized for rapid engagement [2]. Short videos gained widespread popularity across digital ecosystems, and the main features of these social media are fragmentation, immediacy and emotional intensity. Fragmentation is characterized by short-term streamlining of content, immediacy highlighting rapid communication and interaction, and emotional strength lies in the sense of resonance that directly reaches people's hearts.

The communicative potency of short-form videos resides in its ability to generate instant gratification, a sense of mutual participation and connection fostered via micro-interactions. The structural logic of these platforms reconfigures culture into a series of ephemeral impressions, shaped less by intrinsic artistic or historical value and more by algorithmic visibility. As Rowland argues in his explication of Media Ecology Theory, media technologies are not passive conduits but active environments that "reorganize the contexts in which communication occurs" [3].

Su Embroidery—celebrated for its delicacy, precision, and symbolic depth—has historically relied on deliberate, time-intensive craftsmanship and embodied apprenticeship. Its aesthetic power stems from patience and repetition, from the wordless interplay between hand and thread. Each exquisite piece embodies temporal devotion and profound emotional resonance. In contrast, the visual logic of social media prioritizes

immediate affective responses over sustained contemplation. When recontextualized within short videos, the meticulous precision of the needlework is compressed into seconds of cinematic close-ups, while the cultural narrative of craftsmanship and heritage is often marginalized. This tension between algorithmic speed and artisanal deliberation exposes a broader conflict between the temporalities of digital media and traditional culture. Whereas crafts like Su Embroidery valorize endurance, skill, and intergenerational transmission, social media rewards efficiency, novelty, and real-time feedback loops. Algorithmic mediation thus poses a critical inquiry: can cultural heritage withstand viral dissemination without losing its essence? Algorithms democratize access to visibility, allowing regional traditions to reach global audiences, yet they risk turning cultural artifacts into consumable spectacles, reinforcing shallow engagement at the expense of understanding.Su Embroidery epitomizes this inherent duality of digital cultural communication. Algorithms function as both amplifiers and filters, extending the circulation scope while reconfiguring heritage to align with the affective rhythms of platform capitalism.

3 User Behavior and Audience Dynamics on Social Media

In contemporary social-media ecosystems, audiences, especially the younger demographic, are not passive recipients of content but dynamic participants whose behaviours both sustain and are shaped by algorithmic mechanisms. One prominent pattern is the preference for short, highly stimulating content: users increasingly exhibit impatience with lengthy narrative content, gravitating instead toward clips lasting 15 to 60 seconds, facilitating rapid attention shifts and continuous scrolling. Experimental research has demonstrated that frequent exposure to short-form video is associated with reduced capacity for sustained attention and attenuated executive control, suggesting that the format itself fosters the development of a shorter attention span [4].

Interactivity constitutes the cornerstone of algorithmic engagement: likes, comments, shares, and derivative content (for example user remixes or platform-initiated "challenges") form the feedback loops by which platforms refine recommendations. Through this cycle, user behavioral data become data points that algorithms leverage to enhance visibility. As Wilska et al. demonstrate in their study of adolescent media consumption practices, young users' identities and tastes are increasingly constructed via their participation in these feedback loops rather than through deliberate, reflective forms of cultural engagement [5]. In this sense, the act of user interaction becomes a mechanism to perpetuate personalized content feeds and maintain visibility.

This feedback-driven structure exerts profound implications for aesthetic trends and cultural cognition. Younger audiences' interest in "traditional" cultural content is often facilitated via processes of "beautification", "cuteness", or "novelty packaging". In practice, this means traditional crafts or heritage forms are reframed as visually striking or emotionally resonant content, such as "20 seconds to understand Su embroidery", rather than as nuanced, unfolding narratives of technique, artisanal lineage, and cultural context. While lengthier video content addressing these thematic elements does exist, it typically garners fewer likes and exhibits lower view completion rates. The shift

mirrors the logic of what Kennedy describes as platform-driven youth aesthetics, where content is optimized for shareability and superficial aesthetic appeal rather than cultural depth [6].

Finally, these behavioural patterns culminate in a superficialization of cultural cognition. The algorithm's pursuit of instant gratification reinforces habits of fast consumption, sidelining deliberate processes of meaning construction. Users habituated to quick visual cues and emotional rewards become less willing to engage with the deeper significance of cultural artefacts. While traditional expressions may attain heightened visibility via social media, their intrinsic meanings risk being reduced to fleeting aesthetic impressions.Thus, the behavioural and audience dynamics of social media—short-form attention spans, algorithmic interactivity, repackaged aesthetics, and weakened cultural depth—are central to understanding how recommendation systems mediate the transmission of traditional culture.

4 Opportunities and Challenges: The "Entertainmentization" and "Fast-Foodization" of Traditional Crafts

4.1 Opportunities

The first and most salient opportunity resides in enhanced visibility. For centuries, traditional crafts such as embroidery, porcelain, or bamboo weaving were confined to regional communities and exclusive exhibitions. Algorithmic recommendation systems now allow these forms to circulate globally at marginal cost. As Burgess and Green argue that platforms like YouTube and TikTok create a participatory media environment where audiences and creators co-produce meaning, dismantling the dichotomy between artistic practice and spectatorship [7]. Short-form video diminishes cultural entry barriers: a thirty-second clip of a craftsperson threading silk or carving wood can attract millions of views, igniting curiosity among younger demographics who might otherwise remain alienated from cultural heritage. The democratization of cultural participation thus constitutes a tangible achievement of the attention economy.

Secondly, social media facilitates cross-sectoral collaboration. Crafts once confined to heritage institutions in isolation are now integrated into the creative industries—encompassing fashion, design, and tourism—where artisans collaborate with brands or designers to reimagine traditional motifs. Jenkins describes this as "convergence culture," a process wherein old and new media, artisanal and digital, converge to generate hybrid narratives and economic value [8]. Su Embroidery, for instance, has inspired watch designs, jewelry collections, and virtual exhibitions, transforming static heritage into dynamic cultural capital. These collaborations not only generate new markets but also revitalize the symbolic salience of traditional art forms in a globalized world.

A further opportunity lies in the educational potential of algorithmic dissemination. Digital storytelling, instructional tutorials, and live-streaming initiatives enable master artisans to reach learners well beyond their geographic locales, contributing to the continuity of endangered techniques. When appropriately contextualized, such digital

instructional content can complement traditional apprenticeship models and enhance public recognition of craftsmanship as an evolving—rather than merely nostalgic practice.

4.2 Challenges

Yet these same dynamics that amplify visibility also engender novel risks. The first is entertainmentization—a process that reduces cultural expressions to spectacles. In the race for virality, videos often emphasize visual drama, emotional hyperbole, or novelty over substance. The intricate processes and symbolic meanings of crafts are frequently condensed into a few seconds of high-contrast visual sequences accompanied by sentimental music. As Wu and Li observe, the algorithmic pursuit of engagement rewards "aesthetic intensity rather than cultural depth," privileging affective immediacy over reflection [9]. Under such conditions, cultural heritage risks devolving into aestheticized cultural consumption—a passive spectacle to be viewed, liked, and promptly discarded.

A second challenge is fast-foodization, a phenomenon whereby knowledge is formatted into easily digestible fragments. Educational or documentary content is increasingly distilled into "twenty-second explanations" or "before-and-after" transitions, echoing what scholars term snack media consumption. This temporal compression satisfies the user's desire for instant rewards but undermines in-depth cultural understanding and intergenerational historical continuity. Audiences retain memories of the visual form but become disconnected from the artisanal labor, cultural philosophy, and craft lineage that underpin these traditions.

Finally, there is the issue of algorithmic discipline, wherein creators internalize platform metrics as creative boundaries. Algorithms prioritize consistency, posting frequency, and emotional resonance; consequently, artisans adapt their presentation styles, pacing, and even design aesthetics to satisfy these invisible algorithmic imperatives. As Terranova's notion of free labor suggests, digital cultural producers become uncompensated contributors to the reproduction of platform capital [10]. The cumulative effect is the progressive erosion of artistic autonomy and the replacement of artistic judgment with algorithmic preferences.

In sum, the attention economy endows traditional crafts with enhanced visibility, diversify audiences, and find renewed vitality through cross-media collaboration. However, it simultaneously exposes these crafts to structural pressures of speed, spectacle, and metric-based evaluation. The challenge moving forward is to leverage the connective capacity of algorithms without yielding to their homogenizing logics—to ensure that cultural depth, patience, and human meaning endure within the accelerated circuits of digital attention.

5 Strengthening the Framework: Algorithmic Ethics and Educational Interventions

As digital platforms increasingly mediate cultural experiences, the ethics of algorithmic recommendation and the role of education emerge as core pillars of safeguarding the

integrity of traditional crafts. The challenge lies not only in enhancing visibility but in ensuring that the mechanisms regulating visibility are equitable, transparent, and conducive to cultural diversity. Addressing these imperatives demands a dual-pronged framework: ethical accountability on the part of platforms and educational empowerment for users and creators.

5.1 Algorithmic Ethics

Algorithms are inherently non-culturally neutral in their design. They prioritize user engagement and operational efficiency, embedding value systems that privilege virality, visual spectacle, and emotional immediacy. This optimization paradigm marginalizes cultural expressions that fail to align with dominant aesthetic paradigms or performance metrics. As Safiya Noble argues in *Algorithms of Oppression*, algorithmic systems inevitably reproduce existing social power hierarchies and cultural biases when left unregulated [11]. In the realm of cultural communication, this bias manifests as a privileging of globally familiar or visually spectacular content over regionally specific, time-intensive, or less "clickable" traditional practices. Platform accountability must extend beyond moderation to include cultural representation ethics. Recommendation algorithms should balance engagement metrics with value-based indicators such as educational relevance, diversity, and contextual integrity. This aligns with UNESCO's normative recommendations calling for transparent governance to ensure that cultural heritage content is not only visible but properly contextualized [12]. Through the implementation of algorithmic auditing protocols, platforms can identify disparities in cultural visibility and deploy corrective interventions that cultivate cultural inclusivity and cross-cultural dialogue. Another dimension involves data sovereignty and creator agency. Numerous artisans lack agency over the categorization and monetization of their creative outputs. In platform economies, visibility becomes extraction: platforms profit from engagement while creators face opaque systems. As Zuboff warns in *The Age of Surveillance Capitalism*, the commodification of user behavioral data reduces individuals to raw data assets, undermining personal autonomy and informed consent [13]. For cultural producers, this dynamic risks turning intangible heritage into a datafied commodity stripped of meaning. Ethical algorithms must therefore include participatory governance, enabling creators to co-determine how cultural materials are distributed and preserved online.

5.2 Educational Interventions

While ethical reform addresses the structural dimensions of the issue, educational interventions target the cognitive and cultural realms. Media literacy education ought to be integrated as a core pillar of cultural sustainability. Training users, especially the young audiences, to critically evaluate how algorithms shape their perceptions can foster more reflective consumption patterns. Such literacy transcends misinformation detection; it entails recognizing how speed, repetition, and aesthetic homogenization modulate cultural experience. For creators, educational initiatives can emphasize the production of "slow content", videos or narratives that prioritize process, craftsmanship,

and reflection over spectacle. Encouraging artisans to experiment with hybrid forms of storytelling (combining tradition with digital literacy) helps reclaim agency from algorithmic pressure. Educational institutions and cultural heritage organizations can establish collaborative partnerships with digital platforms to build incubators where traditional artists acquire technical training in digital communication without compromising artistic integrity.Finally, integrating digital heritage education into formal school curricula can reposition algorithms from barriers into tools of preservation. Projects that digitize embroidery techniques, woodblock printing, or other crafts—accompanied by contextual storytelling—enable students to encounter heritage interactively. Such initiatives resonate with UNESCO's 2023 *Social Media and Intangible Cultural Heritage* report, which underscores how algorithmic systems, when ethically governed, can serve as instruments of cultural resilience rather than forces of homogenization [14].

6 Conclusion

Taking Su Embroidery as a paradigmatic case study, this research investigates how social media algorithms, under the logic of the attention economy, have reconfigured the communication modalities of traditional crafts. The findings demonstrate that while algorithmic recommendation systems have substantially enhanced the public visibility of traditional crafts, they have also—often subtly—facilitated the proliferation of entertainmentization and fast-foodization trends, thereby eroding the cultural depth and spiritual essence of craftsmanship. The "logic of traffic" that governs social media is redefining the relationship between traditional art and popular aesthetics. Concurrently, younger audiences are demonstrating increasingly superficial and visually dominated understandings of culture. In response to this tendency, both algorithmic platforms and educational institutions must share the responsibility for cultural transmission. By advancing media literacy education and the development of algorithmic ethics, they should strive to balance visibility with depth, ensuring that efficiency does not come at the cost of meaning. Future research could further investigate how different platform mechanisms influence the communication of intangible cultural heritage, as well as the potential survival strategies of "slow content" within algorithmic ecosystems. Technology and culture are not inherently antagonistic. As algorithms evolve to accommodate cultural nuances, humanity may rediscover within the digital data stream the subtlety, patience, and profound wisdom inherent in the human spirit.

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