Blockchain Analytics for Fashion Marketing: A Conceptual Framework and Demo for Measuring Consumer Touchpoints on the Fashion Blockchain

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Introduction

The future of digital marketing analytics for fashion brands lies not in measuring clicks and likes, but in analyzing verifiable purchases and engagement on the blockchain. Blockchains act as "a digital, decentralized, and distributed ledger in which transactions are logged and added in chronological order to create permanent and tamperproof records" (Treiblmaier, 2018, p. 547) and can aid fashion brand marketers in bridging the virtual and the physical world (Krafft et al., 2020). Blockchain provides fashion marketers with the affordances of transparency, traceability, and tradability (Consensys, n.d.). For example, transparency and traceability allows fashion brand marketers and researchers to view and track customer behavior while maintaining a high degree of privacy for the customer (Tan & Saraniemi, 2023). As blockchain underpins the ability to exchange value in Web3 environments and the adoption of Web3 platforms is expected to grow (Consensys, 2023), it becomes imperative for fashion brand marketers and researchers to understand how to analyze blockchain data and the value they can create from it.

Literature Review

Blockchain applications in the fashion industry primarily focus on supply chains and countering counterfeits (de Boissieu et al., 2021), however, the use cases for blockchain also apply to other points on the fashion value chain including marketing. To date, blockchain data has mainly been studied and applied in financial contexts (Bao & Roubaud, 2021), with few studies undertaken to explore the fashion marketing applications of blockchain data. Peres et al. (2023) surmise that marketing researchers and practitioners hold reticence toward blockchain and have yet to understand it, while Malik et al. (2023) propose that understanding the data available on blockchains is useful for marketers and researchers as this data can be accessed freely to track ownership and price history of digital assets. Similar to the need to understand how to analyze web traffic data, fashion marketing researchers and practitioners need to understand how to analyze blockchain data to measure engagement with the digital products and experiences they provide customers. Due to the implications blockchain data analysis holds for marketing practice and research, this study conceptually advances the use of blockchain data as a key source of insight within Web3 contexts for understanding consumer behavior throughout the fashion marketing funnel.

Theoretical Framework

The marketing funnel describes the decision-making process customers undergo when engaging with a fashion brand (Wiesel et al., 2011). While scholars call this process by different terms (i.e., purchase funnel), it generally describes a three-stage progression consumers follow from pre-purchase (e.g., brand awareness), purchase (e.g., decision to

purchase), and post-purchase (e.g., customer loyalty, repurchase; Colicev, 2023; Wiesel et al., 2011). The marketing funnel provides an insightful and useful framework for understanding how fashion marketers and researchers can use blockchain data to create value for consumers and brands.

Conceptual Framework

Pre-purchase Stage

In the pre-purchase stage, consumers cognitively develop knowledge and awareness of a brand (Wiesel et al., 2011). Blockchain data offers innovative ways to identify new customers and measure customer acquisition through "chains of association." For instance, fashion brands can track the digital fashion assets a consumer holds in their wallet to gain insight into individual interests and preferences, allowing fashion marketers to personalize their physical and digital offerings effectively. Fashion brands often collaborate with artists on NFT projects and can track and analyze the mutual benefits generated from such partnerships, such as Moncler and Adidas in their "Explorer" collection on OpenSea (McDowell & Schulz, 2024).

Purchase Stage

In the purchase stage, consumers develop purchase intent and subsequently decide whether or not to buy (Hoban & Bucklin, 2015). All fashion-related stakeholders can access purchase data freely on the blockchain and in close to real-time, allowing them to assess consumer demand accurately. An innovative use of blockchain data in the purchase phase rests on the ability of brands to measure consumer demand for physical products by tracking product sales in a digital format. Consumers can purchase a digital version, represented by a digital twin or NFT, which they can later redeem for a physical item. This holds key implications for improving on-demand production and sustainability outcomes for fashion brands (Samadhiya et al., 2023). Blockchain data can also lend insight into the impact of sales on growing online brand communities by tracking which buyers join such communities (i.e., Discord) upon purchase.

Post-purchase Stage

In the post-purchase phase, consumers are less responsive toward marketing, however, this phase is key for fostering ongoing engagement with consumers and building brand loyalty (Colicev, 2023; Oliver, 1999). Fashion brands can track loyalty through blockchain-based loyalty programs, which have become increasingly popular with consumers given the trust affordances blockchain technology offers (Tan & Saraniemi, 2023). Brands can also track customer retention by analyzing how long consumers hold digital fashion assets as well as customer engagement by analyzing how consumers interact with their assets in gaming environments (i.e., Roblox, Fortnite) and DAOs.

Conclusion

The fashion industry will continue to advance and evolve in adopting Web3 and blockchain technology. Fashion brands and researchers must play a role in this evolution by applying blockchain data analysis to their specific use cases and contexts. Understanding how to analyze blockchain data will become increasingly important for fashion marketers and researchers.

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