

Blockchain Applications in Hotel Operations and Supply Chain Management

Leila Mansouri*

Department of Hospitality and Tourism Management, Global Institute of Business and Culture Marrakech, Marrakech, Morocco

DESCRIPTION

As the hospitality industry embraces digital transformation, blockchain technology is increasingly gaining attention for its potential to revolutionize hotel operations and supply chain management. Traditionally associated with cryptocurrencies, blockchain has far broader applications. Its core features transparency, decentralization, immutability, and security make it an ideal tool for enhancing trust, traceability, and efficiency in the complex ecosystems that international hotel chains operate within.

In hotel operations, blockchain can improve guest data security, booking accuracy, and payment processing. Guest profiles, including preferences and identity verification, can be securely stored and accessed across multiple properties, reducing redundancies and improving personalization. For example, loyalty programs can be tokenized and made interoperable across partner brands, enabling guests to redeem rewards seamlessly while preventing fraud and duplicate accounts.

One of the most transformative aspects of blockchain in the hotel sector is its potential to disrupt intermediaries. Online travel agencies (OTAs), while offering convenience, charge high commissions and often obscure direct hotel-guest relationships. A blockchain-based booking system could enable peer-to-peer transactions, allowing hotels to engage directly with customers while maintaining secure, verifiable booking records. This would not only reduce dependency on OTAs but also increase transparency and customer trust.

In supply chain management, blockchain enhances visibility and accountability across the procurement process. Hotels source goods from a wide array of vendors, ranging from local food suppliers to international linen manufacturers. Blockchain allows each transaction and movement of goods to be recorded in a distributed ledger, which is tamper-proof and accessible in real-time. This means that hotel managers can trace the origin of products, verify sustainability certifications, and detect delays or discrepancies instantly.

For instance, a luxury hotel committed to sustainability may source organic produce and eco-friendly materials. Through blockchain, the entire journey of a product-from farm to table

or factory to room can be authenticated, ensuring supply chain integrity and supporting the hotel's brand image. This is especially valuable in a market where consumers increasingly demand ethical sourcing and environmental responsibility.

Additionally, blockchain can automate and streamline procurement through the use of smart contracts. These are self-executing agreements coded into the blockchain that trigger payments or inventory orders when certain conditions are met. For example, if a supplier delivers a specific quantity of goods on time, a smart contract can automatically release payment, eliminating delays and reducing administrative overhead.

The adoption of blockchain can also improve inventory management. Hotels with multiple branches often struggle with accurate stock tracking and replenishment. Blockchain enables a unified, real-time inventory ledger shared across all locations, helping managers optimize stock levels and reduce waste or shortages.

However, despite its potential, blockchain implementation in hospitality is still in its early stages. Barriers include high costs, lack of technical expertise, and the need for cross-platform integration. Furthermore, widespread adoption requires industry-wide collaboration, which can be challenging in a highly competitive sector. Interoperability between different blockchain networks and compliance with evolving regulations are also areas of concern.

To address these challenges, pilot programs and partnerships with blockchain startups may serve as effective testing grounds. Some hotel groups are already experimenting with blockchain-based booking platforms, digital identities, and supplier tracking systems. As more proof-of-concept projects emerge, they will provide valuable insights and frameworks for broader adoption.

Blockchain technology holds significant promise for transforming hotel operations and supply chain management. By enhancing data transparency, reducing reliance on intermediaries, and improving procurement efficiency, blockchain can help hotels deliver more personalized, secure, and sustainable services. For a sector built on trust and experience, integrating blockchain may not be just an option but a strategic imperative in the digital age.

Correspondence to: Leila Mansouri, Department of Hospitality and Tourism Management, Global Institute of Business and Culture Marrakech, Marrakech, Morocco, Email: leila.mansouri@gibc.org

Received: 06-May-2025, Manuscript No. JHBM-25-38065; **Editor assigned:** 09-May-2025, PreQC No. JHBM-25-38065 (PQ); **Reviewed:** 23-May-2025, QC No. JHBM-25-38065; **Revised:** 30-May-2025, Manuscript No. JHBM-25-38065 (R); **Published:** 11-Feb-2025, DOI: 10.35248/2169-0286.24.14.137.

Citation: Mansouri L (2025). Blockchain Applications in Hotel Operations and Supply Chain Management. J Hotel Bus Manag.14:137.

Copyright: © 2025 Mansouri L. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.