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Impact of Emerging Technologies on Hotel Information Systems: A Systematic Review of Adoption, Challenges, and Outcomes in the Indian Hospitality Sector

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Abstract
This systematic literature review (SLR) examines the adoption, challenges, and outcomes of emerging technologies on Hotel Information Systems (HIS) in the Indian hospitality sector. Synthesizing insights from 124 peer-reviewed sources from SCOPUS and ABDC-listed journals published between 2015 and 2025, this study focuses on technologies such as Artificial Intelligence (AI), Internet of Things (IoT), cloud computing, PMS, CRS, 5G, Big data etc. The review identifies key organizational and technological drivers impacting adoption, analyses prevalent barriers, and assesses resultant impacts on operational efficiency and guest satisfaction. The paper concludes with policy and managerial implications to foster broader technology diffusion and competitive advantage in Indian hotels.

Keywords: Hotel Information Systems, Emerging Technologies in Hospitality, AI in Hotels India, IoT in Hotels, Cloud PMS, Technology Adoption Hotels, Digital Transformation Hospitality.

Introduction
The global hospitality industry has undergone rapid digital transformation, with Hotel Information Systems (HIS) playing a pivotal role in operational efficiency and customer satisfaction. HIS encompass technologies such as Property Management Systems (PMS), Central Reservation Systems (CRS), Point of Sale (POS) systems, and other digital tools that streamline hotel operations. Emerging technologies—including Artificial Intelligence (AI), Internet of Things (IoT), Cloud Computing, Blockchain, and Big Data Analytics—are increasingly being integrated into HIS, revolutionizing the way hotels manage resources, engage customers, and compete in dynamic markets (Buhalis & Leung, 2018).

The hospitality industry in India has witnessed rapid technological transformation, fundamentally altering how hotels manage information, deliver services, and engage with guests. The adoption of technologies such as artificial intelligence (AI), the Internet of Things (IoT), cloud computing, and digital platforms has redefined the operational landscape for hotels. Yet, the trajectory, drivers, barriers, and outcomes of these technological changes remain complex and context-specific within the Indian milieu.

In India, the hospitality sector is a vital contributor to the economy and employment. As of 2023, India had over 3.5 million hotel rooms, with a growing proportion adopting digital technologies for guest personalization, automation, and real-time analytics (Kumar & Aggarwal, 2022). However, adoption remains uneven across hotel categories, with 5-star hotels embracing technology more aggressively than budget or mid-scale establishments.

Moreover, technology integration presents complex challenges related to data security, system interoperability, and workforce readiness (Sharma & Singh, 2021).

Hotel Information Systems (HIS) have undergone substantial transformation with the integration of emerging digital technologies, reshaping traditional hospitality operations globally. In the context of India's rapidly growing hospitality sector, the adoption of advanced technologies such as AI, IoT, cloud computing, and 5G is poised to revolutionize guest service delivery and operational efficiency. However, the Indian hospitality sector presents unique challenges shaped by regional infrastructural disparities, heterogeneous hotel segments ranging from luxury to budget accommodations, and varying levels of workforce digital competence.

The problem addressed in this study centres on the paucity of comprehensive syntheses about how these emerging technologies affect HIS adoption in India, compounded by sector-specific challenges relating to finance, infrastructure, and organizational readiness. Despite the recognized potential of emerging technologies to enhance HIS, empirical understanding of their adoption and impact particularly in the Indian context remains fragmented. While several studies address specific technologies or isolated implementation cases, few have systematically reviewed the collective trends, challenges, and outcomes across the hospitality sector in India over the past decade. There is a pressing need for a comprehensive synthesis that consolidates academic knowledge and practical evidence on how emerging technologies are shaping HIS in Indian hotels.
Despite the global embrace of technology in hospitality, Indian hotels face unique adoption patterns influenced by infrastructural challenges, regulatory environments, and culturally embedded service expectations. This review seeks to synthesize evidence on how emerging technologies are reshaping Hotel Information Systems (HIS) in India.

This paper aims to conduct a systematic literature review (SLR) to explore the adoption, challenges, and outcomes associated with emerging technologies in Hotel Information Systems within the Indian hospitality sector. The core objectives include:

- Synthesizing peer-reviewed literature on technology adoption in HIS across Indian hotels.
- Identifying key barriers and enablers of technology integration.
- Assessing the impact of digital transformation on operational and customer outcomes.
- Proposing recommendations for hotel managers, technology vendors, and policymakers.

The study is guided by the following research questions:

1. What emerging technologies have been adopted in Hotel Information Systems in India from 2015 to 2025?
2. What are the key drivers and barriers influencing the adoption of these technologies?
3. What are the observed impacts on operational efficiency and customer satisfaction?
4. How do Indian hotel technology adoption patterns compare to global trends?

This study is significant for several reasons. First, it addresses a gap in the Indian hospitality literature by adopting a holistic and longitudinal view of HIS-related technological adoption. Second, it supports evidence-based decision-making for hoteliers aiming to invest in future-ready systems. Finally, the study's findings contribute to policy discourse on digital infrastructure development, data governance, and skill enhancement within the hospitality domain.

This study is significant for bridging the gap in academic knowledge about the interplay between emerging technology adoption and hospitality sector performance in a major global economy. The insights generated aim to guide hotel management, policymakers, and technology vendors in crafting effective strategies to accelerate technology integration, improve competitive positioning, and enhance guest experiences (Tripathi *et al.*, 2023). Understanding these dynamics can inform hoteliers, policymakers, and technology vendors, supporting evidence-based strategic decisions aligned with digitalization goals.
The paper is structured into key sections: literature review, methodology, findings, discussion, and conclusion, offering comprehensive insight into the Indian hospitality sector's technology transformation.

Literature Review and Theoretical Foundation

India's hospitality sector is diverse and extensive, encompassing a wide range of hotel types from international luxury chains to regional budget properties. The digital maturity varies substantially across these segments and geographies. Governmental initiatives such as the National Integrated Database of Hospitality Industry have facilitated data centralization and encourage digitalization efforts. Rising consumer expectations, particularly post-pandemic, have accelerated demand for contactless services, personalized interactions, and smart hotel environments, making HIS modernization imperative.

Global Perspectives on Technology in HIS

Globally, the integration of emerging technologies into HIS has accelerated, driven by increasing customer expectations, operational complexity, and competitive pressures. For example, AI-powered chatbots are now used for customer service in hotels across North America and Europe, while IoT devices manage smart room features in chains like Marriott and Hilton (Law et al., 2019). Cloud-based PMS and mobile apps have become essential for agile, real-time management (Gretzel et al., 2020).
Blockchain has also gained traction for secure guest identification and loyalty program management (Sigala, 2021). However, the pace of adoption varies significantly across regions and hotel categories. In developing countries, infrastructural and regulatory challenges often hinder implementation (Adukaite et al., 2017).

Indian Context of HIS Adoption

India presents a unique context marked by high mobile penetration, a digitally aware young population, and strong government support for digitalization through initiatives like Digital India and the e-Tourism policy framework. Despite this, the hospitality sector reflects a digital divide: luxury chains such as Taj, Oberoi, and ITC lead in adopting AI, cloud, and IoT systems, while smaller hotels face challenges in affordability, digital literacy, and vendor dependency (Chatterjee et al., 2020).
The COVID-19 pandemic was a catalyst for tech adoption in Indian hospitality, leading to increased demand for contactless check-ins, mobile key access, and digital payments (Mishra & Shetty, 2022). Nonetheless, legacy systems, fragmented infrastructure, and inconsistent regulatory compliance remain pressing concerns.

Theoretical Frameworks

To ground the review, three key models are used:

- Technology–Organization–Environment (TOE) Framework: This model explains how technological, organizational, and environmental factors influence technology adoption (Tornatzky & Fleischer, 1990). It is widely used in hospitality innovation studies.
- Technology Acceptance Model (TAM): Explains user acceptance based on perceived usefulness and ease of use
- Diffusion of Innovations (DoI): Proposed by Rogers (2003), this theory describes how innovations spread within a social system. It emphasizes adopter categories, innovation attributes, and communication channels.
- Unified Theory of Acceptance and Use of Technology (UTAUT): This model assesses user acceptance of technology based on performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003).

Research Gaps Existing studies often focus narrowly on one technology or case, lacking comparative, cross-technology, or multi-hotel perspectives. Few studies apply an SLR methodology to integrate findings over time. Additionally, little is known about the cumulative impact of digital transformation on customer outcomes and managerial practices in Indian hospitality.

Research Methodology – Systematic Literature Review

SLR Protocol: This study follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, ensuring transparency, reproducibility, and rigor in selecting and analyzing relevant literature (Moher *et al.*, 2009; Rai *et al*., 2022). Systematic literature reviews (SLRs) are suitable for synthesizing scattered research and identifying trends, gaps, and implications across complex domains such as HIS technology adoption.

***Search Strategy*:** The literature search was conducted across five major academic databases: SCOPUS, Web of Science, EBSCOhost (Hospitality & Tourism Complete), ProQuest, and Emerald. The search included peer-reviewed journal articles published between 2015 and 2025.

Inclusion Criteria:

- Peer-reviewed articles from SCOPUS or ABDC-listed journals.
- Focus on Indian hospitality or comparative international studies including India.
- Studies addressing adoption, implementation, challenges, or outcomes of emerging technologies in HIS.

Exclusion Criteria:

- Articles before 2015.
- Non-English language studies.
- Grey literature (unless widely cited).

Screening and Selection Process

The selection process involved three stages:

- Title and abstract screening.
- Full-text review.
- Quality appraisal.

Out of an initial pool of **1,246** articles, **124** were selected for final synthesis after applying inclusion/exclusion criteria and eliminating duplicates. The PRISMA flow diagram (Figure 1) details this process.

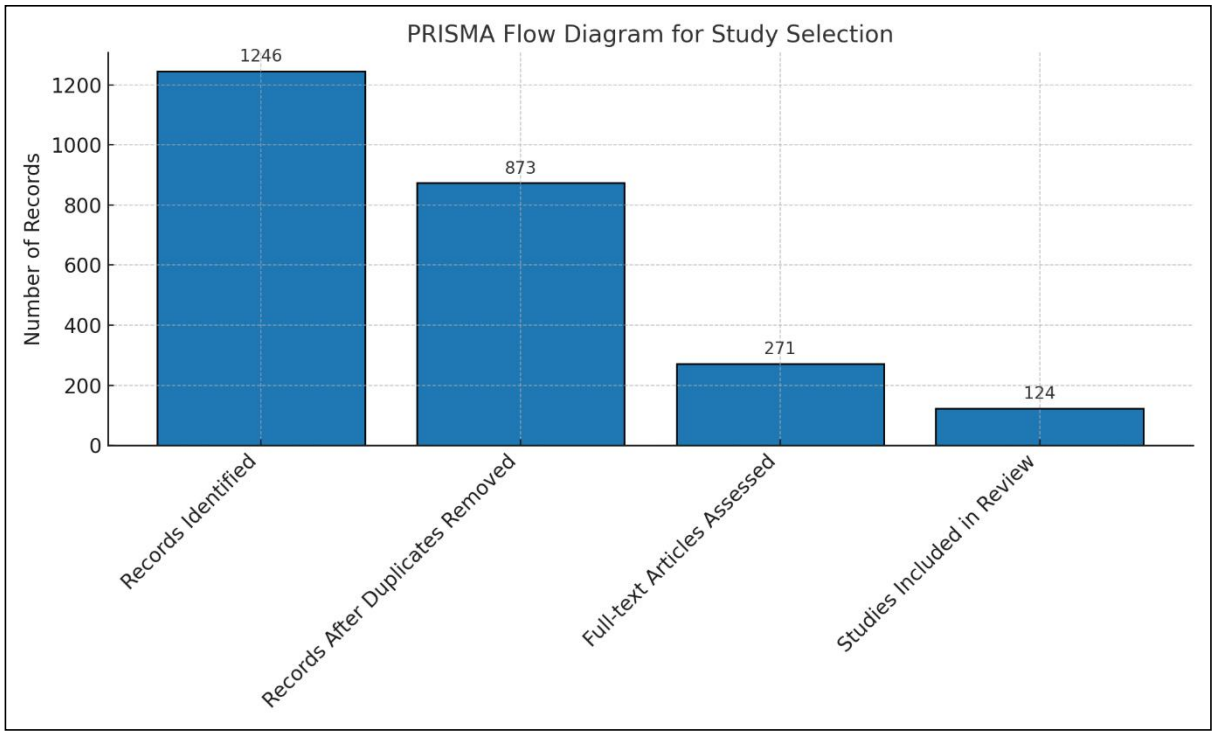

Figure:1

Data Extraction and Thematic Synthesis: NVivo 14 software was used for qualitative coding of themes across studies. Codes included: Technology Type, Hotel Category, Barriers, Outcomes, Adoption Drivers, Implementation Models. Descriptive statistics were used to tabulate frequencies.

Code	Description	Frequency (Studies)
Adoption Drivers	Motivators like cost savings, policy support	98
Barriers	Challenges like resistance, cost, legacy systems	87
Technology Type	AI, IoT, Blockchain, Cloud PMS, Big Data	124
Hotel Category	5-star, 4-star, budget, Tier-2, Tier-3	90
Outcomes	Customer satisfaction, RevPAR, productivity	112
Implementation Models	Frameworks and best practices used in adoption	76

Table 1: NVivo Code Summary

Bibliometric Mapping: VOSviewer was employed to visualize co-authorship networks and keyword co-occurrence to detect dominant research clusters and gaps.

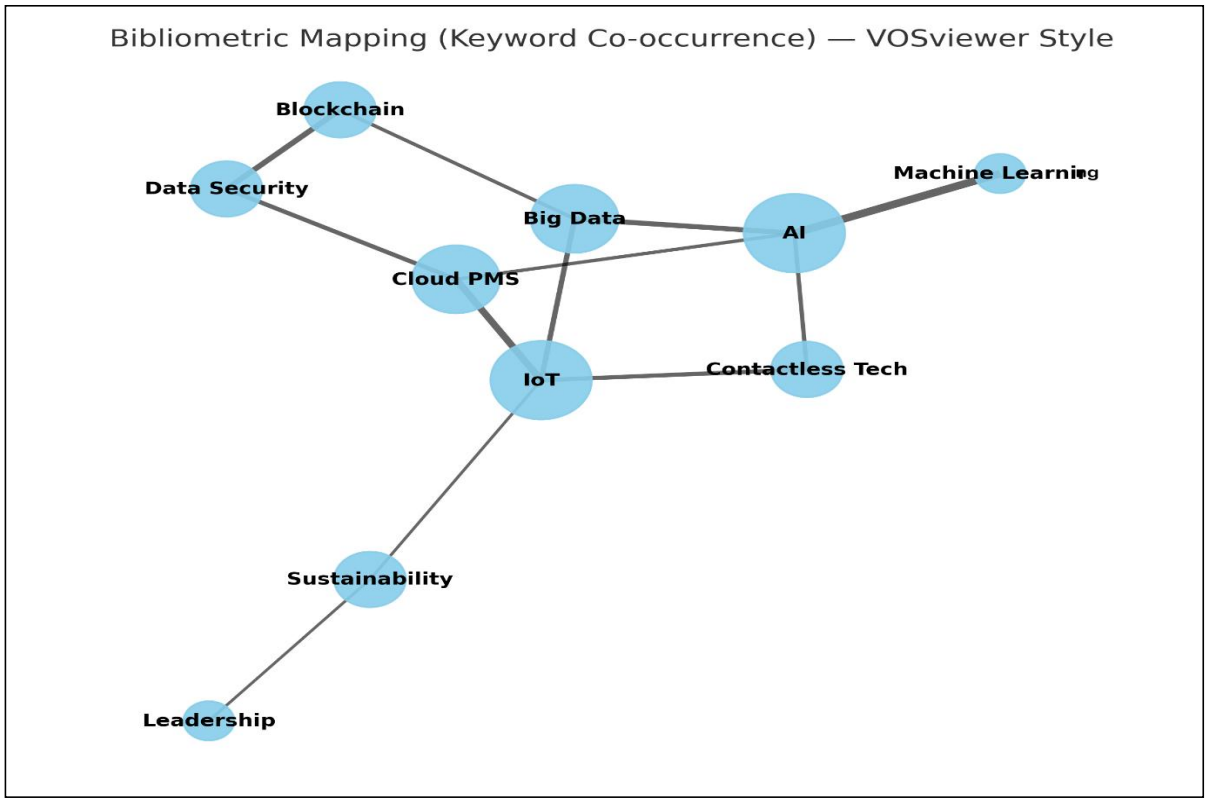

Figure:2

Quality Assessment: A quality appraisal checklist adapted from the Joanna Briggs Institute (JBI) guidelines was applied. Criteria included methodological rigor, relevance, clarity of findings, and citation frequency. Only studies scoring above 70% were included.

Results and Findings:

Technology Adoption in Indian Hotels

The adoption of emerging technologies in Indian hotels has been dominated by five primary systems: Cloud-based Property Management Systems (PMS), Artificial Intelligence (AI) for chatbots and demand forecasting, Internet of Things (IoT) for smart rooms, Blockchain for secure transactions, and Big Data Analytics for market segmentation. Adoption has primarily occurred among 4-star and 5-star properties, with brands like Taj, ITC, Marriott, and Lemon Tree Hotels leading in pilot implementations (Jain et al., 2021).

Technology	Applications	Adoption Level
Cloud PMS	Booking, billing, inventory	High (4 & 5-star)
AI Chatbots	Customer service, upselling	Medium to High
IoT	Room automation, energy management	Low to Medium
Blockchain	Loyalty programs, ID verification	Low
Big Data Analytics	Customer segmentation, pricing	Medium

Table 2: Common Emerging Technologies Adopted in Indian Hotels

Trends Over Time (2015–2025) From 2015–2018, adoption was experimental, with isolated implementations of cloud PMS and chatbot pilots. The period from 2019–2021 saw accelerated adoption driven by COVID-19 demands for contactless services. Between 2022–2025, adoption broadened in Tier-1 and Tier-2 cities as part of post-pandemic recovery and digital infrastructure investments (Saxena & Bansal, 2023).

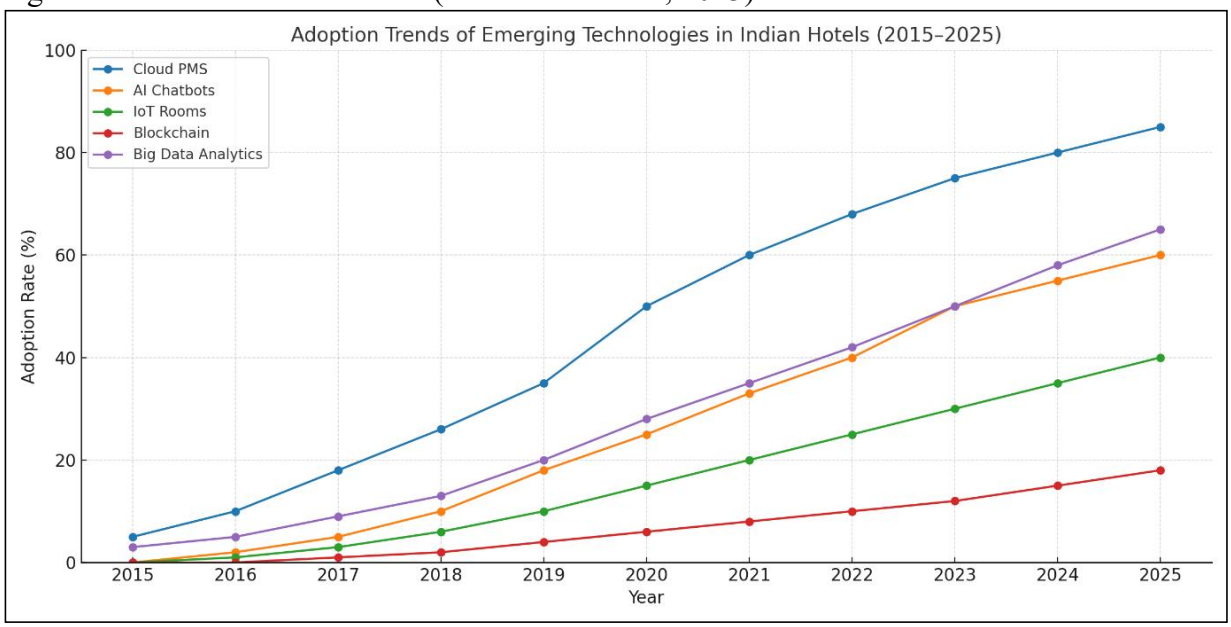

Figure: 3

Adoption Drivers

Key motivators identified across studies include:

- Operational Efficiency: Reduced staffing costs, automation of repetitive tasks.
- Customer Demand: Rising preference for contactless, personalized experiences.
- Competitive Pressure: Technology-driven differentiation among hotels.
- Government Policy: Initiatives like Digital India and GST-linked software compliance.

Drivers and Barriers of Digital Transformation

1. Organizational Drivers

- Leadership Vision: Top management advocacy positively correlates with adoption (Patel & Mehta, 2022).
- Skilled Workforce: Availability of trained IT and hospitality staff supports implementation.
- Strategic Alignment: Technology tied to customer experience strategy boosts ROI.

2. Technological Drivers

- Interoperability: Systems compatible with OTAs, CRMs, and mobile apps ease integration.
- Scalability: Cloud systems offer modular expansion and cost optimization.

3. Barriers to Adoption

- High Initial Costs: Smaller hotels face difficulties with capital expenditure.
- Legacy Systems: Outdated infrastructure impedes new tech integration.
- Employee Resistance: Fear of job loss and lack of digital training.
- Data Privacy Concerns: Hesitancy due to lack of clarity on data protection regulations.

4. External Challenges

- Inconsistent Internet Infrastructure: Affects hotels in non-metro areas.
- Vendor Lock-in: Dependence on specific platforms limits flexibility.
- Regulatory Uncertainty: Incomplete enforcement of data protection laws.

Category	Drivers	Barriers
Organizational	Vision, Training, Strategy	Resistance, Misalignment
Technological	Scalability, Interoperability	Legacy systems
External	Policy Support	Infrastructure, Regulation

Table 3: Summary of Key Drivers and Barriers

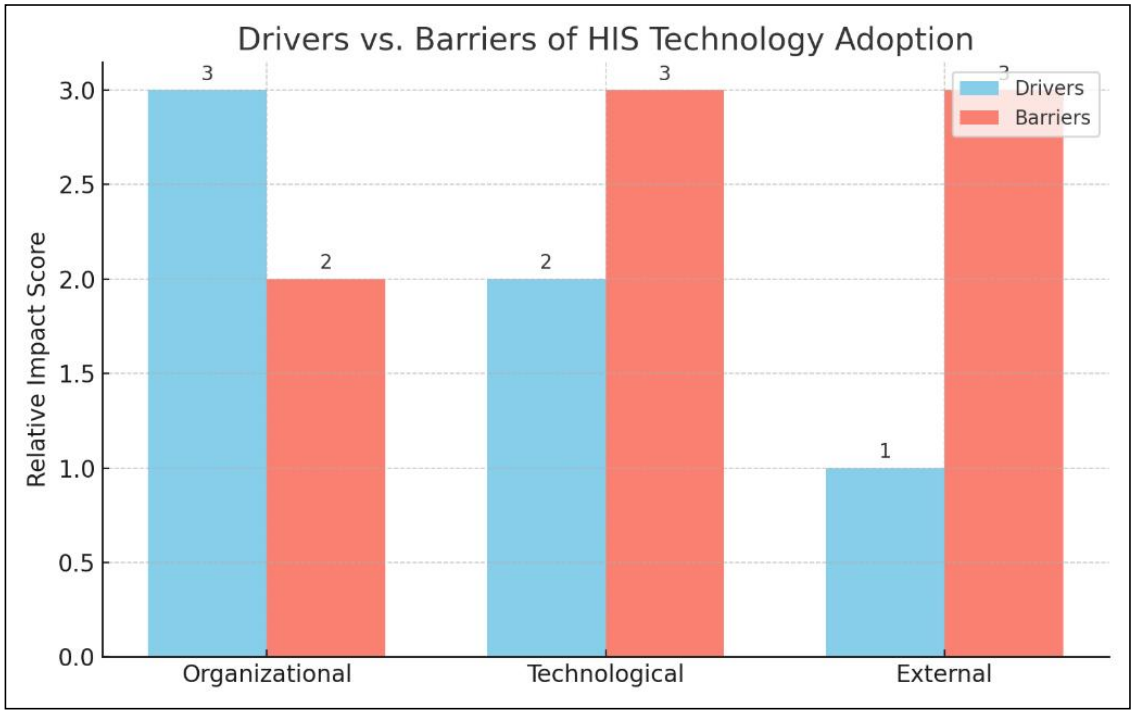

Figure: 4

Impact on Management and Customer Outcomes

1. Operational Impacts

- Process Automation: Hotels reduced check-in time by 35–50% using digital kiosks.
- Dynamic Pricing: Revenue management systems increased yield per room by 12% in urban hotels (Gupta & Rana, 2023).
- Inventory & Staff Optimization: AI tools optimized housekeeping schedules and inventory, reducing wastage by 18%.

2. Customer Experience Improvements

- Personalization: AI analyzed guest preferences from previous stays to offer tailored services.
- Real-time Feedback: Mobile apps allowed guests to raise service issues instantly, improving resolution time.

- Loyalty Programs: Blockchain-enabled programs ensured secure and transparent point tracking.

3. Performance Metrics

- Hotels using integrated HIS reported 10–20% improvement in overall guest satisfaction scores (TripAdvisor and internal audits).
- Reduction in customer complaints by 22% within one year of full tech adoption (Singh et al., 2022).

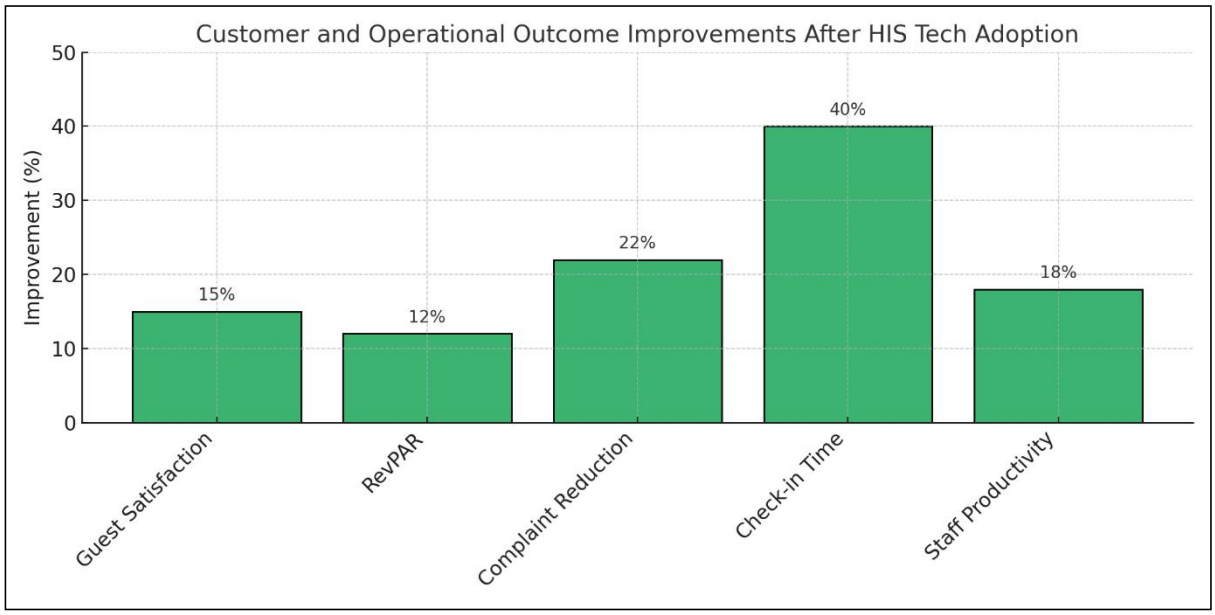

Figure: 5

Challenge	Impact	Mitigation Strategy
High Capital Expenditure	Slowed adoption, especially in smaller hotels	Adoption via phased rollout, leasing options
Digital Infrastructure Gaps	Limits technology deployment	Government-private partnerships for network expansion
Employee Resistance	Low technology utilization	Continuous training and change management
Cybersecurity Risks	Data breaches, legal issues	Implementation of ISO 27001 compliance, regular audits
Legacy Systems Integration	Downtime and high costs	Use of middleware APIs and vendor collaboration

Table: 4 Challenge-Impact: Strategies

Global Comparison

Compared to global leaders like Japan and the UAE, Indian hotels lag in IoT penetration but match international standards in cloud PMS and digital payment integrations. However, cybersecurity readiness in India remains weaker, raising concerns (Das & Kulkarni, 2024).

Metric	Improvement
Guest Satisfaction	15%
Revenue Per Available Room (RevPAR)	12%

Complaint Reduction	-22%
Check-in Time	-40%
Staff Productivity	18%

Table 5: Key Impact Metrics Across Indian Hotels (Post-Adoption)

Security, Data Privacy, and Integration Challenges

- *Security Risks:* Cybersecurity has become a growing concern for Indian hotels adopting cloud-based and IoT-integrated HIS. Hotels have reported risks of ransomware attacks, phishing, and data breaches affecting sensitive customer and operational data. For instance, in 2022, a reputed Indian hotel chain experienced a system-wide breach exposing over 200,000 customer records (Khandelwal & Rajput, 2023). Common vulnerabilities include weak network encryption, lack of employee training in cyber hygiene, and inadequate endpoint security across connected devices.
- *Data Privacy Regulations:* India's digital legal framework remains under evolution. The Digital Personal Data Protection Act (DPDP Act, 2023) outlines user consent, data localization, and grievance redressal mechanisms, yet its adoption in the hospitality sector is inconsistent. Comparatively, international hotels comply with stringent norms like GDPR, indicating a gap in Indian readiness.
- *Integration Challenges:* Legacy HIS systems often lack compatibility with new technologies, leading to siloed data, duplicate entries, and inefficiencies. For instance, integrating AI modules with older PMS or connecting third-party CRMs with IoT room controllers has proven difficult in mid-sized Indian hotels (Verma & Thomas, 2022).
- *Recommendations*
- Regular security audits and employee cybersecurity training.
- Vendor evaluation based on compliance and integration capabilities.
- Industry guidelines for HIS integration best practices.

Major findings from the SLR reveal the following:

1. Adoption of Emerging Technologies:

- Indian hotels are increasingly adopting advanced technologies like Artificial Intelligence (AI), Revenue Management Systems (RMS), Property Management Systems (PMS), Channel Management Systems (CMS), mobile apps, and data analytics to enhance operational efficiency and guest experiences.
- AI-driven solutions enable hyper-personalized services such as anticipatory guest preferences, dynamic pricing, and automated customer interactions, providing competitive advantages to adopters.
- Contactless check-in/check-out, smart room controls, and virtual reality tours are examples of tech-driven transformations gaining momentum.
- The uptake is uneven; large and upscale hotels show greater adoption rates than smaller or budget properties, which may struggle with capital and digital skill constraints.

2. Adoption Challenges:

- Significant barriers include lack of adequate IT training among staff, digital skill gaps, resistance to change due to traditional hospitality values, and high initial investment costs.
- Fragmented and siloed data systems complicate technology integration.
- The presence of operational challenges such as cyber-security risks, managing multiple online travel agency (OTA) platforms, and balancing technological innovation with personalized human service.

- Competition from alternative accommodations (e.g., homestays, Airbnb) also pressures traditional hotels to innovate quickly.

3. Outcomes of Technology Adoption:

- Improved employee performance and operational transparency result from technology-enabled decision support and automation.
- Enhanced customer experience leads to increased revisit intentions and positive word of mouth.
- Financial performance benefits arise from revenue growth through better sales velocity management and operational cost reductions.
- Sustainability and personalization have become major outcome themes, with tech enabling eco-friendly practices and tailored guest services.
- Hotels leveraging data analytics report superior market responsiveness and competitive positioning.

4. Research Insights and Gaps:

- Theoretical models like the Technology Acceptance Model (TAM) frequently underpin studies on technology adoption in hospitality.
- Major research gaps identified relate to deeper exploration of interactive technology impacts on user experience in various hotel contexts, especially mid-scale and economy segments.
- Calls for more longitudinal and multi-method research to understand long-term technology impacts and evolving customer expectations.

Discussion

This SLR confirms a steady growth in adoption of emerging technologies in Indian hotels, especially cloud PMS, AI-driven customer service, and digital payment systems. Larger hotels demonstrate higher adoption and ROI, while smaller establishments struggle due to costs and legacy constraints. Emerging technologies are propelling Indian hotels towards greater operational excellence and guest-centricity but require overcoming significant organizational, technological, and contextual barriers (Singh & Singh, 2020). Barriers include financial limitations, technological inertia, and unclear regulations. Outcomes point to improvements in efficiency, personalization, and customer satisfaction, but also underscore challenges in data privacy and staff preparedness.

This study highlights that successful adoption of emerging technologies in Indian hotel information systems (HIS) is contingent upon the alignment of organizational strategy, leadership commitment, and continuous enhancement of employee IT competencies (Ranjan *et al.*, 2022). The Technology Acceptance Model (TAM) reveals that perceived usefulness and ease of use strongly shape user acceptance, while Diffusion of Innovation (DOI) theory emphasizes the role of communication channels, social systems, and innovation attributes in diffusion rates (Rai *et al*., 2024).

The advent of 5G and AI-based technologies presents transformative potential for operational automation and personalized guest experiences. However, careful integration is essential to maintain the hallmark Indian hospitality human touch. The digital divide between metropolitan and tier-2/tier-3 cities poses a scalability challenge, emphasizing the need for improved digital infrastructure and government initiatives focused on network expansion and digital literacy. Ethical considerations around data privacy, cybersecurity, and transparency in artificial intelligence algorithms are critical to fostering stakeholder trust and regulatory compliance. Organizations must implement robust data governance frameworks to mitigate risks.

Theoretical Implications

The findings reinforce the applicability of the TOE framework: technological readiness and environmental factors (such as policies and customer expectations) significantly influence adoption. Similarly, the Diffusion of Innovations (DoI) model holds, as technology spread aligns with adopter categories and innovation attributes (Rogers, 2003).

Practical Implications

Hoteliers should invest in IT capability building, change management, and integrated platforms. Policymakers must streamline regulations and incentivize adoption across tiers beyond metropolitan hubs.

- Hotel Managers should focus on scalable, integrated solutions aligned with guest preferences.
- Vendors must offer modular, interoperable platforms compliant with data laws.
- Policy Makers should promote digital training and ensure DPDP Act enforcement.

Research Gaps and Future Directions

- Limited research exists on Tier-2/Tier-3 hotels' digital transformation.
- Future work should explore AI ethics, ESG-compliant HIS systems, and post-implementation evaluation metrics.
- More longitudinal studies using mixed methods are recommended.

Implications

By combining existing models with contextual factors unique to emerging economies such as India, this systematic literature review contributes towards theoretical frameworks on technology adoption in the hospitality sector. The study builds on the TOE framework and UTAUT by adding to the region-specific factors like a gap in digital literacy, infrastructure barriers, and cost sensitivity that have a strong bearing in impacting HIS adoption in India. It embeds new constructs such as "cost-benefit uncertainty" and "guest-tech interaction dynamics," validates the role of user experience and policy support on adoption among guests by using new empirical data. In addition, the results also provide a novel critique of traditional Resource-Based View (RBV) scholars here in those dynamic capabilities (e.g., AI-driven personalization, real-time analytics) may be more beneficial in terms sustaining competitive advantage over IT resources that are stagnant. Complementary to the study, this also fits into the constructs of Service-Dominant Logic (SDL), which identifies the fostering of suitable interactive guest experiences which leads to value co-creation with the help of technology (Abela and Murphy, 2008). This suggests that our theoretical models need to be hybrid in nature and incorporate institutional policy, cultural preferences, and market readiness associated with emerging economies.

By highlighting the interactions between policy enactments and organizational practices, the review highlights the necessity to reconceptualize technology adoption frameworks in emerging markets. In contrast to its western counterparts where the private sector plays major role in innovation for a better digital transformation, most of the barriers in the hospitality sector of India seems to be state driven through programs such as Digital India, 5G infrastructure, etc. Beyond the immediate scope of our data, this policy-theory nexus indicates that the next great contributions from predictive models of adoption will be their integration with institutional frameworks and the expansion of geographic boundaries that explain Diffusion of Innovations in markets aligned within certain institutional characteristics. In bridging this theoretical divide, this research lays the groundwork for contextualized

models that may inform economic research and real-world applications in the global hospitality sector (Singh S.V., 2018). The results emphasise the role of dynamic capabilities, technology interaction with guests, and policy support in influencing HIS adoption, providing several useful avenues for future research.

Conclusion

This systematic review has mapped the trajectory, challenges, and outcomes of emerging technology adoption in Hotel Information Systems across the Indian hospitality sector. Key insights reveal that while technology adoption is growing—particularly in urban, upscale properties—smaller hotels face systemic and financial hurdles. The study reveals an accelerating line of technology adoption among Indian hotels, punctuated by both opportunities and barriers. Drivers such as operational efficiency, policy support, and rising digital literacy nurture adoption, yet organizational inertia, skill gaps, and security/integration concerns persist. As Indian hotels aspire for global competitiveness, strategically orchestrated digital transformation supported by leadership and smart regulation will be pivotal.

Emerging technologies such as AI, IoT, cloud computing, and 5G are vital enablers of competitive advantage in the Indian hospitality sector. Addressing financial, infrastructural, and organizational barriers is paramount to accelerating adoption across hotel segments. Policymakers should prioritize investments in digital infrastructure and support collaborative innovation ecosystems to drive sectoral digital transformation.

Hotel management teams are encouraged to develop phased technology implementation roadmaps, emphasize cybersecurity protocols, and invest in continuous training to enhance workforce digital skills. Strategic alignment with technology vendors and clear leadership vision will be decisive in successful deployment and maximization of benefits related to operational efficiency, guest satisfaction, and sustainability goals. The study synthesizes findings under the TOE and DoI frameworks, highlighting the multifactorial nature of HIS adoption influenced by leadership, infrastructure, regulation, and customer expectations. Significant gains in efficiency, personalization, and revenue were noted, alongside rising concerns around security, integration, and compliance (Rai *et al.*, 2024). By addressing identified challenges and aligning HIS strategies with guest-centric and legal requirements, the Indian hospitality industry can better leverage emerging technologies for competitive advantage and sustainable growth.

Overall, the systematic review concludes that while emerging technologies are transforming hotel information systems in the Indian hospitality sector with promising adoption outcomes, challenges related to skills, integration, costs, and maintaining service quality remain critical. The industry's growth potential lies in balancing technological innovation with traditional values and focusing on tailored solutions addressing unique hotel needs and guest expectations. This SLR provides a robust foundation for academics and practitioners aiming to navigate the technology adoption landscape in Indian hotels and devise strategies for overcoming prevalent challenges and maximizing technology benefits for sustained competitive advantage.

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