

DIGITALIZATION AND ITS STRATEGIC IMPACT IN THE URBAN HOTEL INDUSTRY

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Abstract

Urban hotels operate under intense competitive pressure, volatile demand and rising guest expectations for speed, personalization and seamless service. This paper examines how digitalization generates strategic impact in the urban hotel industry beyond operational automation, focusing on competitive advantage, customer experience and decision quality. Drawing on hospitality and information systems literature, we propose an integrated framework that connects the core digital stack – Property Management Systems (PMS), Customer Relationship Management (CRM), revenue tools and business intelligence – to performance outcomes. The empirical component is a qualitative case study of a mid-sized, four-star urban hotel in Bucharest (anonymized as Hotel M). Data were collected through semi-structured interviews (n=10) with managers and frontline employees, document analysis and process mapping. Thematic analysis indicates four strategic mechanisms: (1) process standardization and speed that support consistent delivery; (2) data-enabled personalization that increases perceived value and loyalty; (3) revenue discipline through better forecasting and channel governance; and (4) organizational learning enabled by transparent KPIs and cross-department visibility. The paper also identifies barriers – training gaps, change resistance, integration complexity and data security concerns – and proposes actionable steps for urban hotels to translate technology adoption into sustainable strategic impact.

Keywords: digitalization; urban hotels; PMS; CRM; business intelligence; revenue management; qualitative research.

JEL Classification: L83; M15; O33; D83

1. Introduction

Urban hotels must deliver high service quality under time pressure. Short stays, high arrival peaks and multi-channel distribution make coordination difficult, while guests increasingly expect digital-first interactions such as mobile check-in, instant messaging and frictionless payments. In this environment, digitalization is more than an operational upgrade: it becomes a strategic capability that shapes how hotels compete, how they use data to design services and how they learn and improve over time.

In practice, many hotels adopt technologies such as Property Management Systems (PMS), Customer Relationship Management (CRM) tools, channel managers, revenue management systems (RMS) and analytics dashboards. Yet

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adoption does not automatically produce strategic impact. A hotel can digitize without transforming if it merely reproduces old workflows inside new software. Strategic impact appears when digital tools are integrated into decision routines, service standards and governance mechanisms that align technology with business priorities. This paper addresses two research questions:

1: Through what mechanisms does digitalization create strategic impact in the urban hotel industry?

2: What organizational conditions enable or hinder the translation of digital tools into measurable outcomes?

To answer these questions, the paper combines a targeted literature review with a qualitative case study conducted in an urban hotel setting. The contribution is twofold: it proposes an integrated framework linking digital tools to strategic outcomes and provides empirically grounded insights on implementation barriers and actionable recommendations.

2. Literature Review

Digital transformation in hospitality is commonly described as a shift from isolated automation toward integrated, data-driven service systems. Core platforms (PMS, CRS, CRM) increasingly connect with distribution and revenue tools, enabling faster decisions and more consistent execution. Recent studies discuss cloud-based PMS adoption as a pathway to greater accessibility, easier updates and improved integration potential, but also note challenges related to cybersecurity, vendor lock-in and operational dependency on connectivity (e.g., Wynn et al., 2022; Lukanova, 2024). CRM practices are associated with personalization and competitiveness when supported by customer knowledge management and coordinated service recovery processes (e.g., Khalaf, 2025; Atanasova, 2017).

From a strategic perspective, digitalization outcomes can be grouped into three dimensions: (a) operational performance (speed, error reduction, labor efficiency), (b) market performance (guest satisfaction, reputation and loyalty), and (c) financial performance (ADR, RevPAR stability and cost discipline). The literature emphasizes that technology creates value when it reduces friction, increases transparency and improves decision quality. However, it also repeatedly highlights adoption barriers: staff resistance, insufficient training, fragmented systems and data privacy risks. Consequently, the same technology can deliver very different results depending on governance and organizational readiness.

2.1 Digital tools in hotel management

PMS functions as the operational backbone, centralizing reservations, inventory, billing, housekeeping coordination and reporting. CRM extends value creation toward personalization by storing preferences, stay history and

communication records. Revenue and distribution tools (channel manager, RMS) shape pricing and channel governance, while business intelligence consolidates KPIs and supports forecasting. Contactless solutions and mobile interfaces can reduce waiting time and improve perceived convenience, but guest acceptance varies across segments and contexts (e.g., Hao et al., 2021).

2.2 Strategic mechanisms and conceptual framework

This paper frames digitalization as a set of capabilities that influence strategic outcomes through four mechanisms:

(M1) Process standardization and speed -> consistent delivery and fewer operational failures.

(M2) Data-enabled personalization -> higher perceived value and loyalty.

(M3) Revenue discipline and forecasting -> more resilient pricing and channel decisions.

(M4) Organizational learning and control -> transparent KPIs, cross-department coordination and iterative improvement.

Four propositions guide the empirical analysis:

P1: PMS-centered integration improves operational consistency and service speed in urban hotels.

P2: CRM-enabled personalization increases loyalty when supported by reliable data and service recovery standards.

P3: Analytics-driven governance improves pricing discipline and reduces revenue volatility.

P4: Digital transparency strengthens learning only when training and accountability structures are in place.

3. Methodology

This research adopts a qualitative case study design suited to exploring how and why digitalization produces strategic effects in an urban hotel context. Qualitative inquiry is appropriate when the goal is to capture meanings, routines, coordination patterns and implementation constraints that are not easily visible in high-level numerical indicators.

3.1 Case selection.

The selected case is an anonymized mid-sized, four-star urban hotel in Bucharest (Hotel M). The property was selected because it operates in a competitive urban environment, uses a PMS-centered system landscape and has recently intensified CRM practices and reporting routines.

3.2 Data collection.

Three sources of data were used: (a) semi-structured interviews (n=10) with managers and frontline staff; (b) document analysis (standard operating

procedures, training materials and selected KPI summaries); and (c) process mapping for core guest-journey processes.

3.3 Interview protocol.

The interview guide covered: perceived operational changes after digital initiatives; information flow between departments; service recovery routines; personalization practices; daily/weekly revenue decision routines; and perceived risks (security, privacy, dependency on vendors). Interviews lasted between 30 and 55 minutes.

3.4 Analysis approach.

Data were coded using thematic analysis. First-cycle codes were descriptive (e.g., 'queue reduction', 'data completeness', 'rate discipline'). Second-cycle codes grouped findings around the four mechanisms and around enabling conditions (training, accountability, integration). Triangulation across interviews and documents increased credibility.

Table 1. Interview participants (anonymized)

Role	Department	Count
General Manager	Executive	1
Front Office Manager	Front Office	1
Revenue/Sales Representative	Commercial	1
IT/Systems Coordinator	IT / Systems	1
Housekeeping Supervisor	Housekeeping	1
Front Desk Agents	Front Office	3
Reservations / Guest Relations	Reservations / GR	2

Table 2. Core processes mapped in the case study

Guest journey / process	Observed digital touchpoints
Reservation and pre-arrival	OTA/direct booking sync; confirmation automation; pre-arrival messaging templates
Arrival and check-in	PMS workflow; ID and payment capture; room assignment; mobile/contactless options (limited)
In-stay requests	Task tracking; messaging; escalation to housekeeping/maintenance
Service recovery (complaints)	Categorized logs; compensation rules; follow-up messages
Check-out and billing	Folio templates; automated taxes/fees; invoice export
Post-stay follow-up	Review monitoring; targeted offers; basic segmentation lists

4. Case Study Context: Hotel M (Bucharest)

Hotel M is positioned as a four-star urban property serving a mixed demand profile: corporate travelers on weekdays and leisure guests during weekends and event periods. The hotel distributes through direct channels, OTAs and corporate contracts. Operational pressure concentrates during peak arrival and departure hours, when delays quickly translate into negative reviews and staff stress.

4.1 Digital landscape.

The hotel’s digital stack is centered on a PMS integrated with a channel manager and accounting interfaces. CRM practices are implemented through structured profile notes, segmentation lists and post-stay communication templates, while daily performance monitoring is supported by dashboards and standard KPI extracts (occupancy, ADR, RevPAR, cancellation rate, channel mix, complaint categories). Digital communication tools are used for confirmations, pre-arrival messaging and service recovery.

4.2 Digitalization goals.

Management articulated four goals: (1) shorten check-in and reduce queue pressure; (2) reduce operational errors and improve cross-department coordination; (3) increase direct booking share and repeat guests through better personalization; and (4) improve revenue stability by strengthening forecasting and pricing discipline.

4.3 As-is vs. to-be process logic.

Process mapping highlighted that many delays were not caused by technology limits, but by unclear handoffs (e.g., room readiness updates, missing guest preference data, informal complaint handling). The 'to-be' design focused on reducing handoff ambiguity through standardized status updates, clearer responsibility for profile maintenance and a simple escalation matrix for service recovery.

Table 3. Example process improvement: room readiness coordination

As-is (before)	To-be (after)
Housekeeping updates room status inconsistently; front office calls for confirmations during peak arrivals. VIP/preference notes often kept in emails or personal notes. Late check-outs handled ad-hoc, sometimes conflicting with room assignment.	Status updated in PMS at three fixed points (cleaned, inspected, ready); exception list shared before peak. Preference tags stored in PMS/CRM fields; daily arrivals list includes key tags. Late check-out requests tracked in system; housekeeping plan adjusted based on forecasted departures.

5. Findings

5.1 Mechanism 1: Process standardization and speed

Interviewees described the PMS as a single operational truth that reduced friction between front office and housekeeping. Room status visibility (clean/inspected/out-of-order) improved planning and reduced repeated calls during peak hours. Standardized folio templates and automated rate rules also reduced billing mistakes. From a strategic viewpoint, these operational improvements matter because the urban guest segment is highly time-sensitive. Even small reductions in waiting time influence perceived quality and review sentiment.

Based on interview estimates and front desk observations, average check-in time during peak arrivals decreased from approximately 6-7 minutes to 4-5 minutes per guest after workflow standardization. Respondents emphasized that the largest gains came from removing small frictions: fewer manual corrections, faster access to booking details, and less time spent clarifying room readiness.

5.2 Mechanism 2: Data-enabled personalization

Hotel M used guest profile notes and stay history to tailor repeatable service decisions: room allocation preferences, pillow type, recurring corporate billing instructions and proactive late check-out offers when occupancy allowed. Personalization was strongest when information was structured (standard tags) rather than stored as free-text notes. Staff framed personalization as a 'low-cost differentiator' that increases perceived care without requiring expensive upgrades.

A recurring theme was that personalization also supports operational efficiency: when preferences are visible, staff spend less time clarifying requests and can anticipate needs. However, personalization quality depended heavily on data completeness and consistent updates.

5.3 Mechanism 3: Revenue discipline and forecasting

Commercial roles highlighted that a stronger daily rhythm of monitoring pace, pickup and cancellations reduced reactive discounting. With clearer visibility of channel mix and booking windows, the hotel introduced simple scenario rules: tighter controls during high-demand events and earlier targeted offers for low-demand periods to protect occupancy without eroding ADR. Interviewees were careful not to attribute performance changes to software alone; instead, they emphasized that technology enabled consistent decision routines and made cross-department coordination easier (e.g., aligning upgrade offers with forecasted occupancy).

5.4 Mechanism 4: Organizational learning and control

Digital reporting created a shared language across departments. Hotel M introduced short daily operational huddles supported by KPI snapshots (arrivals, VIPs, housekeeping targets and known issues). Managers used complaint categorization and service recovery logs to identify recurring failures (late room readiness, noise complaints, invoice errors) and to adjust procedures.

Learning benefits depended on adoption quality. When staff did not update notes, dashboards became less reliable and personalization weakened. To protect data quality, the hotel introduced small governance practices: mandatory fields for specific events, periodic checks for missing preference tags and short refresher trainings when deviations were observed.

5.5 Cross-cutting enablers and barriers

Four barriers emerged repeatedly: (a) resistance to change and parallel 'shadow' workflows; (b) training gaps intensified by staff turnover; (c) integration friction across systems and inconsistent data formats; and (d) cybersecurity and privacy concerns, especially regarding access rights and the handling of sensitive guest information. Conversely, three enablers were repeatedly mentioned: visible managerial support, practical training linked to real scenarios, and clear ownership for data entry and KPI validation.

Table 4. Theme map from qualitative coding

Theme	Illustrative codes	Strategic link
Standardization & speed	queue reduction; fewer calls; billing accuracy; room status visibility	Service consistency; reputation
Personalization capability	preference tags; repeat guest recognition; proactive offers	Differentiation; loyalty
Revenue discipline	pickup monitoring; channel mix; scenario rules; forecast routines	RevPAR resilience
Learning & control	daily huddles; KPI transparency; complaint categories; feedback loops	Continuous improvement
Adoption barriers	training gaps; shadow workflows; integration issues; security concerns	Risk to value capture

6. Discussion

The case study supports the argument that digitalization creates strategic impact when it changes how the hotel competes and learns, not only how it executes tasks. Four implications emerge.

First, operational speed and consistency function as a strategic asset in urban markets. High arrival peaks create moments of truth: delays and errors are visible and strongly affect perception. PMS-driven standardization reduces variability and helps the hotel deliver predictable quality, which is a prerequisite for loyalty.

Second, personalization is a strategic layer built on reliable operational data. CRM practices were effective in Hotel M because staff used them in small, repeatable actions embedded into the guest journey, not as an isolated marketing idea.

Third, revenue discipline depends on routines, not only tools. Analytics supported forecasting, but value came from consistent use: daily pace checks, defined actions for scenarios and coordination between commercial and operational teams.

Fourth, learning requires governance. Dashboards alone do not create improvement; data quality and accountability determine whether transparency becomes a learning capability. Technology amplifies organizational behavior: good practices multiply benefits, while poor habits multiply confusion.

6.1 Strategic impact by stakeholder group

Frontline staff mainly experienced digitalization as a speed and clarity tool: fewer manual corrections and clearer responsibilities. Guests experienced it as convenience and consistency, with personalization strengthening perceived care. Managers experienced digitalization through visibility: more reliable KPIs, better forecasting and clearer prioritization. Owners benefit when these effects translate into improved reputation, higher repeat share and more stable revenue outcomes. The case suggests that aligning stakeholder incentives (e.g., making data entry useful for frontline staff, not just for reporting) is essential for sustained adoption.

7. Managerial Implications and Recommendations

Urban hotel managers can increase the likelihood of strategic impact by treating digitalization as a managed capability rather than a one-time IT project.

7.1 Implementation roadmap

Step 1: Start from operational pain points (check-in time, room readiness accuracy, complaint resolution).

Step 2: Define ownership (who maintains profiles, who validates KPIs, who approves rate rules).

Step 3: Standardize data entry (preference tags, complaint categories, mandatory fields).

Step 4: Prioritize integrations (PMS-channel manager-CRM-reporting) based on business value.

Step 5: Build continuous training (short modules, scenario-based practice, onboarding scripts).

Step 6: Monitor adoption (system usage indicators and data completeness checks).

Step 7: Strengthen security governance (role-based access, periodic audits, privacy compliance).

7.2 Strategic KPI set.

Operational: average check-in time; room readiness accuracy; service recovery time.

Customer: review score trend; repeat guest share; complaint rate by category.

Revenue: ADR; RevPAR; channel mix; cancellation rate; direct booking share.

Learning: training completion; data completeness score; adoption metrics.

These indicators are most useful when embedded in a regular rhythm (daily huddles, weekly revenue reviews and monthly quality meetings).

8. Limitations and Future Research

This study is limited by its single-case design and qualitative nature, which prioritize contextual depth over statistical generalizability. Interview-based estimates reflect perceptions and operational experience rather than controlled measurement. Future research could use a multi-case design across cities and hotel categories, combine qualitative process analysis with quantitative KPI tracking over time, and examine how AI-enabled revenue tools and contactless technologies affect both guest acceptance and employee workload. Another promising direction is the link between digitalization and sustainability, especially energy optimization through IoT.

9. Conclusions

Digitalization can generate strategic impact in the urban hotel industry through operational speed and consistency, data-enabled personalization, revenue discipline and organizational learning. The Hotel M case indicates that value is created not simply by adopting software, but by aligning digital tools with workflows, decision routines and governance practices that ensure data quality and accountability. While barriers such as training gaps, resistance to change, integration complexity and security concerns remain significant, they can be addressed through phased implementation, continuous learning and KPI-based management. Ultimately, digitalization is a strategic necessity for urban hotels seeking resilience and differentiation in a dynamic market.

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