



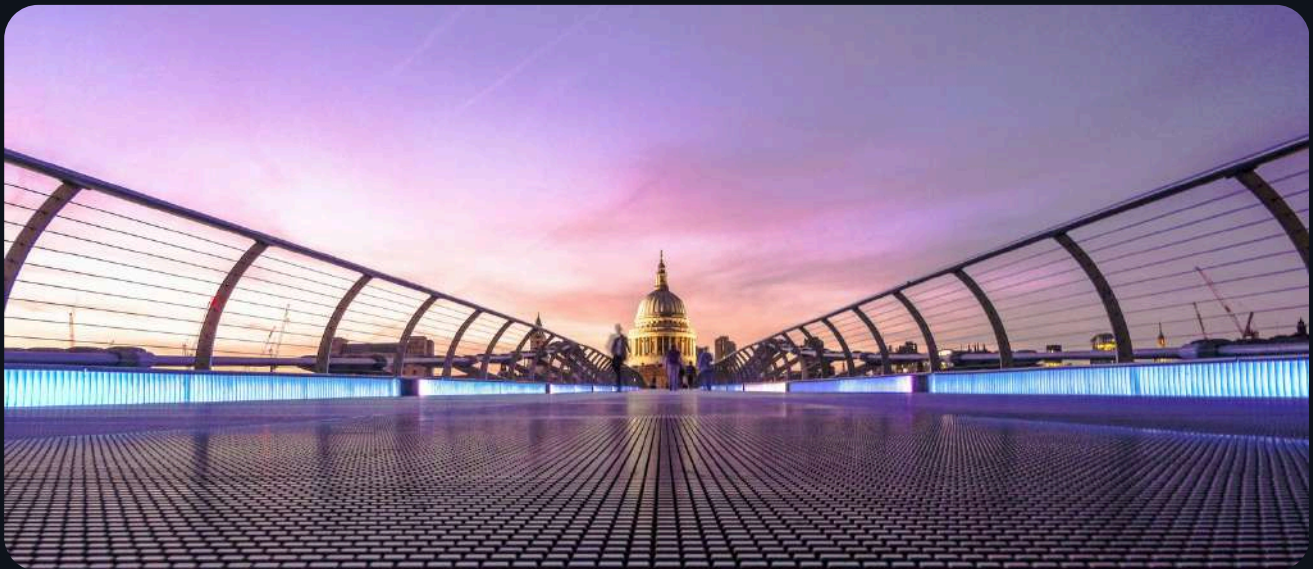
Hospitality Analytics **Trends** Report 2026



Introduction: The **Data-Driven** Transformation

The hotel industry is undergoing a data-driven transformation as it enters 2026. Facing labor shortages, evolving guest expectations, and rapid advances in technology, hotel executives are turning to analytics for strategic insight. This report highlights key trends shaping hospitality analytics in 2026, each driven by broader technological or economic shifts.

For each trend, we break down the underlying drivers, discuss what it means for hotels, and recommend how to respond. Real-world examples and recent developments are included to ground these trends in practice. The goal is a visually-driven brief that not only identifies major trends but also additional emerging trends.



1. Hotels Are Bridging the Talent Gap

Bridging the hospitality talent gap. Many hotels are investing in their teams through training and new hiring strategies to address skill shortages in a tight labor market.

Underlying Drivers

A persistent labor shortage in hospitality is forcing hotels to find creative ways to cultivate talent. As of early 2025, 65% of hotels report staffing shortages (with 9% "severely understaffed"), despite higher wages and benefits. Hotel employment remains ~10% below pre-pandemic levels. At the same time, analytics and technology are becoming integral to operations, creating demand for employees who can interpret data.

Many hotels historically lacked staff with analytical expertise, leading to under-utilization of BI tools. This skills gap, combined with the overall hiring crunch, drives hotels to upskill existing staff and recruit new talent capable of leveraging data. We even see new roles emerging (e.g. "Business Development Analyst" and "Chief of Data Intelligence" in some hotel companies) to lead data-driven initiatives.

What It Means for Hotels

Bridging the talent gap is now a **strategic imperative**. Hotels that successfully train and empower their people in analytics gain a competitive edge, as better data-driven decisions improve revenue and efficiency.

The industry's commitment is evident: hoteliers are raising pay, offering flexible hours, and expanding benefits to attract candidates. They are also partnering with hospitality schools, creating internships, and tapping non-traditional labor pools (e.g. retirees, veterans) to fill roles.

Importantly, hotels are focusing on continuous learning – providing data literacy training and career growth paths so that existing staff can evolve into more skilled roles. This not only fills skill gaps but also improves retention, as employees see investment in their development. In essence, data is no longer just the domain of revenue managers; every department is encouraged to build analytical competence.

Strategic Actions



Invest in Training Programs

Enhance digital and analytical skills across all teams, teaching staff to interpret dashboards and forecasts.



Foster Continuous Professional Development

Encourage certifications or workshops to keep staff updated on new tools and industry best practices.



Hire Specialized Talent

Recruit data analysts or data scientists for in-house expertise, especially for larger hotel groups.



Appoint Analytics Leaders

Designate or hire a commercial analytics leader to champion data initiatives and drive strategy.



Leverage Technology

Utilize automation and user-friendly analytics to free staff from tedious tasks, allowing focus on high-value analytical thinking.

2. Self-Service Analytics Comes to Hotels

Democratizing data with self-service analytics. Modern visual analytics platforms empower non-technical hotel staff to explore data and create dashboards on their own, accelerating decision-making.

Underlying Drivers

The era of static reports is giving way to interactive, self-service analytics in hospitality. Advancements in software (intuitive BI tools, drag-and-drop dashboard builders) and the pressing need for faster decisions have driven this trend. Critically, the shortage of data experts (as noted in Trend #1) means hotels can't rely solely on analysts – hence tools must empower every manager.

The broader tech trend of data [democratization](#) is reaching hotels: self-service visual analytics platforms are now capable of integrating multiple hotel data sources (PMS, CRM, OTA, etc.) and presenting them in user-friendly interfaces. This democratization lets non-IT staff perform complex analyses without coding or IT intervention.

For example, Hilton recently built a centralized "reporting hub" to deliver key data to managers across the company, reflecting a push for accessible insights at all levels (a move in line with many industries). The driver here is clear: hotels want to foster a data-driven culture where each department can easily get the insights it needs, in real time, without waiting in line for an analyst or report.

What It Means for Hotels

Self-service analytics is flattening the [data hierarchy](#) in hotel organizations. A revenue manager, a sales director, or a front office manager can each query data and visualize results relevant to their domain. This dramatically speeds up decision-making – instead of weekly or monthly static reports, managers can explore yesterday's numbers today and spot issues or opportunities. It also encourages cross-functional insight: when data access is widespread, silos break down (more on that in Trend #3). Importantly, self-service tools use visual, interactive dashboards which make analytics more engaging and easier to grasp (no need to wade through spreadsheets).

Hotels that adopt these tools have seen improved agility; for instance, enabling on-property managers to adjust staffing or pricing on the fly based on dashboard indicators. Moreover, empowering staff with data can boost morale – team members feel more in control of their areas and confident in justifying their decisions with facts. However, it also means hotels must pay attention to data governance: with more people accessing data, ensuring a "single source of truth" (consistent metrics definitions) and data security becomes vital.

Strategic Actions

- **Implement Modern BI Platforms**
Adopt solutions that integrate with existing hotel systems and offer role-based access for relevant data visibility.
- **Encourage Cross-Departmental Usage**
Promote the use of these tools across all departments, demonstrating how they can track relevant metrics.
- **Provide Comprehensive Training**
Offer initial and ongoing training, along with resources like how-to guides and "data champions," to non-technical staff.
- **Establish Data Governance**
Define key metrics and data sources to ensure consistency and a "single source of truth" across all reports.
- **Promote Internal Success Stories**
Share examples of how self-service analytics has led to improvements, building buy-in and a data-driven culture.



3. Analytics **Expands** Across the Enterprise

Traditionally, hotel analytics operated in departmental silos. This trend signifies a shift towards a unified, enterprise-wide approach where data from all functions is integrated and analyzed holistically to optimize overall business performance and guest satisfaction.

Underlying Drivers

The move towards enterprise-wide analytics is driven by several factors:

- **Breaking Down Silos:** A push for total performance optimization and the realization that insights from one department (e.g., guest satisfaction) can inform decisions in another (e.g., staffing levels).
- **Advanced Integration Technologies:** Greater availability of APIs, cloud data platforms, and intuitive BI tools allow seamless integration of operational, financial, and guest data from various systems (PMS, POS, Finance, CRM, OTA, etc.).
- **Organizational Shifts:** The merging of roles like sales, marketing, and revenue management into "commercial strategy" teams highlights the need for a unified view and cross-functional data analysis. External data sources (market demand, reviews, competitor rates) also enrich this holistic perspective.

What It Means for Hotels

This fundamental shift provides hotels with a 360-degree view of performance, moving beyond fragmented departmental insights. General Managers can now see the **interconnectedness** of room rates, guest feedback, and profitability on a single dashboard, understanding how changes in one area affect others.

Expanding analytics to departments like HR (staff turnover), maintenance (predictive data), and F&B (menu profitability) reveals previously hidden inefficiencies and opportunities. This integrated approach fosters collaboration, aligning decisions across finance, sales, and marketing for better resource allocation and targeted campaigns. Ultimately, it leads to greater efficiency and profitability by optimizing the entire hotel ecosystem rather than individual parts.

Strategic Actions



Invest in Data Integration

Ensure systems (PMS, CRS, CRM, POS) feed into a central analytics platform or data lake for a unified data source.



Foster Cross-Departmental Collaboration

Encourage joint analytics projects and routine meetings where departments share insights and metrics to break down silos.



Leverage External Data

Supplement internal analytics with market trends, competitor rates, and traveler demographics for richer context.



Consider Central Analytics Team

Establish a center of excellence to ensure insights are shared and applied consistently across all hotel functions.

4. Personalization

Personalization in hospitality involves tailoring guest experiences and internal information delivery to individual needs and preferences. This strategic approach is crucial for meeting modern traveler expectations and optimizing operational efficiency.

Underlying Drivers

The shift towards personalization is primarily fueled by rising [guest expectations](#) for services and marketing tailored to their interests, a trend set by e-commerce and streaming platforms. Concurrently, advancements in technology and analytics, such as rich guest profiles via CRMs, loyalty programs, social media, and AI-driven segmentation, enable hotels to implement personalization at scale. Internally, the need to filter and customize insights for different roles prevents data overload and improves decision-making.

What It Means for Hotels

Enhanced Guest Experience

Personalization leads to more memorable stays, fostering higher satisfaction, loyalty, and increased spending. This includes AI-driven concierges for custom recommendations, intelligent messaging for instant service, and leveraging past stay data to surprise and delight repeat customers. Marketing efforts also become highly targeted, offering relevant promotions based on individual guest profiles.

Optimized Internal Analytics

For internal teams, personalization means providing role-specific data views that prevent information overload and enhance efficiency. Front office managers receive tailored daily briefings with VIP flags, while sales teams see customized corporate account dashboards. This ensures staff focus on metrics most relevant to their function, enabling quicker, [more informed](#) decisions.

Unified Platform with Tailored Views

A modern approach involves a centralized analytics platform that consolidates data, eliminating silos. Within this single source of truth, content can be tailored by role through dashboard customization and granular role-based access control. This ensures each stakeholder, from CFOs to department managers, sees only the pertinent data, maintaining consistency and trust across the organization while fostering collaboration through shared insights.

Strategic Actions

Enhance Data Collection & Segmentation

Enrich guest profiles at every touchpoint using front desk feedback, post-stay surveys, and external data sources. Leverage CRM 2.0 systems or loyalty platforms to translate this data into actionable insights for high-value guests and personalized communications.

Train Staff & Implement Role-Based Tools

Train staff to utilize personalization insights (e.g., concierges using CRM data for dining recommendations). Implement role-based dashboards and KPI scorecards, tailoring analytics tools to what moves the needle for each department or individual manager.

Employ Targeted Marketing Campaigns

Use analytics to create micro-segments for targeted marketing. Modern marketing automation tools can scale these efforts, ensuring guests receive relevant offers rather than generic promotions.

Explore Conversational Analytics

Consider integrating conversational analytics tools that allow executives to ask natural language questions and receive instant, tailored answers, effectively personalizing data access on the fly.

Prioritize Privacy & Responsibility

Ensure personalization practices are welcome, not intrusive. Always use guest data responsibly and in full compliance with privacy laws, building trust and maintaining ethical standards.

5. AI in Hospitality Analytics

AI meets hospitality – Hotels are increasingly deploying AI, from chatbot concierges to predictive algorithms, to automate tasks and uncover data insights at a scale humans alone cannot.



Underlying Drivers

The hospitality industry is riding the broader wave of AI advancement that has swept through many sectors. Recent breakthroughs in conversational AI and machine learning have made AI tools far more accessible and powerful. Large Language Models (like the technology behind ChatGPT) can understand and generate human-like text, enabling new applications in guest service and analytics. Meanwhile, the explosion of data in hotels (from booking patterns to IoT sensors) creates an opportunity – and necessity – to use AI to find patterns and optimize decisions.

Hotels are also influenced by competitive pressure: early adopters (major chains, tech-forward brands) have proven AI's value, pushing others to follow. AI is becoming embedded in analytics workflows – for example, instead of manually combing through reports, staff can rely on AI to surface key trends ("conversational AI surfacing underlying data trends" as noted in industry reports). Furthermore, ongoing labor challenges (Trend #1) and cost pressures drive AI adoption: automating repetitive tasks or improving forecast accuracy with AI addresses these issues. In short, AI's maturity and **proven ROI** in tasks like pricing, demand forecasting, and customer engagement are driving its uptake in hospitality analytics.

What It Means for Hotels

The question isn't whether AI will transform hotel analytics, it's whether traditional analytical approaches will remain viable at all. The uncomfortable truth is that AI doesn't just automate what analysts do slower; it fundamentally changes what's analytically possible.

Traditional BI tools forced hotels to predict what questions they'd need to ask, building dashboards in advance. AI-first analytics inverts this completely: Hotels describe what they want to achieve in natural language, and AI generates the analysis instantly.

Consider displacement analysis, identifying when accepting a booking today costs you more profitable business tomorrow. This requires monitoring hundreds of thousands of data points simultaneously, detecting patterns across reservation snapshots, pickup trends, and competitive positioning. It's not humanly possible to do this continuously. AI can hunt these opportunities 24/7, surfacing insights like "Declining this group request will generate an additional €47,000 in quarterly revenue" before the opportunity vanishes.

The paradigm shift goes deeper than automation. Leading platforms are moving toward AI first architectures where analytical capabilities are purchased and deployed instantly, like apps. Need pickup moving average detection? Deploy it today. Want automated rate shopping analysis? Available immediately. Analytics transforms from a multi-month implementation project into an on demand capability.



All this means hotels can operate smarter and leaner: focusing humans on strategy and complex problem-solving while AI handles data crunching and routine interactions. However, it also means retraining staff to work alongside AI.

Hotels still treating analytics as a "build once, use forever" BI project will be competing against properties where AI analyzes every decision in real-time, continuously, autonomously.

Strategic Actions



Identify High-Impact Use Cases

Start by identifying quick wins such as AI-driven revenue management, customer-facing chatbots, and AI-enhanced marketing for lead scoring and personalized content.



Train Your Team on AI Tools

Ensure staff understands how AI makes recommendations so they can trust and effectively utilize the technology, fostering confidence and efficient use.



Maintain Human Oversight

Implement human review processes, such as revenue managers reviewing AI suggestions, to build confidence and catch any anomalies in AI operations.



Integrate AI into Analytics Platforms

Utilize AI assistants in BI tools to automatically find trends or outliers, providing proactive alerts and accelerating insight discovery.



Invest in Data Quality & Infrastructure

Ensure data is clean, up-to-date, and comprehensive, as the effectiveness of AI is directly dependent on the quality of its input data.



Address Ethical & Privacy Aspects

Implement AI responsibly, respecting guest privacy, avoiding intrusive profiling, and establishing protocols for AI errors with human override options.

6. Cognitive Operations

"Cognitive operations" refers to applying AI agents to automate and optimize the operational side of hospitality. Several forces drive this trend.

Underlying Drivers

Persistent cost and efficiency pressures

With tight labor markets and rising costs, hotels seek ways to do **more with less**. AI and advanced analytics promise to streamline workflows like scheduling, purchasing, and maintenance.

The proliferation of IoT sensors and smart devices

in hotels means an abundance of real-time operational data (from HVAC systems, elevators, kitchen appliances, etc.) that can feed predictive algorithms. The ability to predict and preempt operational issues has become feasible at scale.

Guest expectations

for seamless experiences push hotels to reduce service hiccups – cognitive automation (like automatically dispatching a robot or alert when something needs attention) helps meet the demand for near-invisible operations.

Innovations in other industries

(manufacturing, smart buildings) are spilling into hospitality, providing proven models for predictive maintenance and AI-driven resource allocation. In sum, the drive to increase productivity, the data available from connected devices, and proven AI techniques converge to push hotels toward intelligent, automated operations.

What It Means for Hotels

Cognitive operations can fundamentally alter daily hotel management by enhancing efficiency, reducing costs, and improving guest satisfaction. Staff are freed from menial tasks to focus on guest interaction, and guest experiences are improved through fewer maintenance issues and shorter wait times due to anticipated needs. Autonomous devices, like robots for vacuuming or room service, integrate with these AI algorithms to navigate and fulfill tasks. Ultimately, cognitive operations aim to maximize revenue and minimize cost without sacrificing the guest experience, striking a **balance** between revenue growth, productivity, and positive guest reviews.

Strategic Actions



Audit Operational Processes

Identify pain points or inefficiencies where data and AI can offer solutions, focusing on areas like maintenance logs, energy consumption, and staffing.



Implement Smart Systems

Upgrade to property management or operations platforms that support IoT integration (smart thermostats, locks) to provide the necessary data for AI.



Adopt Predictive Maintenance

Utilize modern building management systems or third-party platforms that analyze sensor data to predict and alert for equipment failures, preventing major outages.



Integrate AI Scheduling Tools

Use AI for workforce management to align staffing with predicted demand, improving coverage and employee satisfaction.



Foster Cross-Functional Collaboration

Ensure IT/data teams work closely with operations managers to tailor AI solutions to real-world conditions and fine-tune AI rules.



Maintain Human Oversight

Staff should oversee exceptions and handle nuanced service elements, ensuring human judgment complements AI capabilities for effective operations.

7. CRM 2.0 – The **Next** Generation of Customer Relationship Management

CRM 2.0 represents the evolution of Customer Relationship Management in hospitality, moving beyond basic guest profiles to integrate advanced analytics and technology. This transformation is driven by the need for deeper guest engagement and leverages new tools to achieve it.

Underlying Drivers

- A growing need for deeper, more personalized guest engagement.
- Vast amounts of guest data generated across multiple digital and physical touchpoints.
- Intense competitive pressure from Online Travel Agencies (OTAs) necessitating stronger direct guest relationships.
- Technological advancements in cloud-based CRMs, machine learning, and data analytics.
- Increasing importance of first-party data due to evolving privacy regulations and the phasing out of third-party cookies.

What It Means for Hotels

- **Predictive Insights:** CRM 2.0 leverages analytics to predict guest behavior, calculate lifetime value, and suggest personalized promotions, moving beyond just storing past stay information.
- **Real-Time Personalization:** Systems can generate immediate recommendations for staff and guests, enhancing interactions during calls, website visits, or on-property experiences (e.g., spa offers for enthusiasts).

- **360-Degree Guest View:** By integrating data from all touchpoints (PMS, POS, restaurant systems, mobile apps), hotels achieve a comprehensive understanding of each guest's preferences and history.
- **Enhanced Loyalty & Revenue:** Proactive and predictive engagement leads to stronger guest loyalty, increased return visits, and higher spending. Satisfied guests who feel known and appreciated are more likely to return.
- **Optimized Marketing:** Hotels can move away from blanket discounts to targeted offers based on individual guest profiles and likelihood of conversion, improving marketing efficiency and ROI.

Strategic Actions



Unify Data Sources

Consolidate loyalty program data, PMS records, and guest feedback for a holistic guest view, ensuring common IDs and data quality.



Upgrade CRM Platform

Invest in modern CRM platforms with AI-driven modules for advanced personalization, predictive analytics, and automated guest communication.



Integrate Systems

Ensure seamless integration of the CRM with operational systems like email marketing tools, property management, and analytics dashboards for actionable insights.



Empower Staff

Train guest-facing staff to effectively use CRM tools, providing them with concise, actionable guest insights at check-in or during service interactions.



Ensure Data Privacy

Implement robust data security measures and ensure compliance with all privacy regulations, obtaining clear guest consent for data usage.

8. Changing **Perspectives** - New Performance Metrics & Mindsets

The hospitality industry is shifting how it measures success. Traditional metrics alone no longer suffice in a complex environment, prompting hotel leaders to rethink performance evaluation and guide strategic decision-making with a broader, more insightful perspective.



Underlying Drivers

The last few years have prompted hotel leaders to rethink “the way we measure success.” Traditional metrics like RevPAR (Revenue Per Available Room) or occupancy alone are no longer sufficient to capture performance or guide strategy in a complex environment. Several factors drive this change in perspective. Owners and asset managers are increasingly focused on profitability and ROI, not just top-line revenue. Additionally, the diversification of revenue streams (e.g. ancillary services, outlets, experiences) means hotels must consider total revenue and profit contribution, not just rooms. Advanced analytics enable this by allocating revenues and costs in more granular ways.

Another driver is the idea of being **customer-centric**: instead of managing by department silos, innovative companies reorganize data (and even teams) around the customer or the physical asset (the hotel space). This leads to metrics like profit per guest or revenue per square meter that challenge old departmental KPIs. Lastly, external factors like the rise of asset-light models, mixed-use developments, and evolving guest preferences push hotels to adopt new strategies (e.g. maybe leasing out unused spaces, or investing in guest experience over volume), which require new metrics to evaluate success. In essence, better data availability and business realities are driving hoteliers to change their perspective on what to analyze and optimize.

What It Means for Hotels

Embracing new metrics and perspectives can **unlock insights** that were previously missed. For example, a hotel that analyzes profit per room (accounting for acquisition cost, servicing cost, etc.) might discover that some high-occupancy segments are actually less profitable than lower-occupancy but higher-spend segments – leading to a shift in marketing focus.

Some forward-thinking hotels are reorganizing their financial reporting to view the P&L by customer segment or trip purpose, effectively treating each customer type as its own “business unit” with attributable revenues and costs.

This could reveal, say, that leisure packages yield better profit per guest than certain corporate negotiated rates once all costs (including loyalty points, amenities, etc.) are factored, prompting renegotiation of those corporate accounts. Similarly, revenue (or profit) per square meter is gaining attention.

Since a hotel is fundamentally a piece of real estate, analyzing which parts of that real estate generate the most returns (rooms vs. restaurant vs. retail space) leads to smarter space utilization. A concrete example: a hotel finds its meeting rooms (per square meter) generate less profit than an equivalent area of the spa or a coffee shop would – management could decide to repurpose or reprice those spaces.

Changing perspective also means looking at forward-looking and non-financial metrics: predictive analytics might become part of monthly reports (e.g. a customer lifetime value forecast, or a guest sentiment score from online reviews).

Hotels adopting this trend are more agile and innovative, as they measure success not just by yesterday’s ADR but by metrics aligned with long-term value and guest-centric outcomes. It effectively breaks the “we’ve always done it this way” mindset, encouraging experimentation and continuous improvement.

Strategic Actions



Expand KPI Dashboard

Integrate both traditional and new metrics like Total Revenue Per Guest or Net RevPAR (subtracting distribution costs) alongside RevPAR and GOP for a comprehensive view.



Leverage Analytics Tools

Utilize platforms to blend cost and revenue data, calculating profit contributions by segment or channel to gain deeper insights into performance.



Adopt Space-Centric Metrics

Calculate revenue per square foot for all revenue-generating areas to identify underperforming spaces and explore repurposing for higher returns (e.g., converting storage to an event venue).



Promote a Data-Driven Culture

Encourage teams to question old assumptions and validate decisions with data, shifting from metrics like "occupancy is king" to focusing on overall profit optimization.



Communicate New Metrics

Ensure all staff understand the new metrics, fostering a collective effort to identify opportunities for increasing profit per guest or improving guest lifetime value.

Additional Emerging Trends in 2026

In addition to the eight core trends above, several other trends are shaping the hospitality analytics landscape. These emerging areas deserve attention for a well-rounded strategic outlook:

Data Privacy & Security as a Priority

Underlying Trend

With hotels collecting ever more guest data (personal details, payment info, preferences), the risk and regulatory landscape around data privacy is intensifying. High-profile data breaches in hospitality have raised alarms – for example, Marriott suffered one of the largest breaches in history, exposing data of up to 500 million guests and resulting in a \$52 million settlement plus hefty fines under GDPR. Such incidents, along with stricter privacy laws worldwide (GDPR in Europe, CCPA and new state laws in the US), mean hotels face not only reputational damage but also multi-million dollar penalties if they fail to protect guest data.

Essentially, cybersecurity has become a **core business concern**, not just an IT issue, in the hotel industry. The push for more integrated data and cloud services (see Trend #3 and #7) ironically increases vulnerability if not managed properly, as reliance on third-party tech vendors can introduce weak links (the 2024 breach of a hotel tech provider “Otelier” impacted thousands of hotels as hackers accessed data stored in the cloud). Thus, the underlying trend is the growing realization that data analytics capabilities must be matched with equally robust data protection measures.





What It Means for Hotels

Hotels must now treat guest data with the same seriousness as guest safety on property. A breach or privacy scandal can erode the guest trust that is fundamental to hospitality. For executives, this means analytics initiatives will be scrutinized for security – storing all your data in one platform (even for good reason) could become a single point of failure if not secured. The cost of breaches (the average cost of a hospitality breach was around \$3.36 million in 2023, up 14% year-over-year) far exceeds the cost of preventative measures, yet many hotels historically underinvested in cybersecurity.

Now, insurance companies, corporate clients, and consumers themselves demand better [safeguards](#). We're seeing cybersecurity audits becoming standard in hotel owner due diligence and brand compliance checklists.

On the analytics front, some hotels are even holding back on certain data integrations until they can ensure compliance (for instance, integrating guest profiles with external social media data might raise privacy questions). Moreover, data privacy concerns mean hotels need to be transparent with guests about data usage – which, if done right, can be a selling point ("Your preferences are safe with us, and we use them only to serve you better").

In practical terms, greater encryption, access controls, and staff training around data privacy are now part of the day-to-day operations. Additionally, regulations may require giving guests more control over their data (like allowing easy opt-outs or deletions), which hotels must build into their systems. Overall, a "privacy by design" mindset is becoming integral to how hotels implement new analytics tools or marketing programs.

Recommended Actions

- Invest in cybersecurity infrastructure and expertise. This includes up-to-date firewalls, intrusion detection systems, encryption of sensitive data (both at rest and in transit), and regular security audits of all systems holding guest information. If you're using a cloud analytics platform or third-party integrations, vet those vendors rigorously – ask for their security certifications and protocols.
- Establish strict data access controls: not every staff member should access all data.
- Apply the principle of least privilege for analytics dashboards – e.g. financial data or personal guest identifiers should only be accessible to those who truly need them.
- Train your team on phishing and social engineering awareness, since many breaches (like the Otelier example) start with a compromised credential .
- From a policy perspective, update your privacy policy to clearly explain to guests what data you collect and how it's used; make sure it aligns with laws (GDPR, etc.) and that you actually follow it.
- Implement a response plan: have a clear procedure for what to do if a breach is suspected – containing the issue, notifying affected parties and authorities as required by law, etc. On the analytics side, work with your IT and compliance teams when rolling out any new data-driven initiative – for example, if you plan to consolidate data into a data lake, involve security experts to design it with encryption, audit logs, and possible anonymization of data where feasible.
- Monitor regulatory changes too: privacy laws are evolving (several U.S. states enacted new laws in 2023-2024, for instance), so ensure your data practices keep up to avoid legal pitfalls.
- In short, make data security and privacy a foundational element of your hotel's analytics strategy. This will safeguard your brand and enable you to keep leveraging data for personalization and insight without losing guest confidence .

Sustainability & ESG Analytics

Underlying Trend

Sustainability in hospitality has moved from a niche concern to a mainstream strategic priority. Investors, regulators, and guests are all urging hotels to improve their environmental and social footprint. A key enabler here is analytics around Environmental, Social, and Governance (ESG) metrics.

Drivers include global initiatives like the Paris Agreement – research indicates the hotel industry needs to reduce carbon emissions per room by 66% by 2030 (and ~90% by 2050) to align with climate goals.

Such bold targets pressure companies to track and [act](#) on energy usage, water consumption, waste and carbon data like never before. Moreover, many corporate travel contracts now consider a hotel's sustainability scores, and younger travelers often favor eco-friendly properties.

On the regulatory side, some regions are introducing requirements for carbon reporting or energy efficiency (the EU is moving towards requiring large companies to report ESG data rigorously). All these forces drive hotels to adopt technology and analytics to measure, manage, and report sustainability performance.

From energy management systems providing real-time consumption data to carbon accounting software, new tools are being leveraged to turn sustainability efforts into [quantifiable metrics](#) that can be tracked and improved.

What It Means for Hotels

- Hotels are increasingly embedding sustainability KPIs into their business dashboards, right alongside financial metrics. For example, a hotel might track kWh of energy per occupied room, water usage per guest-night, or carbon emissions per room-night as key metrics each month. By analyzing these, hotels identify inefficiencies (maybe a particular wing of the hotel has outdated HVAC leading to higher energy per room, prompting an upgrade investment).
- Analytics also help in evaluating ROI of green initiatives: if you install smart thermostats or solar panels, the data will show the utility savings over time and payback period. Many hotels are finding that sustainability and cost-saving go hand in hand – less energy and water use often means lower utility bills, and reducing waste can cut costs too. On the guest side, showcasing metrics like “X% reduction in carbon footprint since 2019” or “90% of our waste is diverted from landfill” can be a marketing advantage.

- There's also a move to carbon footprint tracking for guest stays – some hotels now provide guests with information on the carbon impact of their stay, appealing to eco-conscious travelers. Another aspect is that owners and investors are increasingly asking for ESG reports. Having robust sustainability analytics allows an operator to confidently report improvements and benchmark against industry standards (like certifications from Green Key, LEED, or EarthCheck).
- As an example, a large hotel chain might use analytics to monitor its progress towards a pledge of eliminating single-use plastics or achieving net-zero emissions by a target year, with quarterly dashboards sent to executives.
- In summary, sustainability analytics turns what used to be a fuzzy area into a data-driven part of hotel management, meaning tomorrow's hotel executives need to be as familiar with interpreting an energy efficiency chart as they are with an STR report.

Recommended Actions



Establish Clear ESG Metrics

Choose meaningful metrics like energy use, water use, carbon emissions, and waste recycling rates for your hotel or portfolio.



Invest in Data Capture Systems

Utilize modern building management systems, smart meters, IoT solutions, or even manual utility bill analysis to gather granular data.



Visualize Trends & Benchmark Performance

Use analytics software to visualize month-by-month trends, overlaying contextual data. Compare performance against industry averages or certification guidelines.



Set Targets & Drive Action

Establish reduction targets (e.g., 10% energy reduction) and use data to guide upgrades, staff behavior changes, and operational tweaks.



Adopt Reporting Frameworks

Implement standardized frameworks like HCMI for consistent carbon footprint calculation and robust sustainability reporting.



Engage Staff & Guests

Share data-driven insights with staff to motivate efforts and display "green dashboards" for guests to showcase hotel performance.

Automation & Robotics in Guest Service

Underlying Trend

Beyond back-office cognitive operations, the use of automation and robotics in guest-facing roles is gaining traction. This trend is driven by the same labor challenges and technological advancements mentioned earlier, but it manifests in tangible ways guests can see: robot room service deliveries, automated check-in kiosks, voice-activated in-room assistants, etc.

The maturation of robotics (improved navigation, safety, and cost reduction) and AI (for natural language processing and image recognition) makes these solutions increasingly *viable*.

Social dynamics are also at play – during the pandemic, contactless service became a necessity and accelerated acceptance of kiosks and minimal human contact for routine transactions. Now, even post-pandemic, many guests enjoy the convenience of self-service and novelty of robots.

Hotels see automation as a way to fill service gaps when staff are limited, and to redirect human staff to more value-added, personalized interactions.

Hospitality-specific robotics startups have grown, offering robots that can deliver linens, toiletries, or meals, and even concierge robots (like Hilton's famous "Connie" or other lobby greeters). Industry publications note that hotels plan to increase investment in technology and AI, with one survey showing 70-80% of hospitality businesses aiming to boost tech/AI spend over five years – a sign that automation is firmly on the strategic agenda.



What It Means for Hotels

We are likely to see more hotels with a partly automated guest experience. For instance, upon arrival a guest might use a self-service kiosk or mobile app to check in (many hotels already offer digital keys via smartphone, bypassing the front desk entirely).

In-room, guests might have a smart speaker where they can say “bring me two extra towels,” which triggers an automated request system – perhaps even delivered by a robot butler.

Some properties have implemented service robots for deliveries and cleaning, such as Koncept Hotels and Teleport Hotels in Europe using robots to carry luggage or deliver room service, augmenting their staff. These robots operate around the clock without breaks, effectively extending staff capacity.

The benefit is twofold: they help cover repetitive tasks, and they can also be a **marketing attraction** (guests often share on social media that “a robot delivered my dinner!” – free publicity). Automation also appears in F&B: automated baristas, vending machines with AI, etc.

All of this means hotels can maintain service levels with fewer staff, or allow their existing staff to focus on high-touch interactions (like a concierge spending more time crafting special experiences while a kiosk handles basic queries). The guest experience can be faster and more seamless for routine requests.

However, it's important to balance efficiency with hospitality – the human touch is still a defining trait of luxury and full-service hotels. Many hotels are finding a hybrid model works best: automation handles the transactional interactions, while human staff engage in more personalized, empathetic ways with guests.

Another implication: operations need to adapt – for example, staff must be trained to work alongside robots (knowing how to summon them, troubleshoot minor issues, and graciously introduce them to curious guests). Also, maintenance of these technologies becomes a new responsibility (having an IT or engineering team that can manage a fleet of kiosks or robots).

In summary, automation and robotics are extending the service capabilities of hotels, promising efficiency and consistency, but hotels will differentiate themselves by how well they integrate these tools into a warm guest experience.

Recommended Actions



Evaluate & Implement Self-Service

Implement kiosks or mobile app functionality for digital check-in and keyless entry, aligning with traveler preference for automated front-desk options.



Pilot Service Robots

Explore delivery robots for high-labor tasks or bottlenecks, piloting in housekeeping or in-room dining to assess guest reaction and ROI.



Automate Notifications

Improve perceived service with minimal human input by automating notifications via SMS or app (e.g., room ready, housekeeping en route).



Train Staff as Enablers

Train staff to embrace automation as a tool, enabling them to concentrate on personalized service while robots handle routine tasks.



Maintain Human Fallback

Ensure guests preferring human interaction can easily access it (e.g., dedicated front desk agent or reachable attendant).



Monitor Automated Services

Track usage rates, task completion, and errors for automated services to ensure promised efficiency and identify areas for improvement.



Communicate Positively

Market these technologies as enhancements, potentially naming robots or integrating them into the brand story to engage guests.



Conclusion

The hospitality industry in 2026 is at a pivotal juncture where data and technology are deeply intertwined with service and strategy. From addressing workforce challenges through analytics and automation, to delivering personalized experiences powered by AI, hotels are leveraging these trends to stay competitive and delight guests.

Executives reading this report should recognize that these trends are not independent silos, they reinforce one another.

A hotel that invests in talent (Trend 1) will better use self-service analytics (Trend 2) and enterprise data (Trend 3). AI and cognitive operations (Trends 5 and 6) will feed better personalization (Trend 4) and require robust data governance (Trend 9). Embracing CRM 2.0 (Trend 7) and new metrics (Trend 8) will guide smarter decisions on where to automate or go green (Trends 10 and 11).

The big picture takeaway is that a data-driven, guest-centric approach – underpinned by the right technology and talent – is the blueprint for success in the coming years.

For [Juyo Analytics](#) and similar innovators, these trends confirm the importance of integrated, user-friendly analytics solutions. Juyo's mission to "connect the dots" across hotel data is directly aligned with Trends #2 and #3, enabling hotels to expand analytics enterprise-wide and empower their teams.

As the examples and cases in this report show, those hotels that have already begun adapting to these trends are seeing tangible benefits: higher profitability, improved guest satisfaction, and more resilient operations.

Recommendations Recap

1 Invest in people and culture

Bridge skills gaps and promote data-driven decisions across all departments.

2 Deploy self-service analytics tools

Break down data silos so all parts of the business leverage insights effectively.

3 Use AI and automation judiciously

Augment (not replace) your teams, focusing human effort where it matters most.

4 Prioritize personalization

In both guest services and internal reporting – relevant information at the right time leads to better outcomes.

5 Upgrade to CRM systems with analytics

Truly know your customer and build loyalty through data-driven engagement.

6 Reevaluate metrics of success

Integrate profitability and sustainability into your scorecard, not just volume metrics.

7 Protect data fiercely

Maintain trust and comply with regulations, even as you gather more data.

8 Commit to sustainability

Turn ESG goals into everyday operational KPIs with data-backed action.

9 Experiment with robotics and contactless solutions

Enhance efficiency while keeping hospitality personal and warm.

"The future belongs to hotels that strike the right balance between efficiency and hospitality."



By following these recommendations and keeping an eye on emerging trends, hotel leaders can navigate 2026 with confidence. The travel rebound and new technologies present tremendous opportunities – those who connect data insights with empathetic service will capture them.

In the words of one industry expert, the future belongs to hotels that strike the right balance between efficiency and hospitality. The trends outlined in this report serve as a roadmap to achieving that balance, ensuring your hotel not only stays current but leads the way in this exciting next chapter of hospitality.

Sources

This report is informed by AI industry research and examples from late 2023 and 2024, including data from the American Hotel & Lodging Association on labor shortages, case studies of AI deployments by major hotel brands, insights from hospitality technology thought leaders, and emerging best practices in sustainability and data privacy for hotels. Each trend section includes in-line citations to relevant sources for further reading and evidence of the points discussed.



About Juyo

Juyo is a hotel data analytics and visualization platform that transforms segregated hotel data into visual stories with profit-driving clarity, instantly.

By seamlessly integrating PMS, Rateshoppers, Market Intelligence, Accounting systems and more, Juyo is an intelligent hub for Commercial and Finance teams. With powerful visualization, smart planning tools and a wide selection of pre-configured and fully customizable dashboards, Juyo empowers hoteliers to make proactive decisions that support operations, manage profitability and increase revenue.

Your space to connect the dots.

Let's Talk



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