



ARKONIS INNOVATION
Artificial Intelligence Research Consultancies

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The AI-ready hotel starts with trusted data.

A practical operating model for hotel owners and general managers who want AI to improve revenue, cost, and guest experience without losing control of their data.

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Hotels need a decision foundation before they need more AI pilots.

Most hotel AI projects struggle because they start above the operating layer. The model is visible, but the data below it is fragmented, disputed, or owned by no one.

External research points in the same direction. BCG reports that 74 percent of companies have not yet shown tangible AI value. Amadeus reports that hospitality leaders cite fragmentation, efficiency, and integrity as top BI barriers. PwC Middle East reports high AI piloting in tourism and hospitality, but only 3 percent enterprise-wide deployment.

The practical answer is a sequence: trusted data first, owned decision systems second, controlled AI workflows third. This paper gives hotel leaders a short diagnostic and a 90-day starting plan.

74%

COMPANIES NOT
YET SHOWING
TANGIBLE AI VALUE

33%

HOSPITALITY
LEADERS CITING
DATA
FRAGMENTATION

3%

ENTERPRISE-WIDE
AI DEPLOYMENT IN
REGIONAL TOURISM
AND HOSPITALITY

1-2

WORK DAYS PER
WEEK SPENT
STITCHING
REPORTS

Sources: BCG, Amadeus, PwC Middle East, HEDNA/NYU SPS Tisch Center/RateGain.

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The hotel AI gap is an operating-model problem.

AI value does not arrive when a hotel buys a model. It arrives when teams change how decisions are made.

BCG reports that 74 percent of companies have not yet shown tangible AI value. Its 70/20/10 rule is useful for hotels: most of the challenge sits in people and process, then technology and data, and only then algorithms.¹

For hotel leaders, this changes the starting question. The first question is not "Which AI tool should we buy?" The first question is "Which daily decisions should become faster, clearer, and better controlled?"

70%

People and process

Owners, incentives, workflow redesign, training, measurement.

20%

Technology and data

PMS, POS, channel, CRM, finance, and warehouse readiness.

10%

Algorithms

Model choice, prompt design, tuning, and automation logic.

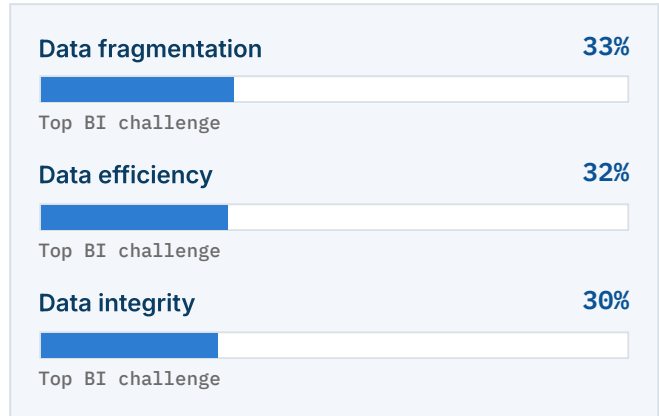
Source: BCG AI Adoption in 2024.

Hotel data is still split across the systems that run the property.

Hotels are rich in operational data, but the data is often trapped in separate systems.

Amadeus found that 67 percent of hospitality leaders already use BI and reporting, while another 31 percent plan to introduce it. The same research shows the hard part: fragmentation, efficiency, and integrity remain top barriers.²

This is why many dashboards do not change decisions. A report built on disputed data becomes a discussion about the number, not the action.



Source: Amadeus Travel Technology Investment Trends: Hospitality, 2024.

Personalization needs operational data, not only marketing data.

Personalization is often described as a marketing task. In hotels, it is an operating task.

Oracle and Skift found that hotel executives plan AI and analytics for personalized marketing and customer service. The report also points to the real requirement: deeper integration between loyalty systems, property systems, and brand mobile apps.³

A useful guest profile must connect intent, stay history, room preferences, spend, service recovery, consent, and current inventory.



Source: Oracle and Skift, Hospitality in 2025.

The famous examples are not model stories. They are system stories.

Large travel brands get AI and digital value because their data systems and product workflows already connect.

Hilton reported 12.3 million Digital Keys downloaded from January to August 2023, and Connected Room availability across more than 1,000 hotels.

Booking.com describes connecting its data systems with OpenAI models to improve search and support.⁴

The lesson for owners is practical. AI works better when identity, inventory, service, pricing, and feedback can meet in one controlled workflow.

BUSINESS IMPROVEMENT LOOP

01

Connect the context

Identity, consent, loyalty, stay history, inventory, and service context are joined.

02

Improve the decision

Availability, rate, preference, and service context are evaluated together.

03

Change the workflow

Search, support, room experience, or staff action changes at the point of use.

04

Learn from outcomes

Bookings, satisfaction, recovery, and revenue outcomes return to the loop.

Examples: Hilton Digital Key and Connected Room; Booking.com and OpenAI.

Manual reporting is a revenue-management tax.

When teams spend hours stitching reports, the cost is not only labor. The bigger cost is late action.

The 2025 State of Distribution report says four in five hotels spend up to two full work days each week stitching reports across systems.⁵

That time should move into revenue decisions: pricing, channel mix, demand pickup, conversion quality, and sales follow-up.

01

Before: manual stitching

Data pulled from PMS, channel manager, CRS, OTA, and spreadsheets.

02

Risk: slow action

Leaders debate figures after the opportunity has moved.

03

After: decision layer

One owner, one metric definition, one action path for each number.

Source: HEDNA, NYU SPS Tisch Center, and RateGain, 2025 State of Distribution.

Decision systems create value before guest-facing AI.

The first reliable gains usually come from better management decisions, not visible AI features.

Marriott's Group Pricing Optimizer is a useful example. It used demand segmentation, price response, and optimization to improve group pricing decisions. Booking.com's experimentation engine shows the same management pattern: better evidence changes daily decisions.⁶

Hotels can start with decisions that already have owners and measurable outcomes.

DECISION	INPUTS	OUTPUT
Rate change	Pickup, comp set, channel cost	Recommended price band
Staffing	Forecast, arrivals, service levels	Shift plan and exception list
Procurement	Occupancy, events, consumption	Order timing and variance alert
Recovery	Complaint type, stay value, history	Next best action

Examples: Marriott Group Pricing Optimizer; Booking.com experimentation culture.

The readiness sequence is data, decisions, then AI workflows.

Hotels should not skip the middle layer. A clean warehouse without a decision model becomes another reporting project. AI without trusted data becomes theatre.

The practical sequence is simple: define the business decisions, clean the data that supports them, create owned decision systems, then introduce controlled AI workflows.

This sequence is easier to govern, easier to explain to non-technical leaders, and easier to measure.



Arkonis operating model, tested against external adoption research.

Governance protects both revenue and trust.

Hotels handle sensitive guest data, payment flows, staff operations, and partner integrations. AI increases the need for clear ownership.

Data breaches and consent failures in hospitality show that data systems can create brand and regulatory risk when ownership is weak.

Governance should be practical: who owns the data, who can use it, what can be automated, what must be reviewed, and how each decision is logged.

RISK AREA	CONTROL	OWNER
Guest data	Consent, retention, purpose limits	Commercial and legal
Rates and offers	Approval rules and audit log	Revenue leader
Staff workflow	Human review for exceptions	Operations leader
Vendor access	Data processing terms and monitoring	IT and finance

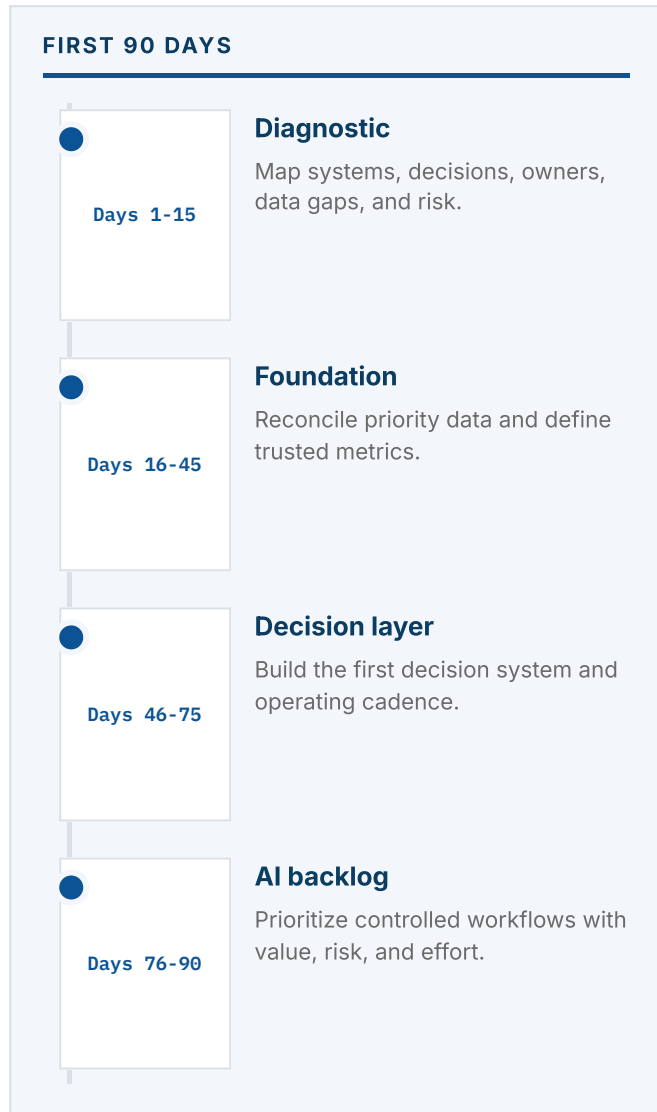
Controls synthesized from hospitality incidents and AI governance practice.

A 90-day plan gives leaders a practical starting point.

The first 90 days should prove that the hotel can move from data problems to better decisions.

The work should be narrow enough to finish and important enough to matter. One property can start with revenue, guest experience, or cost control. A group can start with one region or one brand standard.

The deliverable is not a slide deck alone. It is a working foundation, a decision cadence, and a ranked backlog of AI workflows.



Recommended Arkonis engagement path for hospitality leaders.

The readiness diagnostic should be short and hard to hide from.

A good diagnostic is not a long maturity survey. It tests whether the hotel can make better decisions next month.

The questions should expose ownership, not only technology. If nobody owns a metric, a model cannot fix it. If staff do not trust a number, a dashboard cannot change action.

The output should be a ranked set of decisions to improve, with data gaps and expected value beside each one.

QUESTION	PASS SIGNAL	RISK SIGNAL
Can leaders name the top 5 decisions to improve?	Yes, with owners	Generic AI use cases
Are PMS and channel figures reconciled?	Variance tracked	Manual dispute every week
Does each metric have one owner?	Named accountable person	Shared vague ownership
Is AI use governed?	Clear review and logging	Vendor-led shadow tools

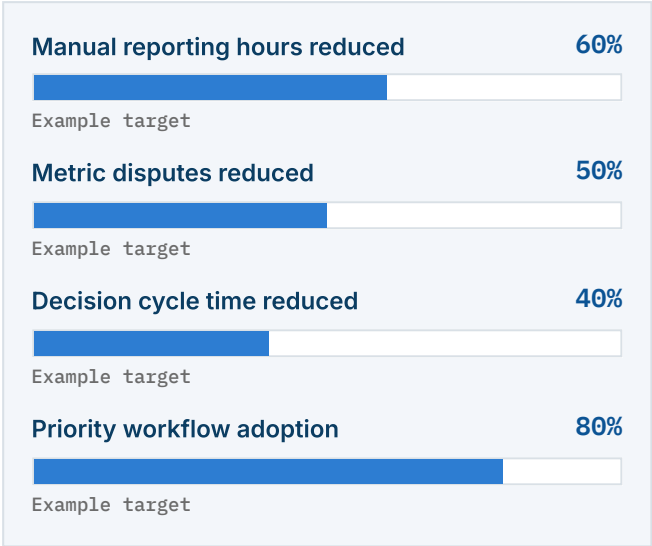
Use this as a board and owner conversation, not a technical audit only.

Measure AI readiness by decision quality, not model activity.

Counting pilots gives a false sense of progress. A hotel can run many pilots and still make the same slow decisions.

Better measures are closer to the operating system of the property: decision cycle time, forecast accuracy, rate action speed, data dispute rate, manual reporting hours, and adoption by named teams.

These measures make AI investment easier to defend because they connect technical work to operating outcomes.



Illustrative target set for the first 90 days; replace with property baseline during assessment.

Leaders should fund the first use case only after these answers are clear.

AI funding should move through a simple leadership gate. The gate is not technical. It asks whether the hotel can explain the decision, the owner, the data, the control, and the measure of success.

This gate protects capital. It also makes adoption easier because teams can see how the system changes their work.

A use case that cannot pass this test should stay in discovery. A use case that passes can move into a 90-day readiness project.

QUESTION	GOOD ANSWER	WEAK ANSWER
Decision	A named decision improves	A generic AI feature launches
Owner	One executive owns the outcome	Ownership sits with a vendor
Data	Trusted source and quality rules exist	Teams debate the source
Control	Human review and audit trail are defined	Automation is unclear
Measure	Cycle time, revenue, cost, or service improves	Activity is counted

Leadership gate synthesized from BCG, McKinsey, RAND, and hospitality operating examples.

Sources used for the argument and benchmarks.

SOURCE	REFERENCE	HOW IT IS USED
BCG	AI Adoption in 2024	74 percent of companies struggle to achieve and scale value; 70/20/10 people-process, technology-data, algorithms.
McKinsey	The State of AI, 2025	High performers redesign workflows, assign senior ownership, and scale practices across operating model, data, adoption, and risk.
Amadeus	Travel Technology Investment Trends: Hospitality, 2024	Hospitality leaders cite fragmentation, efficiency, and integrity as top data barriers.
Oracle and Skift	Hospitality in 2025	Executives plan AI and analytics for personalized marketing and service, supported by integrated loyalty, property, and mobile data.
PwC Middle East	AI at the heart of tourism and hospitality, 2025	Regional hospitality leaders report high AI pilots but very low enterprise-wide deployment.
HEDNA, NYU SPS Tisch Center, RateGain	State of Distribution, 2025	Four in five hotels spend up to two work days a week stitching reports.
Hilton	2024 trends: connectivity and personalization	Digital Key and Connected Room show the value of connected identity, room, and app experiences.
OpenAI	Booking.com customer story	Booking.com connects internal data systems with large language models for smarter search and support.
INFORMS	Marriott Group Pricing Optimizer	Optimization and demand segmentation changed group pricing decisions and profitability.
HBR	Building a Culture of Experimentation	Booking.com is widely cited for using experimentation as a management system.
RAND	Root Causes of Failure for AI Projects	AI projects fail when leaders frame the wrong problem, use weak metrics, or miss workflow context.

Specific source URLs are listed on the public insight page at arkonis.ai/insights/ai-ready-hotel-data-whitepaper/.



ARKONIS INNOVATION
Artificial Intelligence Research Consultancies

Start with a clear view of your hotel data, systems, and decisions.

Arkonis works with hotel owners, general managers, and leadership teams to assess AI readiness, build trusted data foundations, and turn dashboards into decisions.

Book a 30-minute call

cal.eu/raghav/30min

Email

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Assessment

Data, systems, governance, operating model, and 90-day roadmap.

Location

Abu Dhabi, United Arab Emirates

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