

# HYB25

## Technology Edition

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# **Next-gen Operational Intelligence = Operations + Business Intelligence + AI**

Operations

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*Operational Intelligence in hospitality has come a long way. Business Intelligence platforms helped pave the path by giving property leaders visibility into key metrics through dashboards and web portals. But while these tools showed what was happening, they often stopped short of explaining why. That missing piece is now within reach. Thanks to recent advances in artificial intelligence, we are entering a new phase of Operational Intelligence. Property teams can now access real-time insights, uncover root causes, and take smarter actions to drive profitability and performance.*

Operational Intelligence has evolved considerably over the past few decades. Business Intelligence (BI) reporting platforms played a major role in this evolution, surfacing key operational metrics from source systems to web-based dashboards. But a key element has always been missing – analysis. Now, with access to powerful AI algorithms, we are on the precipice of *Next-gen Operational Intelligence*; a future when hotel property leaders will benefit from easy access to metrics and insights so they know why things are happening and what we can do about it.

## A LOOK BACK

To track key operational metrics such as Average Daily Rate (ADR), Occupancy %, Revenue Per Available Room (RevPAR), and Restaurant Covers, property leaders used to dig into systems such as hotel Property Management Systems (PMS) and restaurant Point of Sale Systems (POS). Over time, the brands, ownership groups, and third-party management companies aggregated this data across properties. This aggregated data was typically stored in databases (aka Data Warehouses, Data Lakes, Data Lakehouses) and made accessible through basic reports and financial forecasting/budgeting solutions. More recently, web-based Business Intelligence (BI) solutions surfaced key metrics to property leadership teams through web portals and mobile applications. That helped, but it didn't tell the whole story.

Say a property leader notices that revenue is up. How do we track that against benchmarks such as Last Year, Budget, and Forecast? Is that growth coming from corporate travelers or weekend guests? Did a local concert boost bookings? Is weather playing a role? Property leaders need to understand revenue by segments of guests and timeframes such as weekdays and weekends. Once you add in promotional campaigns, competitor pricing, booking windows, cancellation rates, and a myriad of other factors, it's nearly impossible to find real insights. And that's just the revenue side of the profit equation. Major expense drivers such as labor, food costs, utilities, and OTA commissions also appear frequently in owner inquiries.

BI tools are great at presenting “*what*” is happening, but they often fall short in explaining “*why*” it's happening and what properties can do about it.

## ENTER AI

Artificial Intelligence (AI) can be broken down into three main categories: robotics, natural language processing, and machine learning. Robots come in many shapes and sizes and can assist property staff with tasks such as cleaning, deliveries, and

autonomous driving. Natural language processing covers voice assistants, language translation, and sentiment analysis (e.g., guest feedback surveys). For *Next-gen Operational Intelligence*, we need machine learning – specifically Generative AI and Large Language Models (LLM) – to create this operational intelligence.

For the purposes of this article, I need you to accept two basic tenets:

1. LLMs (such as ChatGPT and Gemini) can digest large volumes of complex data and produce insights that humans may have overlooked; and
2. mechanisms exist to safeguard proprietary property data so that LLMs can safely process data without storing or exposing data for future access.

So, here's where things get interesting. Imagine taking your daily BI reports and feeding them to AI for analysis. Think of these AI models as your best financial analysts. You could ask questions about the one area property owners care the most about – profitability, and more specifically, future profitability. Questions such as:

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*Given my property's operational performance, what are the top three actions my property team can take in the remainder of this month/quarter/year to increase profitability, while maintaining (or increasing) guest satisfaction?*

And imagine that the actionable insights you receive from AI are included with your reports and dashboards. Suddenly, reports aren't just a rearview mirror, they become a GPS, navigating you toward smarter decisions. Wow – a world where property leaders know what's happening and what they can do to improve future profitability – with no additional staff or time required.

## WHY THIS MATTERS

We are at an inflection point in our industry when it comes to operational intelligence – we are entering an era where our reports don't just share data, they share advice. The daily reports and dashboards are about to become truly actionable; enhanced with insights not previously available without large investments in staff and time. This evolution to *Next-gen Operational Intelligence* will enable greater operational performance and increased levels of profitability – it's like having a team of PhD-level financial analysts on staff but without the salary line. The only thing standing in our way is figuring out the exact wording of our AI prompts, but that's a topic for a different article. ☺

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