Acropolium

FROM DATA TO PROFIT:

8 WAYS HOTELS CAN INCREASE REVENUE
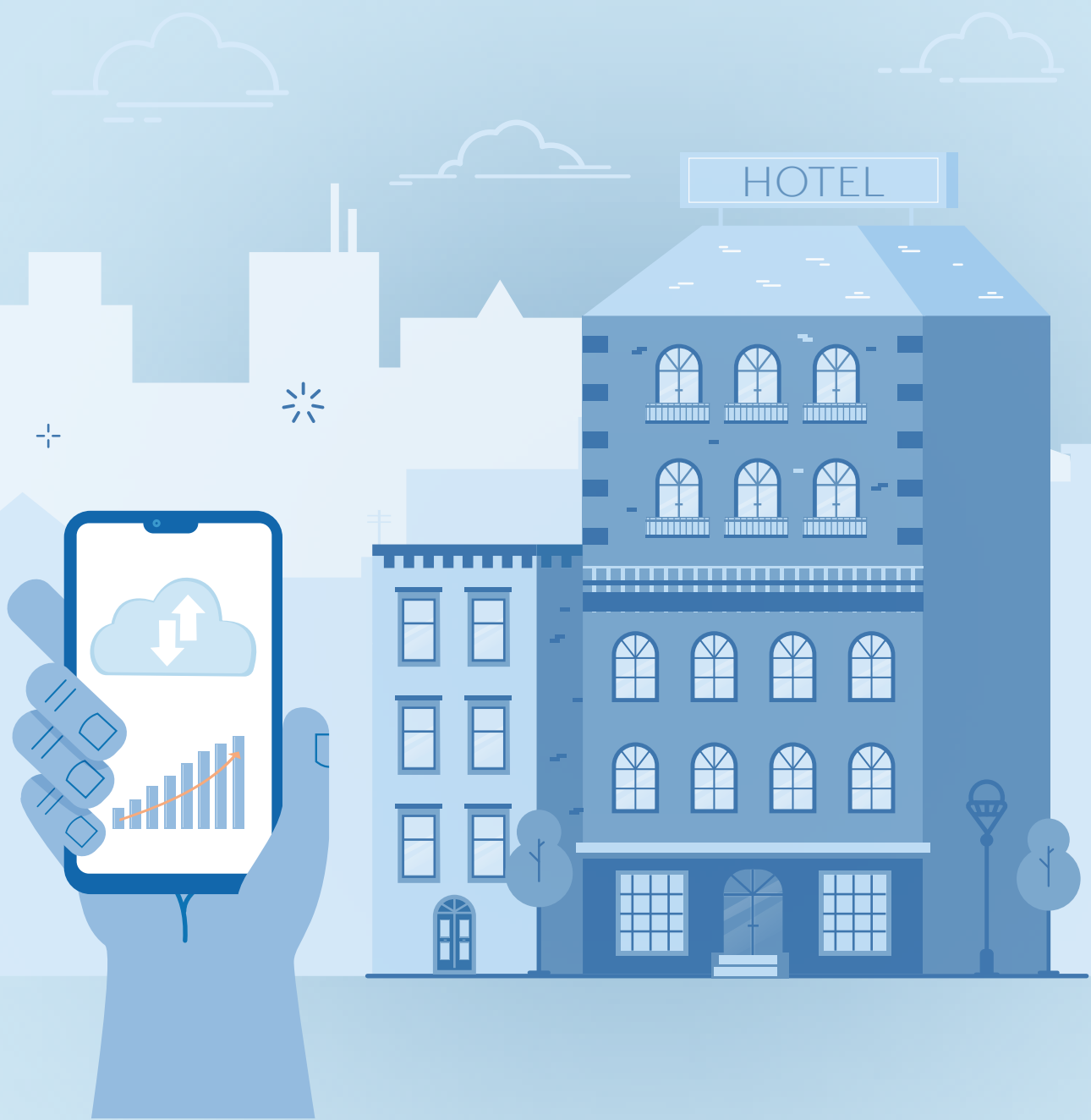
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Authors

Welcome to Acropolium's 2025 e-book on hotel data management, where our expert team applies years of delivering actionable insights to hotel businesses.

Today, we will explore the transformative power of data in the hospitality sector, breaking down the types of data you should collect and sharing some real-world examples with success stories from our clients

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Key Takeaways

1. Successful hotel data management enables better management of bookings, hotel resources, and staff, leading to smoother operations.

2. The global hotel property management software market, valued at $7.15B in 2023, is [projected to reach](#) $14.71 B by 2030, indicating increasing demand for intelligent data management.

3. By gathering strategic insights within hospitality data management solutions, modern hotels can tailor guest experiences based on their preferences, thus boosting customer loyalty.

Hotel businesses produce a wealth of data every day. But while this information could be cleverly used, many companies waste valuable insights because of poor hotel data management and inefficient software. Wouldn't it be better if you could effectively process this data to generate more profit?

With a professional data management framework and analytics, you can gain a deeper understanding of your customers. This, in turn, will help you target the right people with relevant offers, deliver a better guest experience, and reduce your costs without compromising quality. And Acropolium is here to assist you.

At Acropolium, we've been delivering advanced analytical systems and management tools for hospitality businesses for 12+ years.

Let's explore what data management is, the types of data you can collect with your hotel database system, and how you can give your travelers brand new, personalized experiences.

What is Hotel Data Management?

Data management is an administrative process that regulates how a company collects, stores, and uses information for strategic planning. Now, hotel data management means using industry-specific information to identify optimal distribution channels, predict and meet customer needs, improve revenue, and more.

Without analytics tools and a framework for data management, you can get bogged down in terabytes of unstructured and low-quality data. That's why businesses embrace hospitality tech trends like hotel management databases and property management software to transform information into actionable business intelligence.

Global Hotel Property Management Software Market

Market forecast to grow at a CAGR of 10.8%

USD 14.71 Billion

USD 7.15 Billion

2023   2030

https://www.researchandmarkets.com/reports/5336619
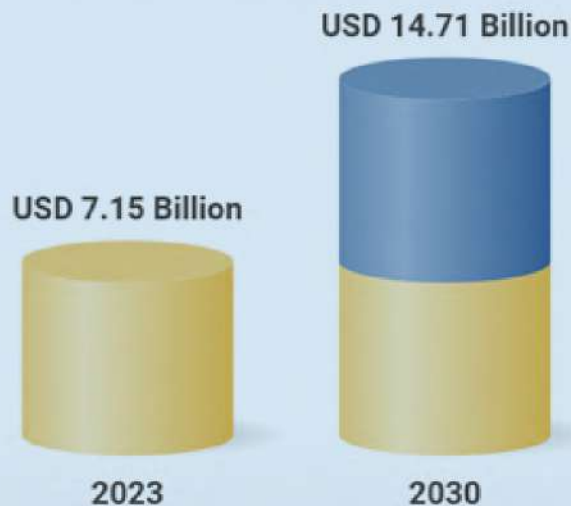
RESEARCH AND MARKETS
THE WORLD'S LARGEST MARKET RESEARCH STORE

Valued at $7.15B in 2023, the global hotel property management software market is forecasted to reac h $14.71B by 2030 with a CAGR of 10.8%.

"These figures show the growing demand for managing hospitality data intelligently, with guest and traveler information being the most valuable asset of hotel data management systems."

Pavlo Zheldak
Chief Delivery Officer

Hotel Data Types You Should Collect
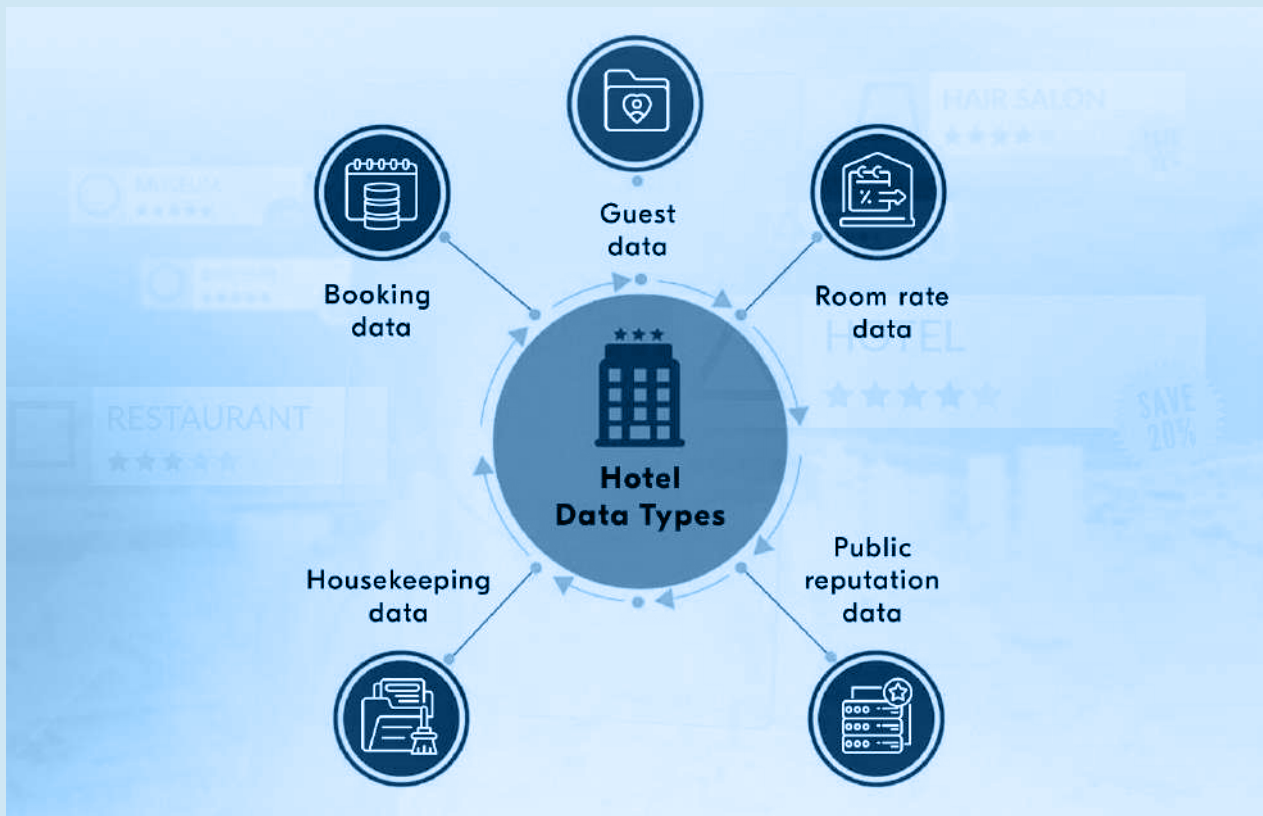
A tourist who books accommodation, a customer who orders at the restaurant, or a housekeeper who marks the room as clean — all these people create data with their actions. In fact, there's so much information generated every moment that you won't be able to process it without a data management system.

Property management systems (PMS) are the central hotel database management systems that consist of several functional components (modules) and can integrate with third-party software.

Plus, depending on your needs, PMS can extract data from websites, social media platforms, financial institutions, and other businesses. Here's what kind of data points property management software can collect for analysis.

Booking data

PMS software can communicate with your websites, third-party booking systems, metasearch engines, and social media to collect information about:

▷ **Distribution channels used for room reservations**

▷ **Percentage of occupied, booked, and available rooms**

▷ **Duration of stay**

▷ **Top visited pages on your website**

▷ **Booking abandonment rate**

"With this information, hotels can determine the most effective distribution channels for marketing with the most popular room types. What's more, they can soon send personalized recommendations to guests through hotel chatbots."

Dmytro Tymoshchenko
Business Analyst

Room rate data

Rate shopping software gathers information about your competitors and their prices from websites and booking platforms. We're talking average daily room pricing, fluctuations in rates, and costs for different room types. Hotels can compare millions of rates by integrating real-time hotel data collection modules into their PMS. With powerful software, you can use this data to optimize pricing based on the average demand and future events.

Guest data

Your guests are your primary source of information, and customer relationship management (CRM) software can help you process data about every customer. This includes:

▷ Demographics (age, family status, number of children)

▷ Preferences (favorite food and beverage items, housekeeping services,

▷ preferred room sanitization level)

▷ Favorite on-site services (restaurant, food delivery, gym, or spa)

▷ Booking history

▷ Contact information

▷ Payment methods

According to the 2023 Customer Relationship Management Report, CRM solutions allow improving engagement with clients and overall customer experience. With this software, you'll get new ways to personalize your services, allowing you to build customer loyalty and increase your income.

Housekeeping data

The housekeeping module, usually part of an IoT hotel ecosystem, is one of your best advisers for optimizing costs. The data it collects includes:

▷ Number of managers and housekeeping staff

▷ Performance indicators (rooms per housekeeper, speed and quality of cleaning, and other metrics)

▷ Linen, amenities, cleaning supplies, and chemicals used per room

▷ Costs of repair and maintenance

▷ Laundry expenses

▷ Scores guests rate for cleanliness

> *"Advanced PMS and [hotel management systems](#) will allow your staff to access the dashboard with their tasks and update it on the go. On top of that, managers identify gaps in the staff's workflow and use relevant data to adjust cleaning patterns and reduce costs."*

Maryna Shuliak
Chief Business
Development Officer

Public reputation data

Reputation management software can scan feedback about your hotel on multiple online platforms, such as:

▷ **Google**

▷ **Booking.com**

▷ **TripAdvisor**

▷ **Expedia**

▷ **Facebook**

▷ **Twitter, etc.**

Natural language processing and sentimental analysis can automatically identify comments with negative emotional backgrounds, so you can understand what people dislike about your services.

Now that you understand what data you can gather, let's see how hotels can transform this data into business intelligence.

8 Ways to use hotel data management to increase revenue

With effective hotel data science, you can improve your business in multiple ways. Let's look at some benefits proper data management can bring you.
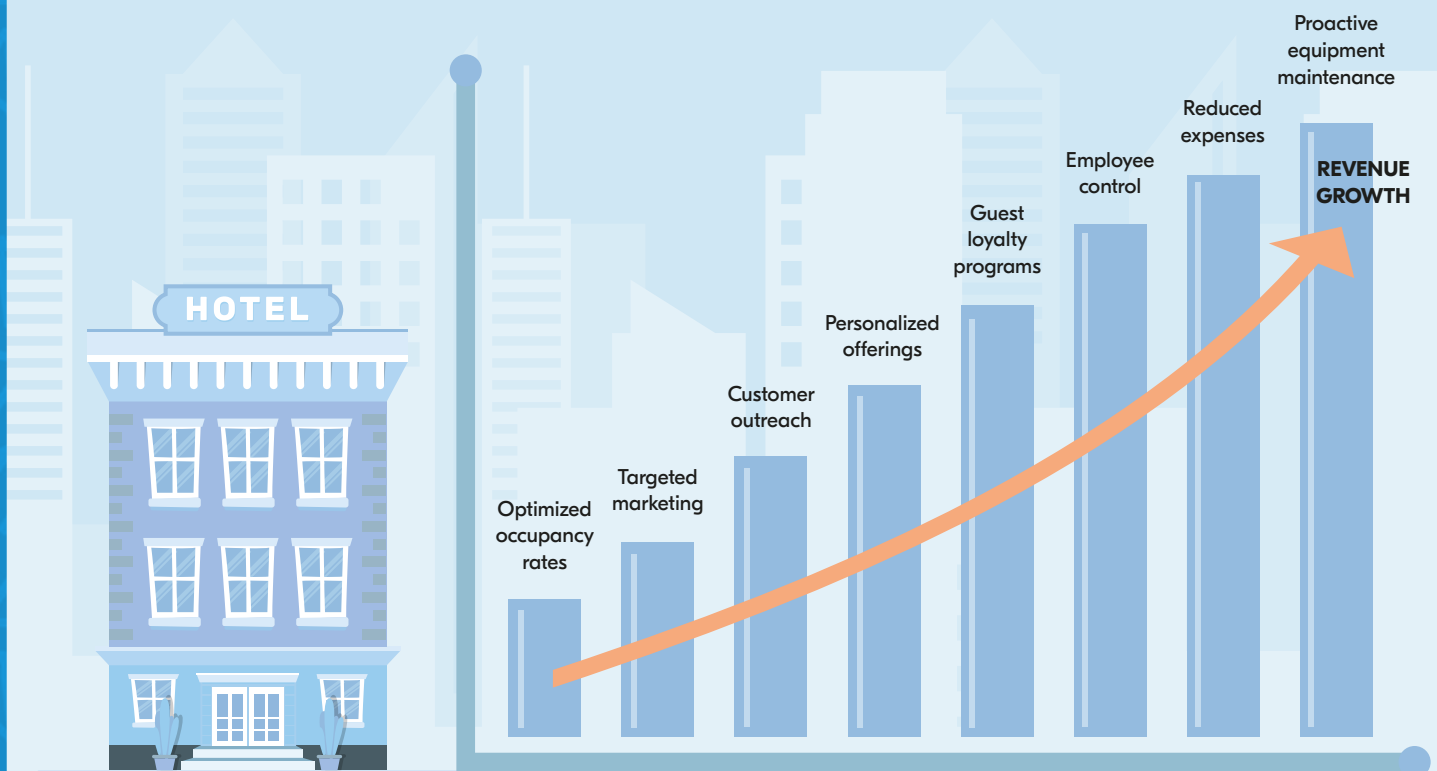
1. Optimized occupancy rates

Hotels can predict the demand and optimize their pricing strategy based on a multitude of internal and external factors. Revenue management (RM) with machine learning and AI-powered real-time data analysis can anticipate fluctuations in pricing and room availability.

This way, hotels can determine how to change rates and enable dynamic pricing to fill more rooms, forecasting the demand for particular dates and offering better pricing.

> *"[Revenue management software](#) can also analyze booking behaviors and preferences to help you see how much guests are willing to pay for certain amenities. Moreover, this data can help you tailor marketing promotions."*

Dmytro Tymoshchenko
Business Analyst

2. Targeted marketing

Hospitality data management solutions can collect information about your guest's travel destinations, residence, spending habits, booking history, and online feedback. You can use this data for targeted campaigns.

For example, hotels can send personalized deals to guests who enjoy annual festivals near their chains. Alternatively, you can persuade customers to book a room by offering discounts or free event tickets.

The economy hotel chain [Red Roof Inn](#) used analytics to increase its conversion rates by 375% in specific locations. The system found high cancellation rates nearby, with most people searching for accommodations via mobile phones. The company then invested in a time-targeted mobile search strategy, gaining top positions on Google's results page.

3. Customer outreach

According to the 2024 [Local Consumer Review Survey](#), 91% of customers read online reviews, with 88% paying attention to businesses that respond to reviews. Reputation management tools can scan booking websites, [travel agencies](#), review platforms, and social media for people referencing your hotel.

"Your managers can then promptly respond to comments, both positive and negative. Showing that you care about their feedback will boost your brand's image."

Maryna Shuliak
Chief Business
Development Officer

4. Personalized offerings

Hotel data analysis software can identify guests' buying behaviors to suggest those likely to accept discounts, room upgrades, and amenity services.

Hotels with advanced CRM tools can identify patterns in guest activity to upsell their services. Some guests will pay more for contactless service and sanitized rooms. Or, a family with kids will likely need a room with more bathroom storage, extra pillows, or free earplugs.

Your employees can have access to a dashboard with information about every guest. Imagine front-desk managers anticipating clients' need to order a taxi or waiters knowing what beverage to offer at 9 PM. A customer experience like that can turn guests into regulars.

5. Guest Loyalty Programs

Leveraging guest data from hotel data management software, hotels can implement targeted loyalty programs designed to incentivize repeat bookings and foster long-term guest relationships.

By offering personalized rewards, exclusive discounts, and tailored experiences based on guest preferences and behavior, hotels can increase guest loyalty and encourage higher spending.

A loyal customer base leads to a more predictable revenue stream and a higher lifetime value per guest.

6. Employee control

Your managers can assign rooms to the cleaning staff and monitor how they proceed with their duties in real-time. In turn, housekeepers can access the management dashboard from smartphones to see their tasks, mark rooms as clean, report malfunctions, and order minibar refills.

PMS software with analytics and reporting modules can help you adjust the workflow and measure your employees' performance. Furthermore, you may encourage the most efficient departments or identify ineffective managers.

7. Reduced expenses

Analytics hospitality data management software with automated reports can help you figure out how to reduce costs without sacrificing the quality of your services. Hotels can analyze frequent requests to make cost-effective adjustments. Suppose, most of your customers ask for additional towels or slippers. You can then put in extra ones and adjust the room rate.

As a result, you'll have fewer requests and room deliveries, saving you more money in the process. One hotel chain has found that some consumers stay overnight while driving through the country. The hotel started offering pre-packaged breakfasts, which are more convenient and less expensive for drivers.

8. Proactive Equipment Maintenance

Your system can also detect underlying problems with equipment. For example, repeated requests to fix leaking faucets in one area of the building can point to corroding pipes. Consequently, you can fix faulty equipment in time before it floods your rooms.

Moreover, proactive equipment maintenance offers the advantage of optimizing operational efficiency. By identifying and addressing potential issues before they escalate, you can minimize downtime and disruption to guest services.

This proactive approach not only enhances guest satisfaction by ensuring all facilities are fully functional but also contributes to cost savings by reducing the need for emergency repairs and replacements.

How to manage hotel data effectively?

Everyday interactions produce large quantities of data from different silos. Event management systems, PMS, PoS software, and various third-party websites store snippets of valuable information.

Raw data should be analyzed before you can use it to make informed decisions. How do you bring together all this data and make sense of it?

Here are the fundamental hotel data management practices.

1 Collect

You can gather guest data from additional sources. For example, your software can search for information about your business from review portals, booking agencies, and social networks. After checkouts, your system can automatically send emails or in-app messages asking customers to complete short surveys about their experience.

2 Integrate

Most enterprise PMS solutions contain several software modules (PoS, RMS, CRM, and other software) to help you collect data. However, you may have to integrate additional third-party tools via application programming interfaces (APIs) to allow the systems to exchange data.

3 Filter

Most data you collect is useless for strategic decisions. With the right software, you can filter the unnecessary clutter from high-quality data to optimize the storage space and system's workload.

4 Normalize

Duplicate entries are inevitable when you merge data from disparate sources. For instance, the system can mistake a single person for multiple guests named John Doe, John D., or Johnny Doe. That's why your software needs standards to identify which record is the most complete. Additionally, you can employ a data manager who'll systemize profiles and check for misspellings.

5 Store

You need a reliable and secure place for hotel data storing. Depending on the size of your business, you can use a cloud data service, a local server, or a data warehouse.

6 Secure

A hotel database management system can store tons of personally identifiable information about customers and employees. And this means that cybersecurity and adherence to HIPAA regulations must be your top priority. We also recommend implementing role-based access control, two-factor and adaptive authentication, cloud backup, and regular employee training on breach prevention.

7 Analyze

Property management software usually contains business intelligence tools for analytics. You can use off-the-shelf solutions available on the market and integrate them into your platform. However, there's little chance they'll fit your specific business needs. The most efficient option is to build custom data analytics software around your requirements.

8 Visualize

The application should present all data in a comprehensible visual form. Ideally, your managers should access it from a single unified dashboard that contains information from multiple systems.

9 Document

Comprehensive documentation that outlines security, data management, and backup procedures will ensure your business won't come to a halt in case of emergencies. Proper data management culture and analytical tools can help you transform raw data into a valuable resource. However, you need to consider building a custom hotel property management system to get the most out of data.

Challenges of Building a Custom Hotel Data Management System

Building PMS from scratch and implementing proprietary software modules into your platform won't be easy. You'll encounter challenges like:

▷ **Storage problems.** The amount of data can overwhelm your local storage without standardization and filtering procedures. So our advice is to invest in secure cloud computing services for flexible storage.

▷ **Incomplete analytics.** Most third-party software will provide key performance indicators and trends but won't explain what causes them. Don't want to employ multiple data science departments? You should consider opting for a hotel data analysis solution that works with various data sources and presents the results in a visual format.

▷ **Data accuracy.** Your databases will be full of duplicate data and multiple profiles that belong to the same guests. As we mentioned, you should use tools that can filter clutter and merge duplicate entries.

▷ **Cybersecurity.** Even the largest hotel brands regularly suffer from breaches and hacker attacks within their own hospitality data management solutions.

"An experienced software development vendor can enhance your platform with robust security and risk management solutions to protect your data and reputation."

Oleksii Glib
Founder

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Acropolium Solutions for Hotel Data Management

Acropolium has years of expertise in delivering multipurpose solutions, AI and ML software, and consulting services. Our team can help HoReCa companies enhance their data management software with innovative tools or build an efficient platform from scratch. Now, we'd like to share some of our successful cases in the hospitality sector.

Hospitality Property Management System
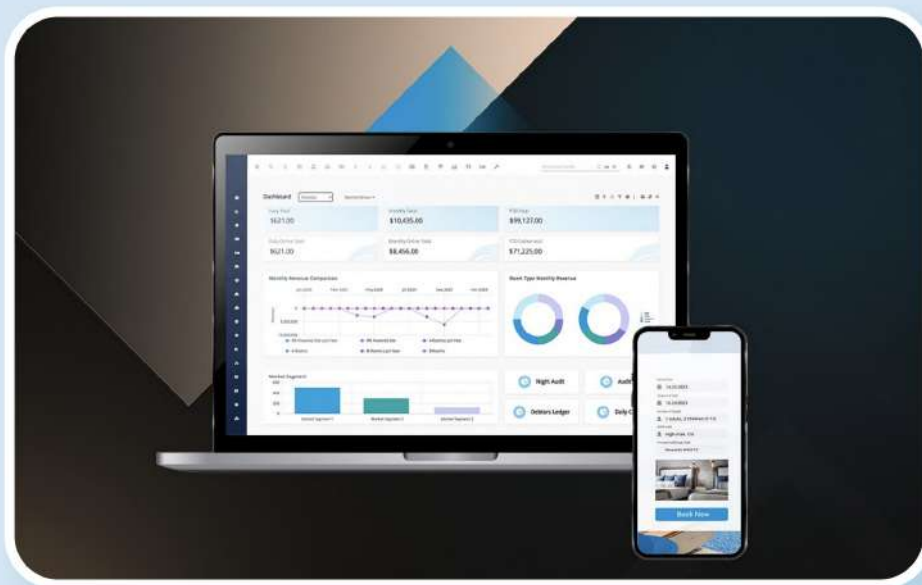
A UK property rental business faced administrative burdens hindering growth and approached Acropolium for a custom property management system to manage its expanding portfolio efficiently.

Solution

Working closely with the client, we pinpointed essential hotel PMS features to optimize their operations, leveraging our existing solutions stack due to the client's lack of specific technology preferences.

- ▷ We developed a robust hotel management dashboard for efficient task management by property managers, integrating with diverse booking channels for real-time inventory updates.

- ▷ Additionally, an online booking engine was integrated for accurate room availability information.

- ▷ Syncing with popular booking channels like Airbnb and Booking.com maximized property visibility.

- ▷ Revenue management features facilitated pricing rule implementation manually or through dynamic pricing using machine learning.

Results

- ▷ The solution boosted operational efficiency by 37% and slashed administrative costs by 40%.

- ▷ The integrated booking engine and reservation management solution drove a 30% increase in booking rates.

Hotel Management System

Our client, a tech solution provider for the hospitality sector, asked us to integrate hotel software systems like property management systems and booking tools into their hotel management platform.

Solution

After analyzing the client's needs, industry trends, and technical possibilities, Acropolium provided an advanced e-commerce platform with:

▷ Automated booking and reservation management to minimize errors.

▷ A real-time messaging system for seamless communication between hotels and travelers.

▷ Room customization options for personalized stays.

▷ Automated check-in and check-out to enhance efficiency.

▷ Integrated billing and payment for smoother guest transactions and better revenue management.

Results

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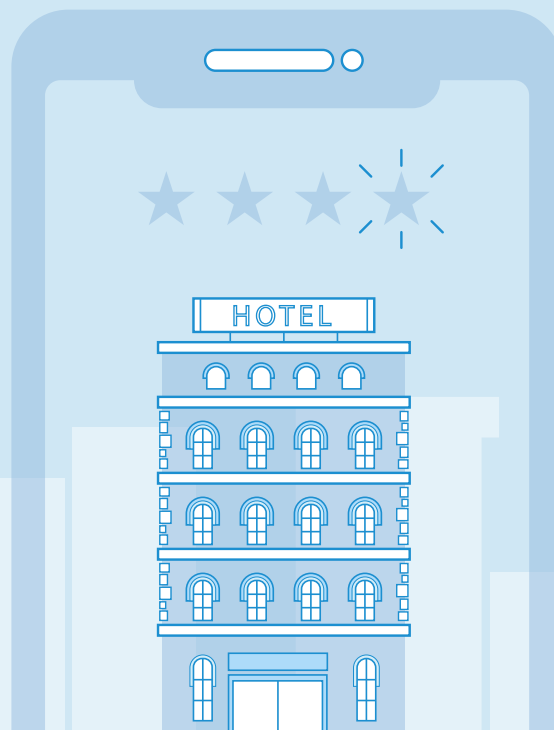
The Bottom Line

Data is an important ally for hotel businesses & hotel apps. Companies can use booking, guest, and housekeeping data to optimize their rates, enhance customer experience, and identify new ways to improve profits.

However, you'll need advanced hotel data management software to collect and transform data into business intelligence. Acropolium can help you overcome data management challenges and digitize your business with hotel data management, legacy system modernization & analytics consulting.

> *"Start a conversation today, and we'll gladly show you how to get the most out of your hotel data and makeit work for you."*

Oleksii Glib
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