



# How to Leverage Business Intelligence to Improve Hotel Performance



ACCORDING TO BEST PRACTICES IT MARKET RESEARCH



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NOTE: The research findings featured in this study are derived from online surveys conducted by Starfleet Research in Q1 and Q2 2018 on Hospitality Revenue Management, Hotel Guest Experience Management and Self-Service Business Intelligence, with an average survey size (with industry segmentation) of 260 qualified respondents across multiple job titles, hotel property sizes and categories, and geographic regions. For more information, please contact [research@starfleetmedia.com](mailto:research@starfleetmedia.com).

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# Understanding the Value of Hotel Business Intelligence



Once upon a time, not so long ago, hotel operators wanting to conduct data analysis had to rely on Excel spreadsheets. Unfortunately, entering massive amounts of data into a spreadsheet and then dynamically refreshing it as new data becomes available — which is all the time — is rife with challenges and quickly turns into an unwieldy mess.

Spreadsheets comprised of rows and columns of quantitative information, along with rudimentary graphical elements, tend to be poorly suited for data exploration and insights discovery. The advent of general-purpose, self-service business intelligence (BI) software solutions improved the situation, but still fell far short of meeting the needs of hotel operators, let alone providing the necessary level of technology and data integration with other core hotel solutions.

Fast forward to today and data analysis in the hospitality industry is a very different story thanks to a new breed of BI tools. These tools are engineered to serve the needs of hotel operators and other staff, including revenue managers charged with making the all-important pricing decisions upon which the financial health of the company depends.

Now, rather than spend inordinate amounts of time grappling with endless formatting, data importing and exporting, version control issues, and poor visualizations, hotel operators can utilize powerful, flexible and intuitive tools designed specifically for their industry and even their specific roles and areas of accountability. The tools allow them to focus their attention on getting the answers and insights they need to maximize operational and financial performance as well as improve the quality of the guest experience.

The best of these tools deliver real-time insights that enable hotel operators to make the best decisions quickly and accurately. Data discovery tools help answer new questions as they arise, allowing for a more proactive approach to decision making.

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Even casual users can run data queries and create powerful visualizations and other content displays that are easy to consume and easy to share with other people in the organization. Seasoned analysts can go further, delving deep into the data and performing on-the-fly data analysis.

Hotel operators charged with managing properties of all sizes are harnessing the power of business intelligence to achieve faster and better access to critical information and insights, as indicated in the chart below. Not surprisingly, revenue managers are among those getting the most use of the solutions and deriving the greatest benefit.

### Some of the Biggest Benefits of Business Intelligence, According to Hotel Operators and Staff



By being able to visually explore, prepare and transform data into personalized performance dashboards and customized reports, users can get the answers they need at a glance and make smart, timely pricing and distribution decisions.

In fact, the best of the new breed of hotel BI solutions seamlessly integrate with the hotel's existing revenue management platform. In many ways, the two solutions are two sides of the same coin; both are needed to progressively increase RevPAR through profit optimization.

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Business intelligence can inform the decisions also made in multiple other departments and functions across the organization. The insights gained from business intelligence tools can have benefits ranging from improving marketing, sales and customer service effectiveness to generating competitive intelligence. Key revenue stakeholders can monitor hotel occupancy trends, guest demographics, market position, and channel profitability.

One of the most practical things to monitor is source of business. Simply knowing what percentages of guests book their stays via travel agents, online travel agencies (OTAs), or the hotel website should have a direct impact on revenue management and marketing strategies. If, for example, it becomes clear a specific OTA is bringing in guests who stay longer at a higher ADR, then it may make sense to invest in improving the hotel's ranking on that site.

Simply put, hotel operators need to understand relative channel performance at a granular level and place their bets accordingly. With the new breed of BI tools, tailored to meet the needs of the hotel industry, they can.

In fact, 92 percent of hotel operators agree these tools are, or would be, either "effective" or "very effective" in helping them manage and optimize their market and channel mix, resulting in significantly increased hotel revenue and profitability for the same amount of marketing spend.

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92

Percentage of hotel operators who agree BI tools are, or would be, "effective" or "very effective" in helping them manage and optimize their market and channel mix

# 2

## Leveraging the Right Data for Hotel Business Intelligence



The processing power embedded in today's smartphones and tablets makes it possible to perform analytic tasks in the palm of your hand that only a few years ago would have required a desktop computer and server. The fact that many of the most sophisticated and powerful enterprise applications are now available anytime, anywhere works to the great advantage of hotel operators who, given the nature of their jobs, are almost always on the go.

Not surprisingly, the new breed of hotel business intelligence tools are cloud-based, mobile-enabled and specifically designed to meet the needs of on-the-go hotel operators. The tools deliver deep insights, faster and in far more accessible ways than most people only a few years ago could have even imagined possible.

The tools can pull data from the property management system, central reservation system, point of sale system, CRM system, channel management system, and any other existing system. The tools can also extract data on-the-fly from spreadsheets and any number of other sources, including guest satisfaction survey repositories, call centers, social networking apps, and website, mobile and in-room chatbox and text-based device logs.

BI means using interactive visualization tools to bring data to life in a dazzling array of color-coded charts, funnels, pies, spider webs and various other configurations as well as drill-down and data filtering features to navigate, manipulate and analyze the data. Still, it is important to remember that, initially and also on an ongoing basis, BI also means leveraging the right data. The value of the interactive visualizations, dashboards and reports is entirely contingent on the quality of the data from which they are generated.

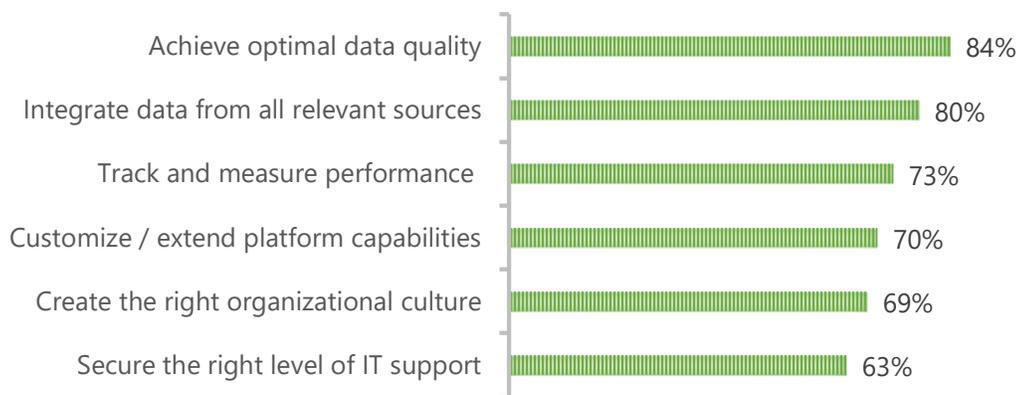
The diversity, velocity and sheer volume of data in the hotel industry has increased by orders of magnitude in recent years. Hotel operators today have an embarrassment of riches when it comes to data. There is practically no end to the number of internal and external data sources at their disposal.

**“The diversity, velocity and sheer volume of data in the hotel industry has increased by orders of magnitude in recent years.”**

Meeting their business intelligence needs means, as a first step, connecting to data, whatever its source and wherever it may reside. But the key is to do so selectively, based on business objectives, whether those objectives relate to streamlining hotel operations, improving revenue management or identifying emerging trends in guest behaviors or market activity.

The question is: What data is relevant what data is not relevant and should not be included? This ranks as one of the top challenges with business intelligence, according to hotel operators, as indicated in the chart below.

### Some of the Top Challenges with Business Intelligence, According to Hotel Operators and Staff



In terms of data requirements for revenue management, most people would agree that the volume and depth of clean historical data related to occupancy, rate and revenue figures, including booking dates, rate codes, arrival dates, departure dates and revenue by day, provides the strongest basis for predictive modeling and forecasting accuracy. For a large property, the totality of the data set may include dozens of guest segments, a dozen or more room types, several years of historical booking and reservations data, and upwards of a dozen length-of-stay buckets.

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Multiple other data sources may also provide significant value. For example, web shopping data (the number of travelers looking at and booking rooms and at what price, as well as the percentage of visitors abandoning the hotel website) can provide insights into current and future room demand as well as price sensitivity.

Because travelers shop beyond hotel websites, there are insights to be gleaned from the travel distribution network, as well — although, according to research conducted for this study, less than one-third (29 percent) of hotel operators are capturing and integrating data related to guest website search and shopping behavior.

While more hotel operators are integrating customer lifetime value data into pricing and availability, modeling consumer behavior from click-stream data, and integrating loyalty and total property spend data, only 62 percent of hotel operators indicate that they are currently using spend data to determine the value of guests by segment. That percentage is bound to increase over time.

Market-level data, including publicly available competitor rate information gleaned from multiple channels, may also rank as a must-have data source. Most hotel operators agree it is necessary to closely monitor competitive activity in order to avoid significantly underselling or overpricing guest room inventory.

**“It is necessary to closely monitor competitive activity in order to avoid significantly underselling or overpricing guest room inventory.”**

**95**

Percentage of hotel operators who cite time reduction (e.g., time needed to get information, make decisions, etc.) as a top reason to utilize business intelligence tools

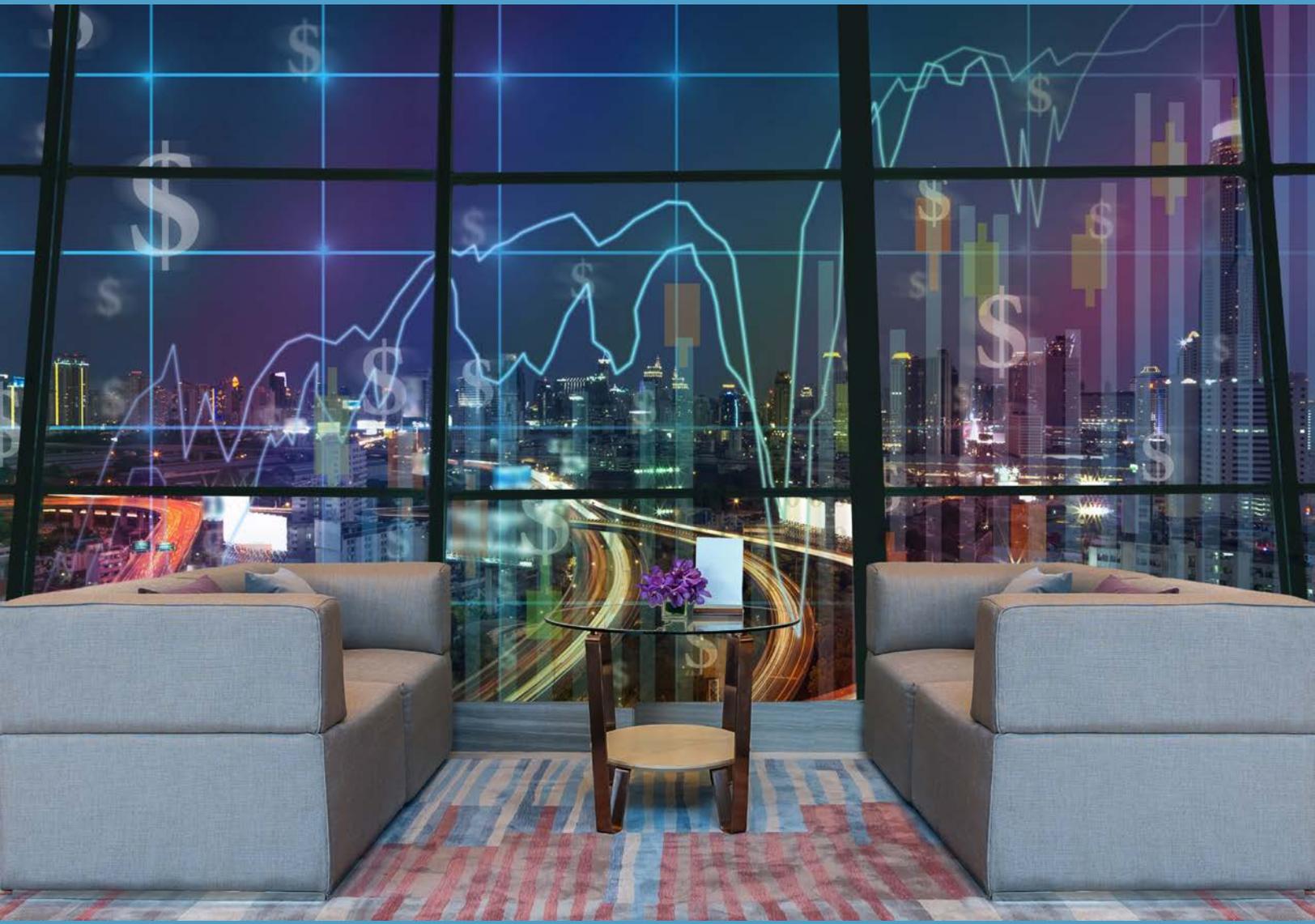
For sales and marketing data requirements, length and purpose of stay data as well as the history of individual guests' on-property behavior, such as their food, drink or spa treatment preferences, may be valuable in determining what offers should be sent to them and the messaging around those offers. How the recipient responded to previous marketing campaigns and discounts can also help determine what, if any, future messages they should receive, through what channel(s), and whether the messages are likely to elicit a favorable response.

Hotel operators get excited about the ever-growing number of data sources, but, in the end, it is better to think of data in terms of "quality over quantity" rather than "the more the merrier." Capturing and analyzing every last bit of data can be a recipe for disaster. At a certain point, more data can simply mean more noise and the exercise becomes one of diminishing returns. It is imperative hotel operators select data sources that will help with fast, accurate decision-making and avoid the temptation to capture and integrate every last piece of data available to them from every possible data source.

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# 3

## Making Smarter Decisions with Hotel Business Intelligence



When it comes to generating actionable insights and driving continuous performance improvement, the right hotel BI tool can rightly be viewed as a game changer. This is true for two simple reasons. The first reason, to quote a famous Latin phrase, is: *ipsa scientia potestas est* (“knowledge is power”). The second reason, to borrow an English cliché, is: *timing is everything*.

Perhaps nowhere are these aphorisms more true than in the context of hotel revenue management, given the time sensitive nature of inventory-related pricing decisions and the impact of those decisions — which, ideally, are determined solely by an analysis of the right data and not by gut level instinct — on hotel revenue and profitability.

In the past, revenue managers frequently struggled to get the information they needed to make optimal pricing decisions. The need for that information was generally *right now*, given the dynamic, rapidly-changing environment in which most hotels operate. Revenue managers can neither afford latency in accessing the information they need nor can they afford for the information to be incomplete or faulty. Yet even today, hotel operators commonly lack real-time access to the right data as well as the right analytic capabilities in order to make sense of the data and fully leverage it to their advantage.

The good news is an advanced hotel BI tool enables them to make smart, timely pricing and other business decisions. It empowers them with data access and insights discovery. It gives them the tools to know what they can do *right now* to increase efficiency and effectiveness. The acceleration of decision-making cycles speaks to the importance of putting data in the hands of those with the authority to act upon the data.

A hotel marketing manager, for example, may need to understand the results of various promotional levers, which means feeding response data into campaign planning models and running scenarios month by month. Using BI tools, she

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can view marketing performance at a granular level. She can refine the integrated marketing mix by comparing the relative productivity of different media, channels and tactics while gaining insights into how different marketing investments influence bookings and occupancy. She can visually analyze what percent of prospects at the top of the buying funnel are moving downward through each successive stage and over what period of time.

In addition, she can factor in such considerations as abandonment analysis — that is, analyzing website and booking engine data to understand at what point guests leave the hotel website before booking a reservation. If a guest visits the website and looks at the spa rate page several times but then left without booking, then perhaps that should trigger a spa package that could be just the thing to compel them to come back and finally book that guest room.

Business decisions are informed not only by the accuracy and timeliness of the data, but also by the ability to create customized views of the data, based on specified data parameters and configuration needs. Everyone in the organization has a different question they're trying to answer, a different information need they're trying to address. Giving staff members the ability to create custom views of information that meet their needs may not seem like such a big deal. But for hotels that may have been hamstrung in the past by the constraints of static, one-size-fits-all reports, having such a capability may, in fact, be nothing short of transformational.

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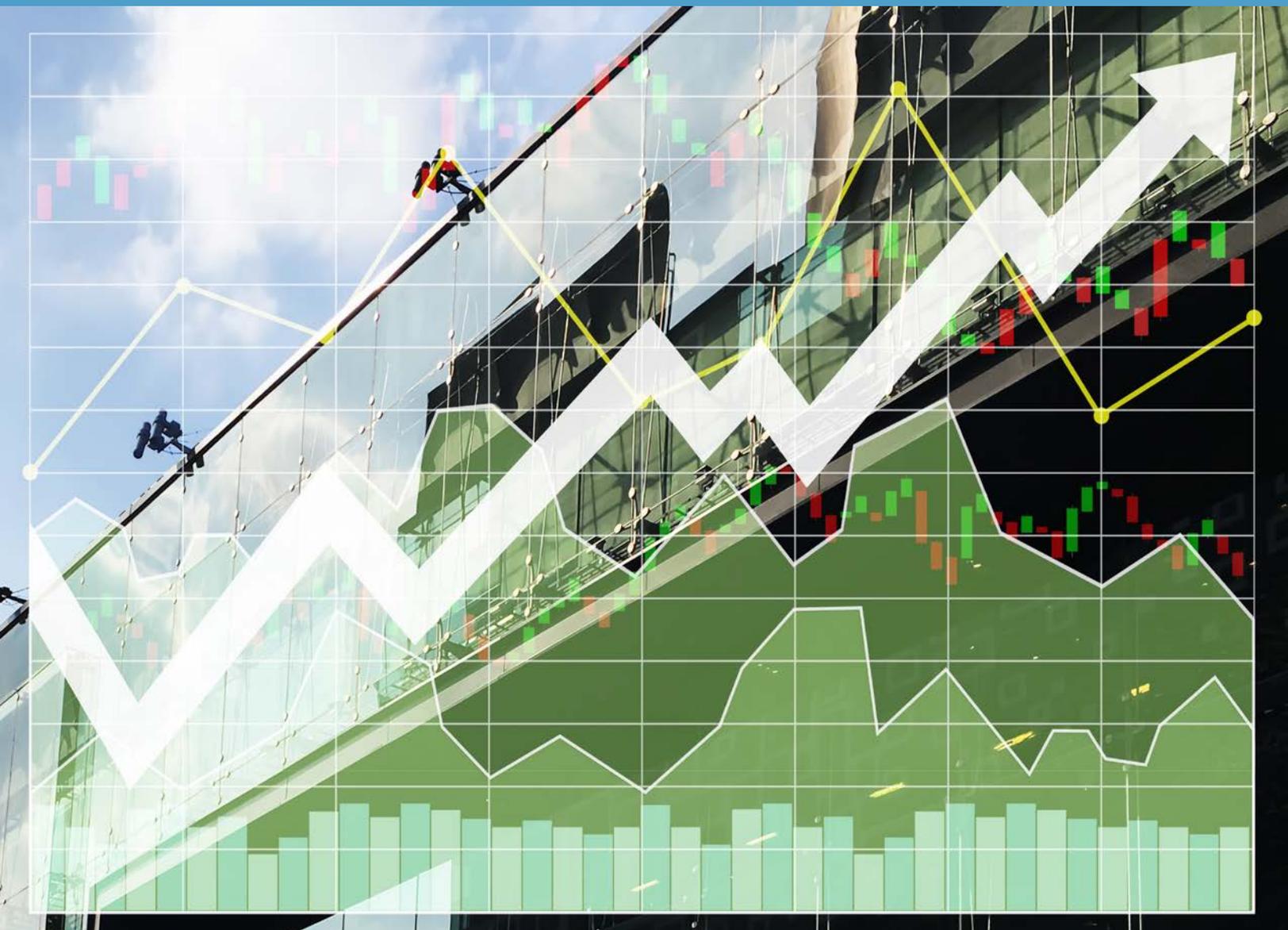


**62**

Percentage of hotel operators who indicate that they are currently using spend data to determine the value of guests by segment

# 4

## Maximizing Success with Hotel Business Intelligence



The benefits of utilizing an integrated hotel BI tool are broad in scope and tend to permeate all parts of the organization. Widespread usage should result in measurable increases in the ease and speed of information access and the quality of decision making as it relates to multiple facets of the business, above and beyond just revenue management.

Getting the most value from business intelligence goes beyond technology and data management; it requires hotels work to foster a culture of data-driven decision making. The best analytic technology in the world won't count for much if revenue managers still trust their gut instinct and intuition more than what the numbers are telling them.

For a hotel making a BI solution available to employees for the first time, it may be necessary to emphasize this cultural change more than in the case of an organization that has stressed data-driven decision making for a long time, to the point that it has become part of its employees' DNA.

For employees, the new breed of business intelligence comes as a blessing, if only because of the enormous time savings it provides them. Time spent chasing down information is time employees could spend doing any number of other things to create value for the business — including, in the case of guest-facing employees, interacting with guests and working to improve the quality of the guest experience.

Now they can get the information and insights they need faster, making it possible to respond and adapt more quickly to changing business conditions or pursue new opportunities. According to the research, BI tools are improving employee productivity and satisfaction at all levels of the organization. In fact, 94 percent of hotel survey respondents whose companies have deployed a next-generation BI solution “agree” or “strongly agree” that their job performance has improved as a result of greater information access and decision-making ability.

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With BI tools, hotel operators can spend more time focused on analyzing the data rather than collecting the data. They can get more work done within the same timeframe, and make better, faster decisions along the way.

Beyond measuring the extent to which ADR and RevPAR have been optimized, and making it easier to adjust pricing as necessary to maintain a competitive advantage, they can engage in all kinds of ad hoc data analysis. They can make changes to key assumptions, look at business outcomes over different time periods, test every imaginable scenario, and understand the financial impact of their decisions. They can run what-if analyses, simulating the impact of data changes on overall patterns or derived calculations.

Having such analytic capabilities at their fingertips can force people to question assumptions at all levels of the organization. An unexpected result deserves to be questioned until it becomes certain it is not based on faulty data or a flawed analysis. Again, what should be avoided is the smug “I know better” attitude that has been known to blind hotel operators — particularly, seasoned revenue managers — to genuine opportunities to increase RevPAR.

A next-generation BI solution can force everyone, from the general manager to the sales, marketing, and guest services teams, to think more strategically than ever before. It can spur them to drive the business further and faster. It can enable them to respond more quickly to business change and empower them to drive integrated decision-making and ownership.

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**96**

Percentage of hotel operators who believe that business intelligence has been “successful” or “very successful” in terms of enabling them to achieve their desired business results

The desire to enhance a hotel's analytic capabilities is driven by the recognition of the existing gaps in the organization's current BI capabilities. The following are just a few recommendations for hotel operators to keep in mind as they embark on the journey to improve their BI capabilities.

**Focus on improving data quality.** Data quality will never be perfect, but there is always room for improvement. Errors invariably creep in through manual data entry as well as from glitches in automated data merge processes. Look for ways to identify and eliminate errors, by improving validation at the entry stage, cross-checking reference data against other databases, and employing data cleansing solutions that use algorithms to flag anomalies and contradictions.

**Track and measure results.** Can an increase in RevPAR be attributed to a new BI solution and the actionable insights it produced? It can be difficult to determine the financial impact of faster and better decisions. It's easier to pay attention to employee usage and satisfaction metrics. Ultimately, hotel operators should select metrics that really matter for the performance of the business as well as ones that are specific to the users' individual areas of accountability.

**Annotate and collaborate.** Most BI dashboards allow users to add comments and tags to data that is presented to multiple people. This commentary enables a conversation about data and can add greatly to the value of BI. Hotel executives can ask questions and knowledgeable users can answer; people can point out important discrepancies; and everyone can see which data points gather comments and which collect dust.

**Ensure a positive mobile experience.** Having the right data at the right time means being able to access and analyze that data on a mobile device. The mobile dashboard should provide an accurate, real-time graphical representation of the data with a user-friendly interface.

“Hotel operators should select metrics that really matter for the performance of the business as well as ones that are specific to the users' individual areas of accountability.”

