

SnapShot + Skift Present:

Hospitality Analytics: How Data Can Make Hotels Smarter

special
report

The hospitality industry is rich with guest and market-place data, but it faces challenges in putting that data to use in the form of revenue-driving analytics. We look at key use cases for data in the hotel space — featuring experts from small hotels to large — and consider the future of data in terms of education, quality, business culture, resource allotment, and the rising call for third-party partnerships to put hospitality leadership in charge of the data it already owns.

Skift Team + SnapShot



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A pair of butterfly wings, likely a Morpho butterfly, with vibrant orange, red, and blue patterns, set against a dark background.

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About us

It began with a problem.

Each day, hotels collect loads of data—from their PMS, reservation systems, and POS systems, among many others—and each day, they're left sorting through mountains of data, searching for a nugget of actionable information. Well, it's 2015. The age of "Big Data" and "The Internet of Everything." It should be easy for hotels to understand their data, to make intelligent and informed decisions for their business, yet it's not. Instead, hoteliers are left with huge, unwieldy spreadsheets, information overload, and worst of all, irrelevant, static data. We had to do something about that.

Backed by years of experience in hospitality and hotel tech, David Turnbull, founder of Yeeld Solutions, and Michael Heinze, creator of HSBi and hetras, came together to create the first comprehensive Hotel Analytics dashboard of its kind. A tool not only for power-users, but one that could help every hotel in the world tame their data and transform their business.

With board members like citizenM's Michael Levie and Lennert De Jong, SnapShot was destined to innovate. And following initial seed investments by STR, STR Global, and Shiji Networks, SnapShot raised a second round of 25 million euros via Shiji Networks, allowing SnapShot to build an expansive platform that makes data and analytics available to every hotel from thousands of rooms down to a handful.

Well, it's been an amazing beginning, but we're just getting started. It's time to make Big Data work for hotels of every size.



Stay tuned to [watch our story unfold](#).

Executive summary

The nature of guest data, how it is aggregated, and how it is analyzed in the hospitality industry has changed. At one time the realm of the in-room survey card and the checkout questionnaire, the digital space has plugged web- and mobile-savvy travelers into a fluid and ever-growing process of communicating what works – and what doesn't work – about each stay.

Furthermore, data surrounding the state of the hospitality market – from room rates to inventory to ancillary – is fueling a massive resource that marketing and operations can access, analyze, and use.

While hotels have much in the way of available and accessible data, it is not always a resource that hospitality is using to its best advantage, however.

At large-scale hotels, the focus is on investment in data-analytics infrastructure. Heads of companies such as The Rezidor Hotel Group want to see free, high-quality Wi-Fi become a standard part of that infrastructure so that management can serve – and gather data about – guests in the moment. They also want to replace the prospect of costly in-house information-technology centers needed to drive data gathering, storage, and analysis with more cost-efficient and nimble third-party provider partnerships. And they want to claw back some percentage of the data that they give away to valuable, but at times revenue-shrinking, partners in the online travel agency space.

Expansion of data use is also a goal for large companies such as InterContinental Hotels Group, where the opportunity exists to leverage data and guest tracking. The goal is to create increasingly personalized and timely marketing touch points with travelers. But IHG sees data as necessary to competing with other players in the marketplace as well. It is a lens for acquiring more granular perspectives into pricing, helping them to better compete in an increasingly complex ecosystem of channels and potentially shifting parity structures.

Smaller-scale hotels see the value of mining data to align their properties even more closely with demographics. Rather than large-scale

segmentation, they are pursuing specific consumer types and then diving deep into data-driven monitoring and services to track and meet the demands of finite traveler categories. It is a model larger brands also emulate, especially recently, in a noted shift to niche collections. The hurdles to success, leaders explain across companies of all size, however, include education around the technology and potential resistance to breaking free of traditional models.

Other approaches among smaller hotel brands include hybrid data/human-resource models: i.e. staff interacting with guests and then supplying narratives and opportunities as data to social-media and marketing programs. Beyond customer relations, hotel companies such as 25hours Hotels are putting data to use in mapping the sources of their bookings, assessing the costs of acquiring guests, and optimizing revenue in those ways.

Common themes across all examples are future-minded. The role of data in the hotel industry relies upon leadership's willingness to solve challenges around training and data quality, around industry culture and resource allotment, and its ability to address evolving strategies around what data suggests a property or collection of properties can mean to guests and guest types.

Increasingly, in light of the resources needed to achieve the promise of data analytics in the hospitality space, hoteliers are discussing the power of the future partnership in supplying data solutions to properties, companies, and brands.

Table of contents

About Us 3

Executive Summary 4

Table of Contents 6

Introduction: guests, data, and the hotel industry 7

Roots of guest data

Hospitality and digital data

Large-scale hotels and the push for greater data engagement 11

Rezidor and the drive to engage with data (and partnerships)

IHG sees pathways to loyalty and further personalization

Data use cases among smaller hotel companies 14

Citizen M builds its niche with guest data

25hours Hotels walks a line between old and new approaches

Industry-wide next steps: education, data quality, and partnerships forming the future 17

Education and competency around data in the hospitality space

Data and hospitality: a future for partnerships

Insights and strategies: further considerations of data and hospitality 19

Data as a design problem

The IT challenge: complex changes

Automation is key to the IT solution for hotel data infrastructure

Hotels and balanced data expectations

Data interpretation and taking care with data insights

Q&A: David Turnbull and Michael Heinz look to the future 21

Endnotes 24

About Skift 25

About Skift

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Introduction: guests, data, and the hotel industry



For the hospitality industry, every visit, every request, and every challenge that hotel customer-relations management and operations can solve on-site represent opportunities to better understand guests and services. And each opportunity is capable of being evaluated through a data-analytics lens.

In this way, the hotel guest fuels a valuable and constantly growing marketing and operations asset. However, while the hotel industry enjoys a vantage onto guest behavior – one that is unparalleled in terms of customer touch-points and on-site evidence of traveler sentiment – hotels are all too often neglecting to engage with the data they own.

In response, industry leaders at hotels, both large and small, are giving new attention to hospitality's data-analytics gap. Leadership is in search of a solution, and many experts acknowledge that finding it will require a shift in resources, in hotel business culture, and openness to innovation along both niche and large-segment marketing approaches.

Roots of guest data

The history of guest data as resource for hotel marketing and operations is one that, in part, starts with paper-based guest surveys. The roots of guest data can be found in the cards and forms hotels traditionally placed in rooms and gave to guests during checkout.

As hoteliers captured these “reviews” and guest-generated information about each stay, management had the opportunity to analyze responses, putting them to use to not only alter, improve, and amplify their in-house offerings but also to create and modify strategies of advertising and outreach to both new and known customers.

Much of that changed with the advent of the Internet, the online-review space, and the evolving network that hotels share with Web- and mobile-savvy travelers.

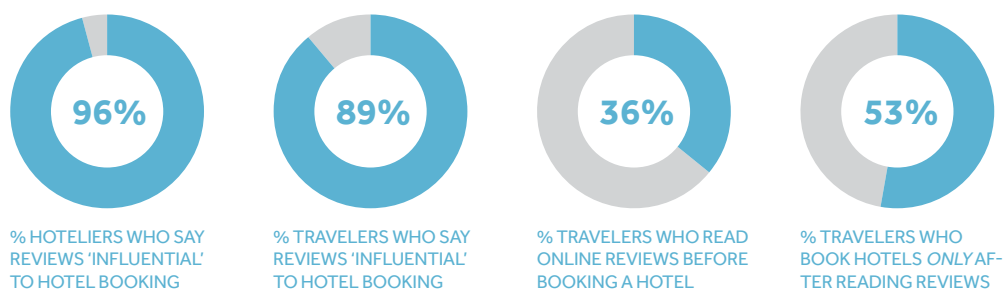
Hospitality and digital data

The paper-based guest-response process has changed – to a significant extent but not entirely – to an aggregation-and-analysis effort that revolves around the digital space.

The process includes both hotel and guest-driven components: hoteliers track guest choices across the digital infrastructure of a property – from point-of-sale systems at on-site restaurants, bars, and shops to the apps that guests increasingly use to request food, linens, cars and other hotel amenities. Hotels also reach out to guests by e-mail, post-visit, with surveys about their stay.

With all of this feeding the ever-growing guest-data scenario, travelers in turn have prompted the wildfire growth of online review sites. In this sector, TripAdvisor alone accounts for some 280 million visits by travelers, monthly.² The following chart helps to illustrate the impact of this guest-generated content in the booking ecosystem, circa 2015.

TRAVELERS AND TRAVELER REVIEWS



Multiple Sources of Guest Data

While the digital space is ascendant in the realm of hotel guest data, older-model paper-based guest surveys are still combined with data gathered from modern web and mobile channels. The hard copy feedback form even stands to help solve the supply-chain challenge that marketers in search of lead-generators and fresh customer insights face. This confluence of paper and digital consumer-sentiment sources are fuel for feeding what can be a “bevy of marketing channels,” as a recent McKinsey & Company report points out.¹

Source: Leonardo/TripAdvisor (2015): <http://www.leonardo.com/resources/tripadvisor-tell-all/>; eMarketer (2015): <http://www.emarketer.com/Article/Hotels-Reserve-Spending-Online-Reputation-Management/1012282>

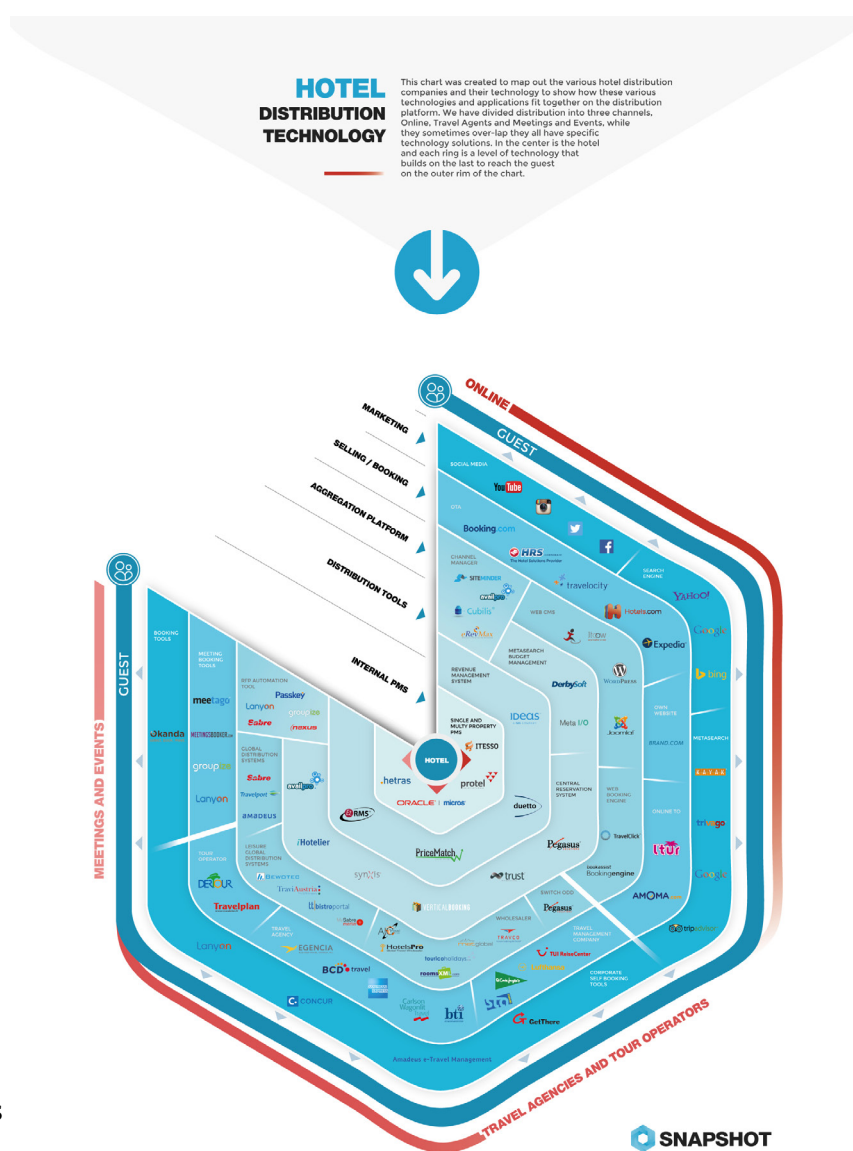
Add to all of this user-generated content even more material, the kind travelers create within the social web. This includes posts, photos, and video on platforms such as Instagram, Twitter, Yelp, and Facebook.

- The data in play also includes information emerging from sources such as online travel agents and from on-site meetings and events at hotels.
- There is all the data hotels can tap about the market in which they work. Constantly flowing through the digital space are critical pricing, inventory, and ancillary data that marketing and advertising can use to create right-time/right-place offers – employing predictive analytics to fuel these decisions around touch points – and longer-term strategies around outreach and traveler demographics. This, too, is data that hotels can use.

The graphic at right helps to illustrate the increasingly data-dense digital streams to which hotels must attend.

The key point is, quantity of data is not the hotel industry's primary challenge. Rather, using the data it owns or can access is the key bridge that leadership must cross.

The impetus is on the hotel sector, from a marketing and operations point of view, to acquire and use data as a way to not only remedy guest pain points, improve visits, and streamline interactions, but also to reach and convert new guests based on consumer sentiments that data highlights for hoteliers when it is properly analyzed.



In an ideal scenario, gathering guest data information should lead to analytics that boost loyalty-building, and analyzing data should drive repeat bookings while helping hotels to cut the costs of new-customer acquisitions. When hospitality engages with data, as the following charts show, cost and conversion rates react.

LEVERAGING TRAVELER DATA TO DRIVE CONVERSIONS

- % OF CUSTOMER ACQUISITION COSTS REDUCED VIA LEVERAGING CUSTOMER DATA: **-21%**
- % INCREASE IN HOTEL/CAR RESERVATIONS VIA LEVERAGING CUSTOMER DATA: **+17%**

Source: Skift (2014): <http://skift.com/2014/09/16/free-skift-report-the-future-of-personalized-marketing-in-travel/>

And data use should improve along internal and external lines as well.

- Air travel data can inform a hotel's ability to foresee, with algorithms and analysis, slowdowns or upticks in potential room bookings based on flight-booking and arrivals data for, say, the next six months or a seasonal period of business.
- Shorter term changes that data can make available can come from weather data and how it might change business and leisure plans in a hospitality destination's immediate geography – opening hotel management's eyes to offers and outreach over a weekend when plenty of snow is due at a skiing-based property, for example.
- Economic trends can come into play in the predicative-analytics space as well: this kind of data can help forecast the effects of a given Euro/USD rate on occupancy, allowing hotels to alter short-term strategy to benefit the most from a change rather than analyzing it after the fact.

In this report, we look at data use-case examples from both boutique and large-scale hotel properties and chains pursuing a better understanding when it comes to the state of data-driven hotel marketing and operations.

This report also gives attention to next and future steps that experts suggest the hospitality industry can take, emphasizing analytics and leadership that recognizes data's value, and its challenges. Our considerations are aimed at a chief goal: Using data to earn and retain guests' bookings and loyalty over time.

Large-scale hotels and the push for greater data engagement



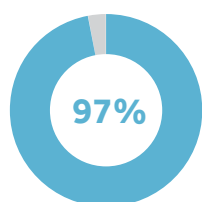
In the data that guests create — and, in a sense, leave behind — lie the patterns that fuel strategic opportunities around sentiment, wants, and needs. It is data that hotels can rely upon for successful marketing and operations strategies.

And hotels are gathering massive amounts of consumer data. Guests are generating it all the time. This is happening at an increasing pace, especially in light of travelers' accelerating adoption of mobile devices.

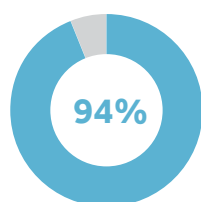
Hospitality leadership is, in some cases, however, still slow to organize, collate, visualize, and then mine this growing base of customer-generated information. When there are barriers to entry, for hoteliers, in all of these efforts, it starts with the very process of aggregation.

"The data is out there," says Martin Soler, chief marketing officer at SnapShot (a company that creates comprehensive data-analytics solutions for hotels), "but, to use Hans Rosling's explanation, it is stuck behind

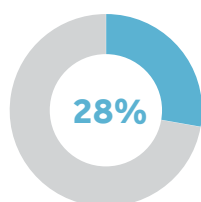
TRAVELERS AND TRAVELER REVIEWS



% OF BUSINESS TRAVELERS WHO TRAVEL W/ 1+ MOBILE DEVICES



% OF LEISURE TRAVELERS WHO TRAVEL W/ 1+ MOBILE DEVICES



% OF ADULTS USING SMARTPHONE/TABLET TO BOOK HOTEL ROOMS

Source: International Luxury Hotel Association (2015) <http://www.luxuryhotelassociation.org/2015/10/hotels-go-mobile-to-enrich-the-guest-experience/>

MOBILE ADOPTION AND GUEST FEEDBACK

- GUEST RESPONSE RATES: MOBILE ENGAGEMENT: **21%-30%**
- GUEST RESPONSE RATES: POST-VISIT SURVEY: **>1%**

Source: International Luxury Hotel Association (2015) <http://www.luxuryhotelassociation.org/2015/10/hotels-go-mobile-to-enrich-the-guest-experience/>

stupid passwords, presented in boring statistics and costs money to access.”

Soler makes a salient point: A significant amount of the data key to smarter and more effective hotel marketing and operations is available to hotels but once they invest in acquiring it, is potentially “stuck”. That is, it exists in computers that do not always easily interact with each other until they are integrated and the data is reformatting into a standardized, uniform iteration.

Data aggregation and usability can be a barrier that makes the beginning of the data-analytics process for hotels difficult. The apparent size of the task can produce organizational pushback and slow-to-transform mindsets around information technology. Even the largest brands, ones for whom resources are ostensibly most readily available, recognize that more can be done in the data-analytics space.

“Very honestly spoken and straight to the point, we are not doing enough,” with data, says Wolfgang Neumann, president and chief executive officer at The Rezidor Hotel Group. Rezidor operates brands worldwide including Radisson and Quorvus Collection.

It is a situation that Rezidor is working to transform. “We’re doing much more,” Neumann says. “We are embracing data from our customers.” In the next section, we look at key ways the company is engaged with that effort.

Rezidor and the drive to engage with data (and partnerships)

For The Rezidor Hotel Group, one challenge in the effort to better use data related to the size of the company. Rezidor operates, in tandem with Carlson, more than 1,500 properties around the globe. But a chief part of the data-usage challenge, says president and CEO Wolfgang Neumann lies in the realm of resource allocation.

“Scale is an enabler when it comes to data, but that’s not the only issue,” Neumann

says. “The issue is money and investing in the IT platform.”

Institutional investment should include opening the door to on-site data gathering and aggregation, Neumann says. He sees the potential for this effort to empower marketing and operations — unifying the company’s ecosystem of customer touch points via technology.

A key avenue to that goal, Neumann notes will be properties offering free, high-quality Wi-Fi to guests. If they do not, they are giving up an opportunity to combine data with location-based prompts — reaching out to guests in the moment via their mobile devices, picking top-band customers out of queues, and presenting right-time/right-place offers in their hands.

It is a two-way street, this process: Hotels are learning about demand and guest satisfaction along the same Wi-Fi channel that is providing the opportunity to meet each request.

Furthermore, Neumann describes a future of potential partnerships between hotels, their IT departments, and third-party data-analytics providers. Strategic outsourcing potentially means less reliance on spending to expand a hotel’s internal technology profile — that is, less dependence on the in-house resources to maintain hardware and software — and less reliance on full-time developers needed to create new mobile- and Web-based interfaces. Third-party partnerships would further enable hotel leadership to more affordably capture, aggregate, visualize, and make usable the data that Neumann describes as critical to the future of hospitality revenue.

When it comes matters financial, among other goals, under Neumann’s vision, is also hospitality’s chance to claw back some percentage of the revenue-driving data that hotels have, in part, ceded. This data is often given away for free, in effect, to the burgeoning online-travel agency sector via fees and commissions.

Starwood Tackles Data In-House

Partnerships are one approach to using data for large hotel companies. Starwood Hotels & Resorts Worldwide Inc., however, are using in-house resources to mine massive data stores. From strategizing promotional offers based on elements such as weather, demand, price, and the ever-present threat of unused perishable room inventory, the company’s new chief information officer, Martha Poulter, is working to bring Starwood’s data into sharp focus. Starwood has also implemented a data-driven revenue optimization system, one that gathers details about guest on-site activity to leverage touch points and loyalty-earning offers. Fourth quarter revenue at the end of 2014, for Starwood, was up to \$234 million from \$128 million.³ Notably, in a development that will help define the future of data use for two hotel brands, Marriott announced plans in November 2015 to purchase Starwood in November 2015.⁴

"We can do more, even within our legacy system," Neumann says, however. "OTAs are not always a problem; we need to practically work with them. We just have given away, over recent years, way too much ownership — and in particular relation to data, we have not utilized the relationship that we actually own, or should own, with the customer. If we do that, and build on that data, we can make it a competitive advantage."

IHG sees pathways to loyalty and further personalization

Hotel and customer data is key to the way Brian Hicks, vice president of Revenue Management at InterContinental Hotels Group sees the landscape around his company's more than 4,600 properties worldwide. A significant goal for the company is to customize the ways it reaches out to guests based on what their interactions with properties and services can tell marketing and operations. To achieve that, he says, will take some expansion at IHG.

"We'd love to do even more in the data space, leverage data and tracking so that we could have a level of guest customization — taking the truly large number of profiles we have to work with and mining down to individuals and segments within that data," Hicks tells Skift. "If we can expand our capabilities dramatically, we can get into a really seasoned phase, a highly personalized set of touchpoints."

Hicks's vision for data at IHG doesn't end at customer relations and marketing outreach. He describes analytics as an avenue to bet-

ter visualizing and reacting to other players in the hospitality marketplace as well.

"Another point is around the ways we can use big data, today, is to drive our revenue systems," says Hicks. "What are the demand drivers, what's the price sensitivity, what is our level of competitiveness from a pricing perspective in markets? We can use data to make informed decisions in those areas."

The timing of this kind of focus, Hicks suggests, is critical.

"If anything, pricing complexity is going to change dramatically, given regulatory relaxing of parity rules," Hicks says (see sidebar for a closer look at rate parity). "So, you can imagine a world coming very soon where big hotels are going to have various rates available on various channels. You'll have to keep up with not only best-available rates across all channels, but with variable rates by channel. That's going to be a big area to watch."

Scale, resources, technology rollout, and the solutions to challenges around the push for highly personalized, data-driven touchpoints — these are all factors driving the need for hotel leadership to gather, aggregate, and implement data in a proactive fashion.

With these elements of the hospitality data equation in mind, we next turn to the smaller-scale sectors of the hotel industry, where leadership is exploring advantages around how data informs marketing and guest outreach for particular property profiles — and where it is facing challenges around scale and business culture as well.

Data Guiding Hotels in Shaping the Guest Experience

A key example of how hotel operations uses data to shape the guest experience comes from Hotel Indigo Pittsburgh East Liberty, where volume-related data suggests short-term adjustments surrounding the check-in process on Monday nights. "You might be checking in at one in the morning. You don't want that story," Jordan Bartels, general manager, tells Hotel News Now. ("There are other folks that are tired of the same old mundane boring routine. It's really up to us to read our guests and take that time."⁵)

Rate Parity Pushback

Online travel agencies and large-scale hotel chains have historically agreed — at least in principle — to regulate room prices, keeping them nearly identical across online booking platforms. Travelers find virtually the same rate at Priceline as they do Expedia as they do, in many cases, at a direct channel. As the Chicago Tribune reports, however, individual hotel managers and smaller and/or hotel companies are pushing for a system in which they can offer up to 20% lower room prices for direct bookings.⁶ European governments are showing interest in loosening parity rules, and OTAs such as Booking.com have reacted by removing some restrictions from their standard parity agreements with suppliers.

TRAVELERS AND TRAVELER REVIEWS

AVG. % SALES LIFT VIA PERSONALIZED MARKETING

19%

% OPEN-RATE INCREASE VIA PERSONALIZED E-MAIL MARKETING

25%

% CLICK-RATE INCREASE VIA PERSONALIZED E-MAIL MARKETING

51%

Source: Skift (2015): <http://skift.com/2015/01/27/can-better-emails-help-hotels-win-back-business-from-booking-sites/>

Data use-cases among smaller hotel companies



It takes nimble, future-minded, and forward-thinking leadership to take advantage of collected guest data and applied data analytics. And while legacy hotels are working to turn their attention to data-driven customer-relationship management, marketing, and marketplace insights, a look at independent hotels and smaller-size hospitality leaders reveals additional ways to implement and benefit from data analytics.

The following cases illustrate instances in which that effort is giving hoteliers an advantage — and where challenges still exist in reaching for the future of data and hospitality no matter the hotel company's size.

Citizen M builds its niche with guest data

One way to approach guest data and analytics is to contextualize strategies within the niche a given hotel seeks to reach and serve.

It is a concept fueling the efforts underway at Citizen M, a Netherlands-based boutique hotel

group. Very much the definition of a small hotel company, Citizen M operates some seven properties worldwide, six of them in Europe. The New York Times describes Citizen M's rooms as a hybrid of boutique and pod hotel.⁷ A mid-week room for one person in Times Square in December 2015 was available for about \$426 per night, at the time of this writing.⁸

Citizen M is reaching out to a particular customer: a traveler most probably without a family in tow and one with a business-level budget amenable to a smaller, boutique, design-conscious space. As its chief operating officer notes, attention to these very elements of the company's niche guest demographics often runs counter to larger segmentation strategies, industry wide. This micro level of focus is a strategic consideration that Michael Levie, chief operations officer at Citizen M, says hotel leadership often overlooks when it comes to the data they own.

"Data is not necessarily used in the best ways, but it is available," Levie tells Skift.

He focuses on two key reasons for this: “One is the knowledge base, the education around what data is and what it can reveal to you is not always clear ... the other thing is our industry — the hospitality industry — we are pretty much set in a very old-fashioned and ingrained way of how we do our business.”

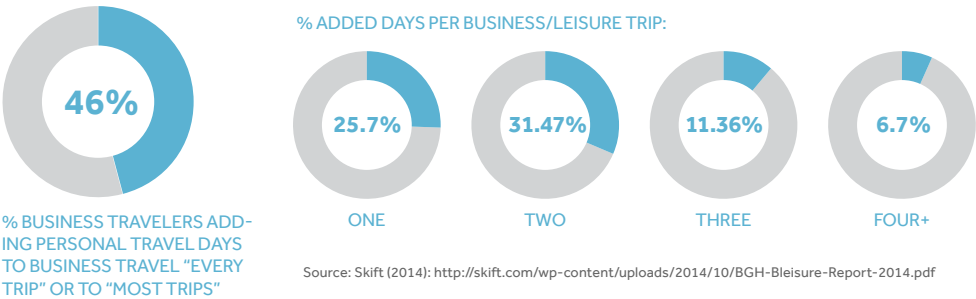
In the course of reaching guests who fit Citizen M’s guest demographic, rather than segment guests into broad categories such as business and leisure, says Levie, hotels ought to use data to mine the potential for more holistic assessments about consumers.

Levie suggests that data analytics can tell hotels about the *whole guest*, identifying different phases of a single guest’s travel sentiment across a whole trip. For example, a journey might start as a business endeavor, and then resolve as leisure time. Recent statistics suggest this to be a significant factor when it comes to hospitality revenue strategies.

Echoing the way that Wolfgang Neumann, at Rezidor, describes developing the standard within his company’s property portfolio, Citizen M also connects every one of its on-site customer service systems into a central dashboard. The interface allows operations and management to leverage the data that nearly every guest interaction creates. Watching guest behaviors and service actions, the dashboard teaches them about the consumer experience.

Citizen M uses data to forge a business model that is different from many legacy brands and chains. Instead of attracting all comers, the company sees data as a gateway to right-location, strong matches between guests and properties, the right decisions around services, and more accurate and effective marketing — driving customer relations approaches within a niche as opposed to marketing broadly to a segment.

WHOLE-GUEST PROFILES: BUSINESS/LEISURE TRIPS



A data-driven holistic view is one approach, and Levie says that insights gleaned from guest data can also further the creation of strong relationships between hoteliers and the precise traveler types they serve.

“When you create something for a specific niche, and you are very good at finding them, and making sure they find you — even going so far as to not try to sell to everybody,” but only to the niches data helps hoteliers to identify, Levie says, “then the guest-satisfaction that we’re talking about is so much higher.”

It may not be the perfect strategy for a massive hotel chain, but it is an approach from which they can learn and extract key best practices. For smaller companies and collections, it is an approach that suggests they do not need to compete in traditional ways against volume-discount pricing. Their customers are tightly aligned with a property’s offerings, thanks to data, and they pay willingly for the sense of place and service that the brand provides. As Levie says, hotels can leverage that position especially when leadership overcomes the education and culture challenges that he notes.

25hours Hotels walks a line between old and new approaches

The argument for data analytics and their use in tandem with hotel operations and marketing is one that frequently specifies overarching and primary roles for digital devices and data interaction for guests and management.

This model can create challenges, however, from small to large hotel companies and among both new and legacy brands. That is, cultural shifts in business take time. While that may be the case, progressive leadership stands to seize an opportunity — lobbying for data best practices around both guest satisfaction and revenue- and bookings-management.

Dovetailing new data opportunities with older business approaches is a key strategy — and a key challenge — at 25hours Hotels. The company operates some eight properties globally, and, as Michael End, its chief operating officer, says, it is proceeding thoughtfully to implement data best-practices on-site and around guest experiences.

"We are not a super tech savvy company, we are not like Citizen M," End tells Skift. "We don't have mobile check-in yet, we don't have in-room iPad control, we don't have self-check in kiosks.

"We believe that human interaction is more important and that technology should enhance that experience," he continues. "From a guest-experience point of view, we are at the very beginning of the journey. But, from the background, the office-management point of view, we are doing quite well at the moment."

The approach End speaks of is tied to the kind of social-media attention that data shows to be important to loyalty and bookings. Tying information gathered from the social web to hotel operations is a primary vector of data use at 25hours — but is also executed in a measured way, and always with a human touch.

"We have a kind of hybrid strategy," says End. "We do not believe in a super-smart centralized social-media strategy because it's not very authentic usually ... we want very authentic, real-life content from the hotel level, because there is where the show is going on.

"So, we have on-site marketing teams to create content and collect ideas," he says.

"There is a dedicated team there allowed to create content and respond to messages. For us, most important is speed; when people raise concerns online we are super fast to address it."

End also considers data to be an increasingly important component of the company's growth around market share and understanding revenue. "Our own data needs to be collected and consolidated from a performance point of view," he says. "What we have achieved in the past? How much revenue? How much occupancy? What do we expect in the future? That is even more important to me. What do we have on the books for the future?"

But, he adds, "In terms of analytics, that's kind of a big contradiction we are facing, in that we are putting a lot of effort into revenue management but we are actually neglecting... where the booking is coming from and what the booking is actually costing us. So we try to just optimize top-line revenue, and online marketing is trying to generate online traffic and demand so the two worlds are not totally interlinked."

End's point is that there remains room to grow; not all smaller companies are nimble envelope-pushers, but they are finding their own data-driven pace.

"Sometimes we are very traditional," End says, in the context of the differences between newer, data-first enterprises and older, data-last legacy approaches. "We are somewhere in between. I'm trying to lead our company into a smarter future, because I believe that you need smart technology to be successful in the future."

Collections and the Niche Movement

Niche demographics are not the solely the tools of small-scale hospitality companies. Targeted offerings along niche lines are also part of recent marketing strategies at companies such as Preferred Hotel Group, Hilton Worldwide Holdings, and Best Western International. At Marriott, leadership leaves the door open to even further niche divisions — such as the sub-collection: "If the collection becomes five times larger than it is today," Julius Robinson, vice president of Marriott International's Auto-graph Collection, told Hotel News Now, "we may consider sub-collections to help the consumer understand where they are."⁹

Industry-wide next steps: education, data quality, and partnerships forming the future

Size matters when it comes to how effectively hotels aggregate, access, and analyze the data they gather. The scenarios we have considered in this report illustrate often complex instances of data-use. Some large-scale hotel companies are finding opportunities to be nimble. Some smaller chains are seeing areas where they could become more data-driven.

In some cases, says IHG's Brian Hicks, the biggest brands and the smallest brands actually end up on a kind of even playing field when it comes to data analytics.

"I know that sounds kind of counterintuitive," Hicks says. "But if you're a small one- or two-hotel company, you're going to have a lot of flexibility ... but the chances are you're paying a much higher commission to OTAs and that may account for a lot of your revenue."

"Whereas you get to a brand-size like that of Holiday Inn and there's quite a bit of system delivery coming from *outside* the OTAs," he says, suggesting how the larger-scale system works to benefit data-analytics adoption. "Having a channel strategy is much easier to actually implement if you've got distribution of inventory across multiple channels."

Education and competency around data in the hospitality space

With Hicks' examples in mind, those regarding the leveling-effect data can have for hotels, another case to consider is that of Scandic Hotels Group, headquartered in Sweden. The company falls somewhere along the spectrum between the smallest and largest of hospitality chains, operating more than 224 properties and representing nearly 42,000 rooms in seven countries.¹⁰

Scandic is on the verge, says Jan Lundborg, vice president of Revenue Management and Distribution at the company, of implementing a number of real-time data tools — drawing on its existing data warehouse in pursuit of bookings leverage. To make that happen in the most effect way, Lundborg tells Skift, the company must solve for an education-based equation and ensure data quality in ways that it perhaps has not been vetted prior to the project.

"The main challenge is competency," Lundborg says. "I would say it is also to get different departments on-board with data analysis. Within [Revenue Management] and Distribution, we have the analytical capabilities but we need to get more analytical people into other commercial departments."

"The second challenge would be data quality," Lundborg adds, citing the challenge around aggregation noted earlier and throughout this report, wherein, "the information we put into a reservation — either if it is from a [property management system] point of view or external channels — where we sometimes lack correct data."

Data and hospitality: a future for partnerships

In this white paper, the themes running through our experts' considerations of data in the hospitality space range from Lundborg's focus on training and data quality to company culture and resource allotment, to evolving strategies around what data tells hotel leadership a property or collection of properties can mean to a guest.

Whether the company is an IHG or a Scandic, however, hospitality is poised to leverage an analytics-driven advantage that is not confined to any one size of organization.

"What we need to develop, and what everyone is working at the moment, is a more mobile experience, and a more connected experience," says End.

End says he hopes to continue to carefully advance the case for data in marketing and operations.

"We are truly a guest company, and we are not willing to build up our own IT armada and to develop that ourselves," he says. "We don't have enough money or expertise to do so, and if someone manages to give me the full route of mobile experience from booking to check-in and check-out in a very efficient way, then I think that company could become very successful. That's what we need, and if someone manages to offer the full experience from A to Z — an out-of-the-box solution, I think that would be very successful."

Insights and strategies: further considerations of data and hospitality

• **Data as a design challenge.** It is not enough to own data, when it comes to the hotel industry. As Martin Soler, chief marketing officer at SnapShot, points out, being able to effectively aggregate, and then *visualize and interact* with data is key to bridging gaps between industry expertise and technical prowess.¹¹ “Using data shouldn’t require a PhD, it should be self-explanatory and the conclusions should come naturally,” Soler writes. “It should tell you what it means with minimal effort. Good data should be presented in an aesthetic manner. It must be pleasing to the user and not add mental strain. Graphic design and layout are no longer a luxury, they are the norm.” In other words, to address training, education, and data use in the hotel space, leadership can fuel adoption by addressing these factors as a design challenge as well.

• **The IT equation: a complex change.** When hotels lag in data analytics and the implementation of data-driven strategies, they often do so because of the costs associated with building out their data infrastructure. “For the companies that don’t have existing [data analytics infrastructure], they would need to build it from scratch ... Per hotel, per integration,” says Darja Gogunova, head of product at SnapShot. “The initial implementation costs plus the maintenance costs, so you are looking at a lot of money – and not just a one-time fee, but ongoing.” Add to those items the funding of an IT department that can oversee the new analytics backbone once a hotel or chain makes the change. “They are the Marriotts of the world that have a very strong understanding that IT can be either helping you or hindering you,” Gogunova says. “They have very strict policies and procedures and processes with how they work with technology. But when we talk about the European market, it’s mostly small to mid-sized hotel chains or independent properties – and that’s not the case. They haven’t recognized the need for approaching the IT landscape from a central, strategic point of view.”

• **Automation is key to the IT solution for hotel data infrastructure.** When Gogunova considers solutions for hotels stretching to make their data-analytics goals, she sees automation as a valuable approach. “There are a lot of things that can be automated, or so many more opportunities where you don’t have to rely on the human manual input of information,” says Gogunova. “The problem is that the hospitality industry is often times very behind in terms of innovation and in understanding that it should be a more open environment ... There are creative hotels like Citizen M which are investigating how to make this process more automated. It’s definitely moving in that direction, but there is still a lot more to be done.”

- **Hotels and balanced data expectations.** Waiting for organizational change to catch up, along the lines we just considered in the sections about the IT challenge, can mean waiting too long. Kelly McGuire puts it this way, writing at 4 Hoteliers: “Don’t assume every analytical problem is a big data problem.”¹² In some cases, hoteliers can also turn to legacy-type data sets. “There are many analytical problems that can be solved without these ‘big’ technologies,” she writes. “Before the technology innovations that facilitate the storage, access, and processing of big data went mainstream, many organizations relied on sampling ... working with a manageable subset of the data – like the guest survey You do not have to wait for the modernization initiatives to be complete before you are able to gain any insights from your data.”

- **Data interpretation and taking care with data insights.** To use data in the hospitality industry to good effect, hoteliers and hotel leadership must enact policies of patience and thoughtfulness. Along with a quality set of data, a well-designed interface, and a commitment to mining guest and marketplace information for new insights comes the responsibility of careful interpretation. “Data is something you can learn from, if you are actively playing with that data and converging different data streams to reveal trends, knowledge, and insights,” says Michael Levie, COO at Citi-zen M. “But a lot of people believe that the insights we get from data need to be brought to a level of service delivery immediately. That’s where I disagree. The knowledge you take from data analytics needs to be further interpreted.” The risk, according to Levie’s analysis, is that simple data-driven actions such as automatically using a guest’s name as they enter a lobby can to the guest seem inauthentic. A friendly hello and a getting-to-know-the-guest period may well make for better customer relations over time. In other words, learning by experience more precisely what a hotel’s niche audience wants from the hotel’s use of data takes incremental approaches and testing – syncing the power of deep information insights with the more gradually evidenced preferences of the demographic as property or chain serves them on-site.

Q&A: David Turnbull and Michael Heinz look to the future

Michael Heinze and David Turnbull co-founded SnapShot in 2013. Since then, they've worked closely with hotels and the travel sector to understand and enact new and progressive strategies around data analytics and how the industry uses data. Skift brought the two SnapShot executives together in the course of reporting for this white paper, asking them about their visions for the future of data in the travel space.

Skift: When you consider the short-term milestones hotel industry leaders can set and seek to achieve around using data, what are goals you'd highlight for 2016?

Michael Heinze: I would say the first thing is they need to start assessing all the data sources that exist and begin working out how they can aggregate it. The main thing anyone should be doing now is starting to aggregate all their data and once they have aggregated it they can begin to look at it. It is hard to imagine what one can do with the data until one has started pulling it together and begun looking at all of it. Once this is done one will get ideas of possible correlations one will discover that if one adds X data point one would be able to predict some outcomes and so forth. But trying to do that in isolation right now without even having all the data available is an impractical exercise that will lead to theories that can't be achieved. So get the data together and then start looking at it and once you've done that you will get real ideas.

David Turnbull: The industry talks about big data, but, from a structural point of view, we don't yet have the data in position to do anything meaningful with it, in terms of what big data can promise ... Because of the nature of our industry, and how operationally oriented we are, we tend to spend way too much time on data preparation and production, and very little on the analysis. And so, making big data "smaller" has to become one of our driving philosophies. That means cleansing the messes we tend to find in our operational databases ... Short term, we need to correct and adjust the details around how we structure and manage our data. How can we best take data out of the realm of operational systems ... curate it, and then put it into a new and central database? When we do that, we can start to do something meaningful with it.

Skift: Thinking longer term, talk about the vision you have for hospitality and data analytics: where could we be in years to come?

Heinze: The future for data and analytics in hotel sector is limitless. Predictive analytics done through machine learning of trends and correlations will help hotels see things they never saw before. It isn't that hard to imagine crossing international financial data and stock markets with a future raise or loss of bookings. Knowing that the duration of stays through flight information is changing 12 month ahead thus predicting occupancy. Analyzing customer profiles and predicting the customers needs based on publicly shared information on social media, thus improving the guest experience and the increased promotion from that. Many analyze what happened and find great ways to improve in the future, this is data analysis but after the fact. With proper analytics we'll be able to help hotels look into the future and not only limit investor risk but more importantly improve guest experience by adjusting today for things that will be happening in the future.

Turnbull: The longterm future for travel is that instead of having just a rear-facing, historical view on a single business, the industry ought to encourage hoteliers to come together – to collaborate, to help each other share in a 360-degree vantage onto market-level data. A collaborative marketplace in which data is anonymized and aggregated in a very effective way so that hotels can get meaningful insights into how their sector performs industry wide is one goal. We also want to encourage a generation of grassroots level developers to come in and work specifically with the hotel industry.

Skift: When it comes to these forward-looking visions, would you make any distinctions between large-scale hotel brands and smaller, independent hotel companies? Do you envision a different approach to data-driven guest outreach/retention, one from the other?

Heinze: I don't think there is a huge distinction in terms of IT, today there is because the large scale brands have more resources, more data and can invest into infrastructure that will manage this in the future. But such technology could be available to independent hotel companies as well as the big companies. I believe it is such a specialized field that it should be done by highly specialized companies who can excel at delivering focused and great products in that realm.

In the hotel sector we have often custom built software for brands and maybe that works for them. But I believe that hotel companies are the best at delivering great guest experience and that using partners who specialize in specific verticals will give much better results because they can focus on their core job and become even better at that while letting the data and analytics people (in our example) deliver to them.

Skift: More than one hotelier is talking about partnerships with third-party providers in the data analytics space, circa 2016. How do data-analytics partnerships figure into the near future of hospitality and data?

Heinze: As I said before, while some find value in doing everything in-house, I think that the IT landscape is becoming so specialized and hotels including the large-scale brands need to look for specialized partners who are tasked to bring them proper data and analytics. There are some generalist companies out there and they do an excellent job. But the hotel sector has particular problems and specific needs. Managing a hotel's inventory is quite different to managing physical inventory of goods. While some data and correlation techniques will be the same or similar many won't. And having a deep understanding of the hotel tech space plus their needs will be key. Just like Apps on smartphones have become smaller and more specific to accomplish exact tasks extremely well, so should IT vendors. Today so many of the software on the business side is huge and does many things at acceptable levels. But I see a big value in having software that does less but much better. Instead of being a mile wide and 2 inches deep, be 2 inches wide and a mile deep. As long as all these can communicate with each other.

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Contact us for more details:

Rafat Ali,
Founder & CEO, Skift
ra@skift.com
212-564-5830