

LOGGING TECHNOLOGY STUDY

DECONSTRUCTING INNOVATION

TECH SPENDING INCREASES AS HOTELS EYE DATA
AND DIGITAL TO EMPOWER GUESTS

ANNUAL RESEARCH INCLUDES:

- 2018 Technology Budgets & Allocations
- Investment Priorities & Strategic Technology Goals
- Guest-Facing & Enterprise Software Upgrade Plans
- Evaluation of Hotel Security Practices
- Top Emerging Technologies & More!

HOSPITALITY
TECHNOLOGY

HT

SMARTER HOTELS
& RESTAURANTS

Deconstructing Innovation

Tech spending increases as hotels eye data and digital to empower guests

What started as a disruption is now a metamorphosis as hotels — and all industries — have had to transform services, operations and strategies to keep pace with the demands of a connected workforce and clientele. Digital natives are rapidly giving way to a generation for whom technology is — if possible — even more innate, fostering an environment where businesses must leverage the innovation that has empowered its consumers.

The pervasiveness of mobile and online solutions necessitate an e-commerce approach to businesses beyond retail as omni-channel engagement and experiences are expected. Hotels have recognized this as they cautiously increase IT budgets and place high priority on digital engagement and loyalty in a strategic sense. Actual investment is another story, however, as those technology budget dollars are more often absorbed by property management systems, with less than half the amount allocated to PMS being invested in software for CRM/loyalty and digital.

Despite this disconnect, hoteliers persist, with heavy investments slated for mobile and personalized marketing and measures to drive direct bookings. To do so, hoteliers look to analytics to better understand guests and offer the customized offers and experiences that will inspire loyalty.

Findings from the *2018 Lodging Technology Study* indicate that hoteliers continue to struggle with insufficient IT budgets and feel burdened by pressures of maintaining legacy infrastructure. Adding to difficulties of hotels staying on pace with innovation, is the inability to justify ROI on the latest tech advancements. About a quarter of hotels say resistance to change is a top challenge and that goes up to 40% for hotels that consider themselves lagging compared to competitors in technology.

To gain a clearer perspective on hotel technology decisions, *HT* compiled data representative of 64,409 properties, across a variety of topics from budgets to top challenges, investment plans and technology goals. We also profile hotels that identify as technology innovators — about one third of overall respondents — as a point of reference for how leading edge companies do things differently. Deconstructing the pieces that make up overall technology strategy, reveals the common themes that bind the hospitality industry as a whole.

Hotels that want to gain competitive edge are prioritizing empowering the guest, offering services that allows each individual the experience he or she wants. Technology will play a vital role in this and will require a faster pace of investment and a willingness to do things in different ways. This may require some periods of discomfort as new norms are established.

According to Gartner, by 2020, five of the top seven digital giants will willfully “self-disrupt” to create their next leadership opportunity, just as Apple sacrificed iPod sales with the release of the iPhone. Hotels too can apply the tenets of self-disruption to the business, but it will require a willingness to be first and bear the risks inherent in that placement. As the bar for innovators is continually raised, a competitive edge will not be attained by catching up — it will require getting there first.

3 STEPS TO SUCCESSFULLY SELF-DISRUPT

1. Identify the style of disruptive intent that works for your brand

2. Weigh profit loss against the anticipated gains; make sure it adds up

3. Foster collaboration between enterprise architects, strategic planners, executive management and IT staff to focus on opportunities post-disruption

ABOUT THE STUDY:

The *2018 Lodging Technology Study* is published by *Hospitality Technology* magazine and findings were evaluated with support from Dr. Mehmet Erdem, Ph.D., CHTP, CHE, Associate Professor, UNLV (University of Nevada Las Vegas) Hotel College. The report offers a representative sample of the overall marketplace with a diversity of property types. For more information about the survey and methodology, please refer to page 32 of this report.

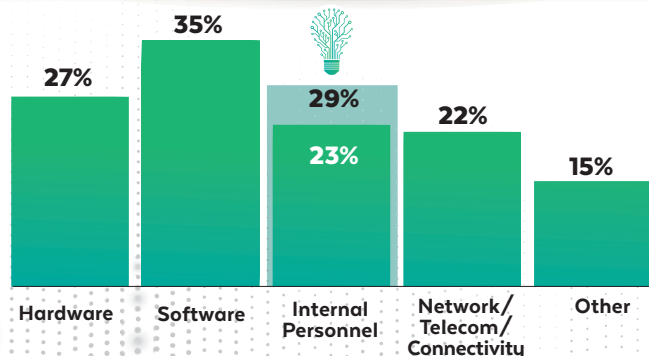
BUDGETS & BUSINESS DRIVERS

2018 LODGING TECHNOLOGY STUDY

DISTRIBUTION OF IT BUDGETS FOR 2018



Innovators spend more on internal personnel than laggard counterparts



TOP 12 TACTICAL TECH OBJECTIVES

Improving digital customer engagement/guest loyalty	46%
Improving business & customer analytics	31%
Enhancing payment and data security	28%
Reduce cost of managing technology	27%
Increase employee productivity	27%
Enhancing guest room technology	26%
Enabling seamless reservations across all channels	25%
Support new business models/revenue-generating opportunities	23%
Enhance bandwidth	18%
Migrate solutions to the cloud	18%
Keep up with competition	18%
Keep up with owner/operator expectations	14%

36% of laggards place higher prioritization on reducing the cost of managing technology and enhancing guest room technology, having them tie for second among top strategic goals.

Analytics and security remain top priorities for hoteliers. These areas will need greater focus as GDPR regulations take effect in May 2018.

ample online inventory allows guests to price shop and puts the pressure on hotels to push boundaries to win and retain guests. There has been a flurry of activity with hotels revamping loyalty programs to appeal to the experience-driven nature of guests. Research also reveals that rewards members often book longer stays than non-loyalty members.

Best Western Hotels & Resorts conducted a study of 1000 hotel loyalty program users to gather insight into how today's travelers make loyalty decisions. Expiration of points, ease of point redemption, guaranteed room availability and brand trust emerged as top factors. In response, Best Western revamped its Best Western Rewards (BWR) program in 2017 to make redeeming rewards easier for guests with a digital membership card.

Analytics and security remain at the top of the mid-tier of strategic goals. Data — and the smart use of it — is vital to drive the customer-centric, differentiated experiences that today's digital natives and tomorrow's digital "innates" desire. To do so, hoteliers are focusing beyond merely data gathering to analytics in order to personalize experiences and offers to incent guests to

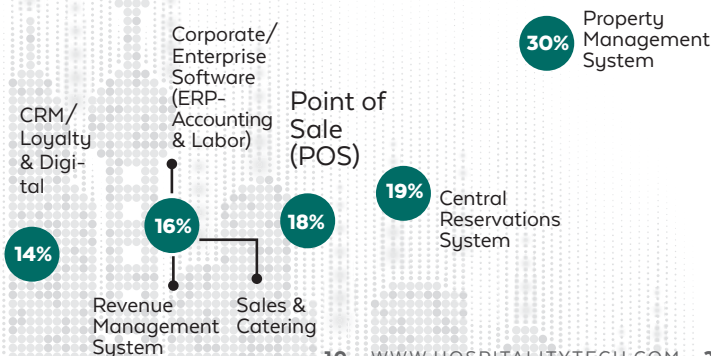
increase frequency, spend more and stay longer.

General Data Protection Regulations (GDPR) will further impact analytics and security strategies in 2018 as the new standards for compliance take effect in May. According to PwC, this is the largest change to data protection legislation in the last 20 years. On a basic level, any company that captures data on European citizens will need to comply. GDPR authorizes regulators to impose fines on companies not meeting privacy requirements, including U.S.-based companies if they

conduct business in Europe. In a broader sense, experts believe that GDPR will help hotels ensure that brands are adequately prepared for the future of a digital economy.

With the magic number of 4%, hotel technology dollars must be spread across priorities. The largest portion of budgets gets devoted to software with 35% of budgets, outpacing hardware by eight percentage points. To get a more granular view of software spending (as represented in the chart to the left), we asked hoteliers to identify the distribution of software budgets. Property management systems take about a third, more than 10 percentage points above central reservations systems and even the point of sale. This indicates that the PMS has truly become the central hub of hotels, being tasked to do a myriad of different functions. The smallest portion of software budgets goes to CRM/Loyalty with 14%. This represents a disconnect between priorities and investment. As the fervor for improving digital engagement will likely not subside, hoteliers must shift this distribution to better align with strategic technology goals. Getting software in lock-step with those priorities will be imperative for hotels to compete in the new landscape of digital competitors. **HT**

SOFTWARE ALLOCATIONS FAVOR THE PMS



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2018 LODGING TECHNOLOGY STUDY

CHAPTER 2:

Hotels Prioritize Analytics to Keep Pace with Change

Insufficient technology budgets remain top challenge, but integration stymies innovators

The convergence of the physical and the digital across industries has created a new generation of empowered consumers. These guests are accustomed to mobile devices that can deliver what they want at the press of a button, but they also crave personalization and value experiences. Technology obviously plays a major role in that empowerment and it is changing how organizations must rethink and restructure how to interact with customers across the entire customer journey.

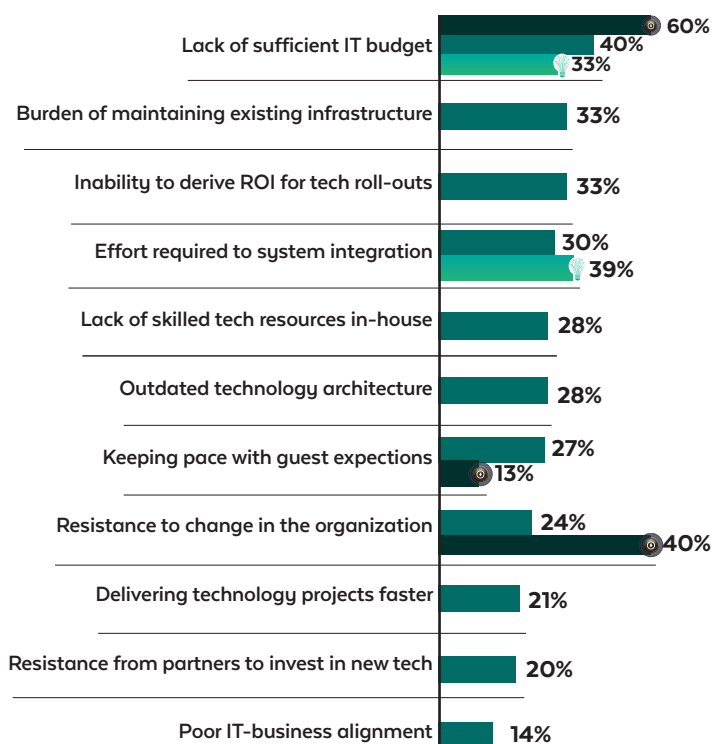
The rapid pace of technological change demands that technology leaders constantly evaluate strategies and hone skills. Overall, this year's study findings indicate that hotels are more confident in their ability to innovate, with 34% of hotels claiming they are better than competitors, up from 21% last year. This aligns with the rise in technology budgets as hoteliers feel they are taking appropriate steps to keep pace with competitors.

Both innovators and laggards are less sure of themselves when it comes to analytics. When self-assessing against competitors, the majority of technological stragglers say they are behind in analytics maturity (58%) and none believed that they were leading the competition in data strategy.

The saying "work smarter, not harder," could easily be cliché, if it weren't for the fact that businesses across industries are prioritizing data-driven strategies. This attention to analytics will require greater IT-business alignment. Intelligence

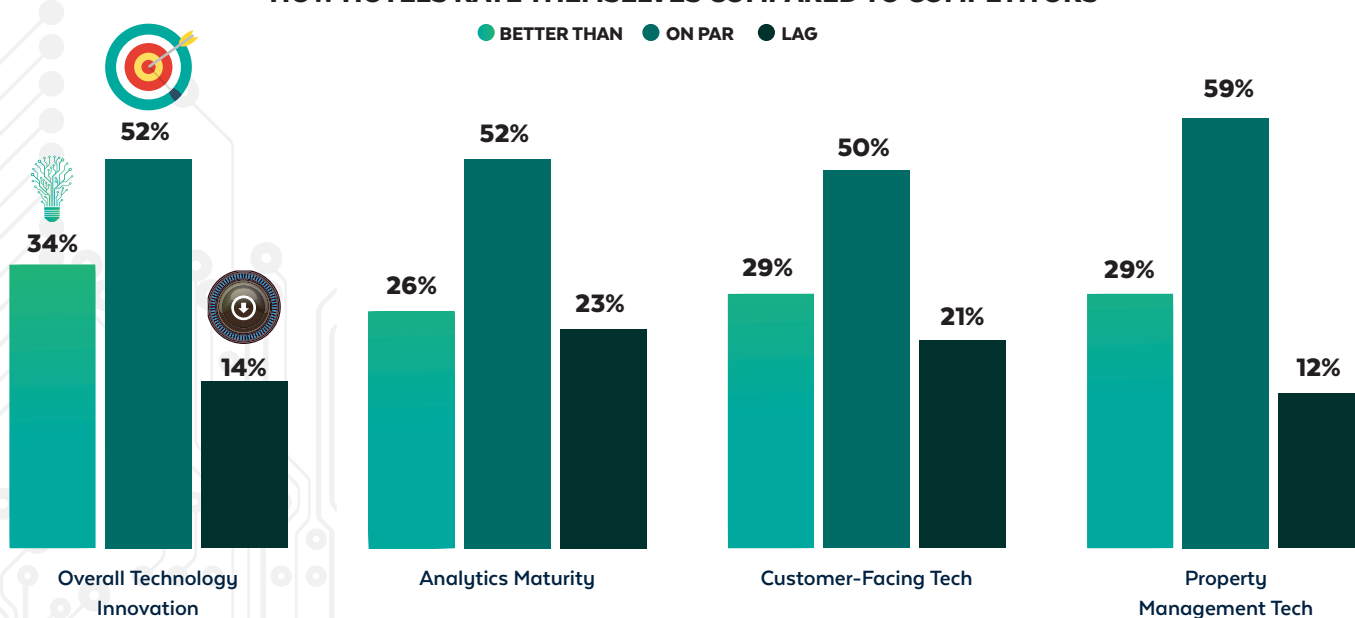
TOP CHALLENGES FACING IT DEPARTMENTS

● LAGGARDS ● INNOVATORS ● ALL RESPONDENTS



HOW HOTELS RATE THEMSELVES COMPARED TO COMPETITORS

● BETTER THAN ● ON PAR ● LAG



EXECUTIVE Q & A

Integrated Systems, Shared Data Lead to a Better Customer Experience



**SRIVIDHAR
LAVETI, VP OF
PRODUCTS AND
CUSTOMER SUPPORT,
AGILYSYS**

How is automation driving/ shaping hospitality in conjunction with personalized service? Which emerging technologies will reshape how hotels interact with guests?

LAVETI: With continually increasing pressure on our leisure time, consumers desire unique, personalized

experiences at every opportunity. In hospitality, technology is already increasing personalization of the overall experience. Over time, guest usage and behavior data will be leveraged by operators to anticipate guest needs. This means curating room amenities by the guest type or preference, rather than putting one of everything in every room. For hotels, personalization and effective use of technology are expected to be significant brand differentiators.

Integrating systems remains a top challenge. What do you recommend hoteliers ask of current and potential technology partners to facilitate integration?

LAVETI: Hoteliers should expect all of their hospitality solutions to work in harmony. Property management technology is at the core of every hotel and resort, and while it helps drive a frictionless guest experience, it should also offer seamless integration with ancillary technologies. It must integrate and share data transparently throughout the enterprise. This provides the most flexibility to deliver a unique and memorable experience for guests while increasing the efficiency of hotel operations. A couple keys to look for are technologies with robust APIs and those that are built natively for the cloud. These are forward-looking features that provide the greatest flexibility and support the movement to unify fragmented hotel system.

The majority of operators plan to operate most systems

in the cloud within the next 12 months. What benefits come from operating systems above property? Why are some hesitant to move to the cloud?

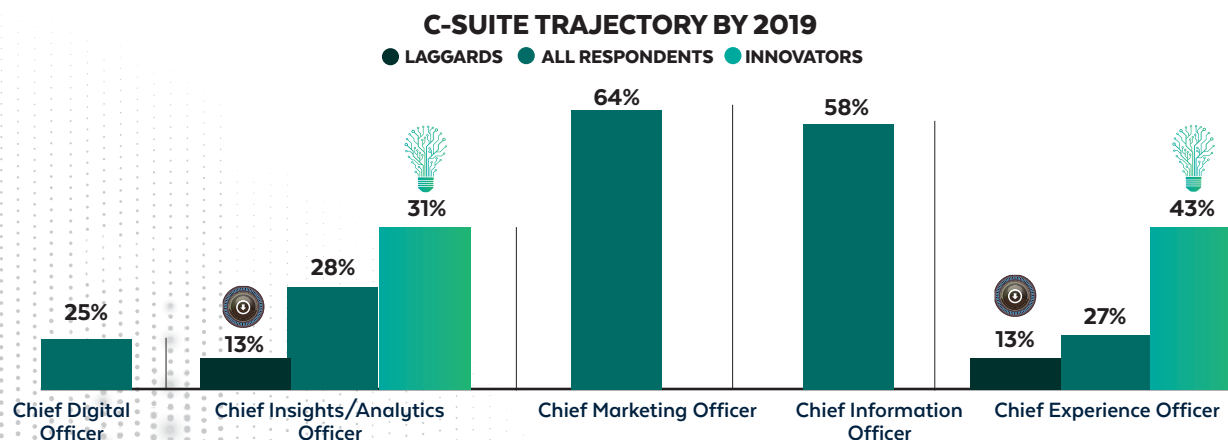
LAVETI: A clear benefit of a cloud infrastructure is reduced costs. This includes reduced maintenance and support costs, which are traditionally built into the pay-as-you-go, subscription model of cloud environments. Operators typically can save on hardware, software, upgrades, tech support and licensing costs as well. Since cloud solutions are hosted in large, redundant data centers, they provide an increased level of data security and disaster recovery. Perhaps most importantly, operating in the cloud also reduces capital expenditures. Migrating to the cloud must be contemplated just like any other major change in technology, which is partly why we're seeing a more gradual migration and perceived hesitancy.

Improving analytics is a top strategic goal for technology, but data silos are a major problem. How can hoteliers address this issue and best leverage data and analysis to improve operations?

LAVETI: While the whole company should be willing to share data; it's difficult to put that idea into practice. The challenge of breaking down data silos begins, and ends, with a culture shift. Actively encourage more collaboration between departments. There will always be some reluctance, but we've found it is most productive when staff appreciate that other areas may hold valuable data that benefits them. Cultural change serves as an important starting point, and part of that change is acknowledging that the IT department is an important partner to achieve data-sharing. Advances in areas such as artificial intelligence and modelling are also enabling us to become better at using this data to anticipate future guest requirements. Well-trained staff backed up by technology will be key to delivering personalized service in 2018.

TECHNOLOGY STRATEGY

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and innovation go hand in hand especially as brands see value triggered by consumer choice. This presents an opportunity for hoteliers to provide touchpoints that meet guests' expectations from both a technical and service perspective.

Identifying challenges is one way to track what is hampering hotel's IT efforts. Once again, hotels identify inadequate budgets as the top challenge. This is despite the fact that 2017 IT budgets increased over 2016 and that executives plan to spend more on technology in 2018. Looking back to when average hotel tech budgets peaked at 6% of overall revenue, insufficient IT budgets still came in as a top three challenge. This is a problem that will persist, as in order for any company to lead, investments must be made in technology that are in earlier phases of the hype cycle, might not have proven use cases and are likely still higher-cost.

Technology-based innovation arrives faster than most organizations can keep up with. Before one innovation is fully implemented, updates and new technology are introduced disrupting the process. To cope, CIOs need to develop strategies that accommodate this pace of digital change. Hoteliers must weigh the needs of taking chances on technology that might not yet have a fully realized ROI when setting budgets and implementing strategy at the risk of falling behind.

Delivering ROI went from a low-tier challenge to the top of the mid-tier. A swath of nine mid-tier challenges indicate that hoteliers find it hard to distinguish a top challenge, with none separated by more than three percentage points.

Integration also moved up from 24% to 30%. Interestingly, companies that identify as innovators named the effort required to integrate systems as their top challenge (39%) followed by lack of budget and deriving ROI.

Laggards claim to experience more resistance to change in the organization. This speaks to the need for collaboration across all levels of the organization in order for technology strategies to be successful. Scott Strickland was named the CIO of Wyndham Hotels & Resorts in March of 2017. One of his first orders of business as the technology leader for the company was to begin building out the brand's digital foundation, while

standardizing the myriad of disparate systems in place. This is key for business growth as he told *HT*, "standardization leads to innovation." He stresses the importance of identifying business needs and justifying risks based on ROI that might not happen immediately. "We cannot be afraid of transformative projects," Strickland says.

Todd Davis, CIO of Choice Hotels agrees as he told *HT* in an exclusive interview that Choice will set aside time and dollars to experiment and see if there are potential returns. "We make decisions with data to back them up," Davis says. "Sometimes it is a gamble; some work some don't. It is important to take certain opportunities, knowing there may not be a return. We try to pilot things rapidly so we can fail or succeed quickly. Any investment has to add to the company's overall profit proposition. You may not be able to put a finger on it immediately, but it is important to look at the bigger picture."



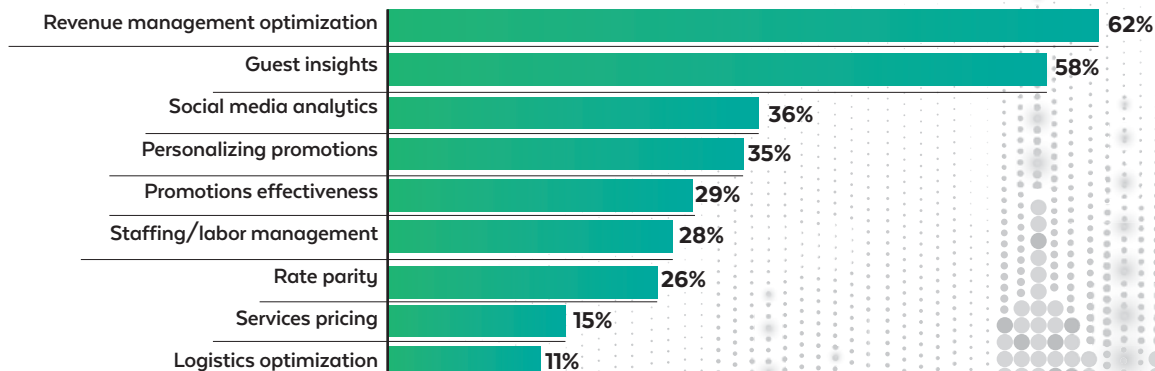
INNOVATOR QUOTIENT: "IQ" POINTS TO PONDER

- Innovators name **poor systems integration** as the **top challenge** facing IT teams.
- Innovators prioritize leadership in analytics and experience: Companies that identify as innovative are more than **twice as likely to have chief insights and experience officers in place by 2019** than laggard companies.

TECHNOLOGY STRATEGY

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PRIORITIZED SOURCES TO MINE FOR RICH GUEST DATA



The shifting role of technology in overall business strategy — has gone from less of a keep the lights on/systems running role to empowering guests across the lifecycle and transforming the enterprise. We predicted last year that CXO (chief experience officer) would outpace CDO (chief digital officer) within two years. This year's research reveals the title already does.

CIOs, for their part, must be part of discussions around overall business strategy. CMOs and CIOs must work together to make sure technology strategies resonate with guests and drive revenue. With hotels citing the number one goal as improving digital customer engagement/loyalty, marketing and technology executives will need data to make this happen.

Bigger picture for the C-suite, the CIO will have to oversee, own and know how to have a team that can execute on technology strategy that empowers the enterprise and delivers on broader company-wide objectives.

"Technology leaders should not just be adaptable to change — rather they need to have a strong desire to lead innovation and change," Vivek Shaiva, CIO & senior vice president, La Quinta Inns & Suites, told *HT*.

Asking hotels to prioritize areas for deeper analysis, we see a trend in that the top five picks all focus on insights that can ultimately be used to influence guest behavior. Revenue man-

"I think of data as a corporate asset. Our BI organization has created models around identifying return on investment and our platforms are built in a way to enable data gathering."

— TODD DAVIS, CIO, CHOICE HOTELS

agement and guest insights were the top two selections by a sizeable margin. As OTAs insert themselves between hotels and guests, operators are hoping to find ways to regain that direct connection with the consumer. Retail entities and restaurants are finding this important as well, as digital giants like Amazon insinuate themselves between a brand and its guests when the transaction is initiated elsewhere. While the OTA relationship is a vital one for many hotel companies that won't go away, brands continue to look for ways to drive direct bookings and own the entire guest relationship from pre-booking to post-stay.

HOTELS' BIG DATA EFFECTIVENESS SCALE

1 = NOT EFFECTIVE AT ALL, 10 = EXTREMELY EFFECTIVE

On average, hotels rate their use of analytics as somewhat ineffective



LACK OF ANALYTICAL CONFIDENCE PERSISTS

Even self-proclaimed leaders in analytics maturity only rate their effectiveness with big data as a 5.

TECHNOLOGY STRATEGY

2018 LODGING TECHNOLOGY STUDY



INNOVATOR QUOTIENT: "IQ" POINTS TO PONDER

- Almost half **[45%]** of innovators plan to upgrade or add guest WiFi.
- **About 3 out of 5 innovators [58%]** will add or update Smart TVs or streaming capabilities

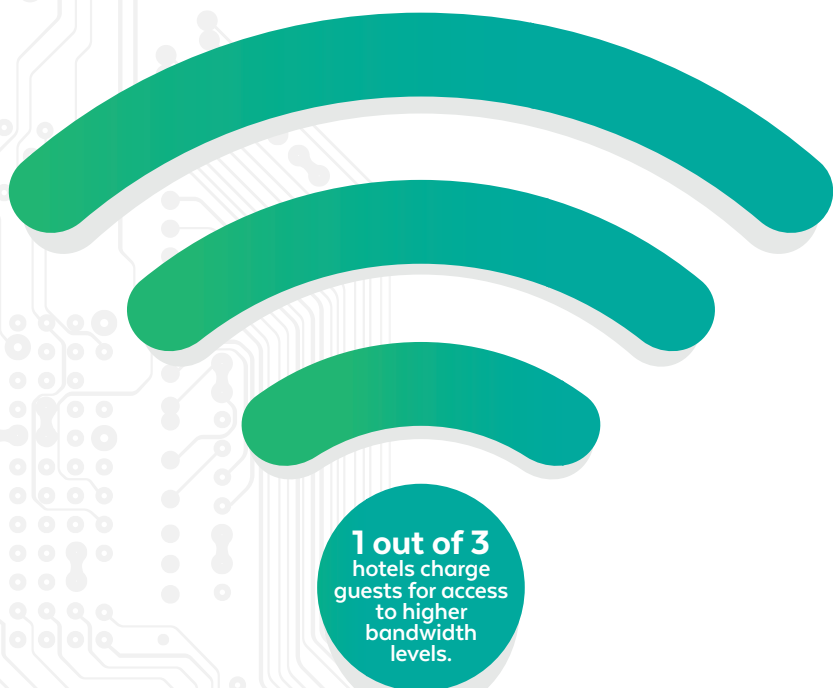
"I think of data as a corporate asset," Davis says. "Our business intelligence organization has created models around identifying return on investment and our platforms are built in a way to enable data gathering. Our true goal is to use technology investments to help identify and build sustainable business opportunities."

To complete our view of hotel technology strategies, we take a look at hotel networks. Less than a quarter of IT budgets (22%) are spent on network technologies, but as bandwidth demands continue to increase — networking solutions will need to support more. Guests are arriving on property with multiple devices, expecting and wanting to, among other things, be able to stream or cast content. These demands will only increase. When asked to estimate how many devices per room their current bandwidth allocations would support, the average number was three devices per room. It's estimated

that most guests arrive on property with an average of three devices each, so if there are two guests in a room, that number of devices trying to connect easily goes to six.

According to *Hospitality Technology's 2017 Customer Engagement Technology Study*, free, reliable WiFi will influence booking decisions for 89% of guests. Study findings indicate that most hotels offer free WiFi access, but Graeme Powell, founder of consulting firm Veridicum notes that in the haste to provide free WiFi, robustness was sacrificed. As guests become more demanding of experiences, slow WiFi will ultimately impact a consumer's perception of a brand and/or property. So while guests do want WiFi to be free, they also want it to be good. Innovators are taking note with 45% making enhancements to guest WiFi in 2018 and 58% planning to add or upgrade smart TVs/streaming capabilities. **HT**

THE REAL BANDWIDTH BATTLE: TO CHARGE OR NOT TO CHARGE FOR HSIA?



20%

Charge for 5 megabits per room and above

11%

Charge regardless of bandwidth level

9%

Charge for 3 megabits per room and above

2%

Charge for 1 mega bits per room and above

58%

No charge for HSIA

CHAPTER 3:

The Digital Guest Drives R&D

Hotels prioritize upgrades to focus on mobility, analytics and security

As consumers have adapted to available innovations, expectations have shifted exponentially. The pace of digital disruption presents hoteliers with new technologies and technology strategies on a regular and consistent basis. With hotel technology investments tracking upward, examining hotels' planned adoptions and investment areas helps to complete the 2018 portrait of the state of hotel technology.

This study tracks both current and planned adoption for a variety of technologies across 30 specific areas. Charting the activity planned in these areas, several investment priorities rose to the top of hotel investments and illustrate how hotels plan to put IT budget dollars against the strategic goals outlined in chapter one. In this section we will draw parallels between technology objectives and actual adoption.

Specifically, a majority of hoteliers (57%) are prioritizing investments in mobile and personalized marketing; 53% of operators plan to add smart TVs or otherwise enable streaming capabilities for guests; and half of operators surveyed anticipate changing or upgrading point of sale systems.

Digital Era Demands Data-Centric View of Guest

The digital natives who came of age in the mobile, connected era are giving way to a generation of consumers for whom technology is even more instinctive. To appeal to these guests, hotels are hyper-focused on providing options that blend seamless

digital convenience with personalized analog experiences. As businesses across industries grapple with the "Amazonization" of everything, companies are recognizing the need to think like e-commerce companies in order to survive. Hotels too continue to look for ways to add digital conveniences into the high-touch world of hospitality.

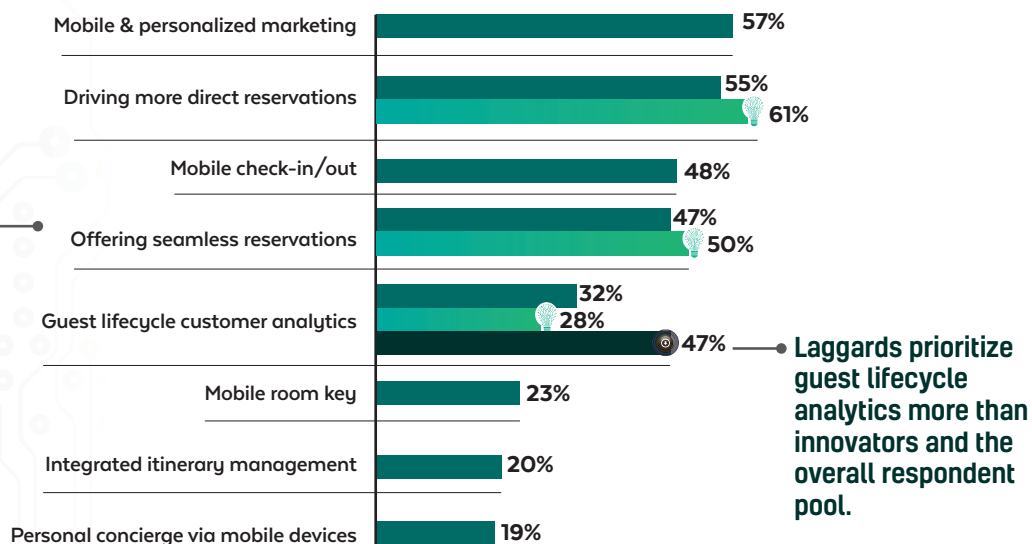
Improving digital customer engagement remains a top strategic goal for technology with 46% of hoteliers focusing here in 2018. The emphasis on digital engagement outpaces other priorities by a fair margin with the second goal of improving analytics getting 31%. This one-two punch of digital and data reflects adoption plans of hoteliers to zero in on empowering guests with mobile options while investing in areas to yield customer insights.

Topping investment plans for empowering guests with omni-channel experiences is mobile and personalized marketing with 57% of hotels focusing here. Customizing offers will require several things, but first and foremost it will require a strong relationship between the CMO and CIO. This collaboration will ensure that technology and marketing strategies are in alignment, with the right information being gathered to craft personalized offers and messages, and delivered in the preferred method of communication to each guest.

Mobile check-in/out saw a sizeable jump in precedence for hoteliers. The technologies, which ranked as lower priorities in last year's study, moved to the top tier with 48% of hotels ranking

TOP INVESTMENT AREAS TO EMPOWER DIGITAL GUESTS

● ALL RESPONDENTS ● INNOVATORS ● LAGGARDS

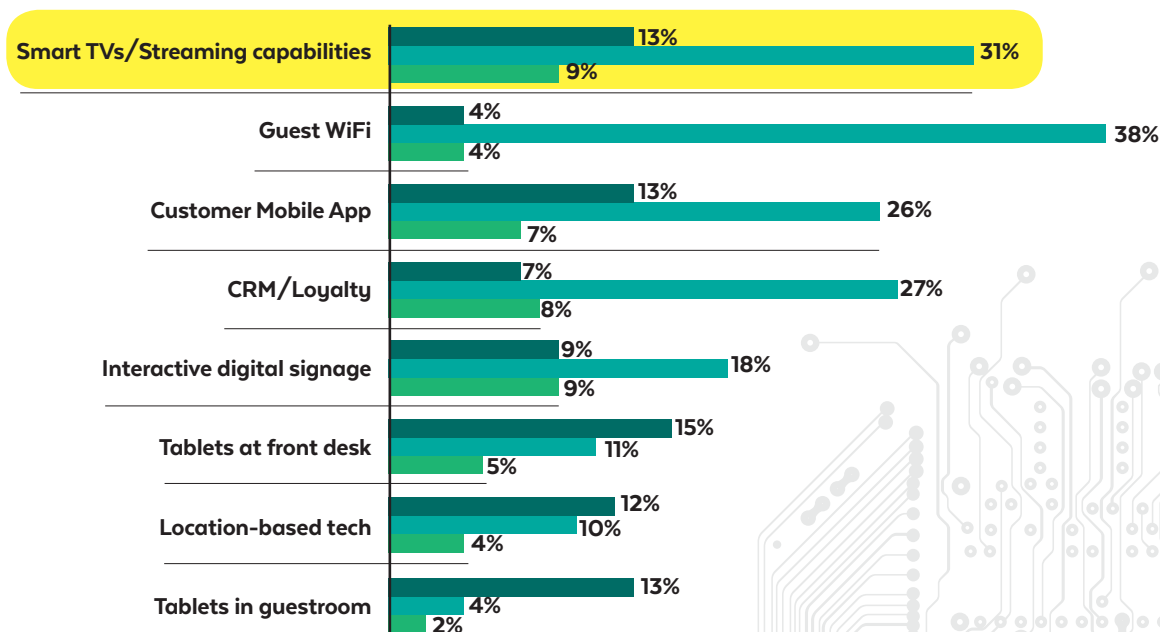


TECHNOLOGY INVESTMENTS

2018 LODGING TECHNOLOGY STUDY

GUEST-FACING TECHNOLOGY UPGRADES & ROLLOUTS

● ADD FOR 1ST TIME ● UPGRADE ● NEW SUPPLIER



them as a major investment area to offer frictionless experiences to guests. If this planned trajectory comes to fruition, hotels will be closer to meeting consumer demands as reported in *HT's 2017 Customer Engagement Technology Study*. The research shows that the majority of hotel guests want mobile check-in (55%)/check-out (57%), but the technology was offered by fewer than one out of three hotels.

Rounding out the top five investment areas for empowering digital guests, hotels will focus on driving direct reservations (55%), offering seamless reservations (47%), and guest lifecycle analytics (32%). Examining areas of differentiation between companies that identify as technology leaders and laggards, we see that innovators place higher priority on offering seamless reservations (50%) and driving direct reservations (61%). Interestingly, laggards are more likely to invest in guest lifecycle analytics (47%) than innovators (28%).

The goal of bringing bookings “back home” is not a new objective for hotels as doing so enables hotels to capture invaluable guest data from the moment a guest considers making an online reservation via the brand website. Having that complete view of a customer is behind the drive for hoteliers to improve on insights from guests’

entire lifecycle. Reservations captured through online travel agents (OTA) can rob hotels of those early analytics, which can hinder a hotel’s chance of cementing a connection with a guest.

For many hotel companies however, the OTA relationship is a vital and valuable one. With 32% of hotels looking to prioritize investments in guest lifecycle analytics, an important component will be to evaluate OTA partnerships and look for ways to regain and retain access to guest data that makes sense for both parties.

Charting Adoption of Guest & Property Systems

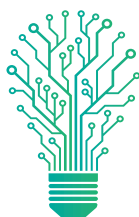
Investigating activity in guest-facing technology, hoteliers were asked to identify systems that they planned to add, upgrade or switch suppliers. More than half (53%) of hoteliers plan to make some change with smart TVs and/or technologies that enable guests to stream content, placing the technology as the top guest-facing priority. As more guests arrive on property with their own devices and content, demands to stream and cast that content will increase. This will require robust bandwidth to the room and across property. Hoteliers appear to be preparing for that with 38% planning to upgrade guest WiFi; overall, 46% are planning on making some change to guest WiFi.

About one out of four hotels plan to upgrade CRM/loyalty systems and 15% plan to add for the first time or change suppliers. In previous chapters we noted the disconnect between intent and action with CRM. It’s an area that fewer budget dollars get allocated to, but it’s named a top priority. Hotels must align budgets, strategy and investment in order to see this area have the desired impact and resonate with guests.

Getting the most attention as new technology rollouts for hotels are tablets at the front desk (15% will add this technology for

Innovators’ Top 3 New Additions for Guest-Facing Technologies

1. Tablets at the front desk 22%
2. Location-based technology 18%
3. Customer mobile app 18%



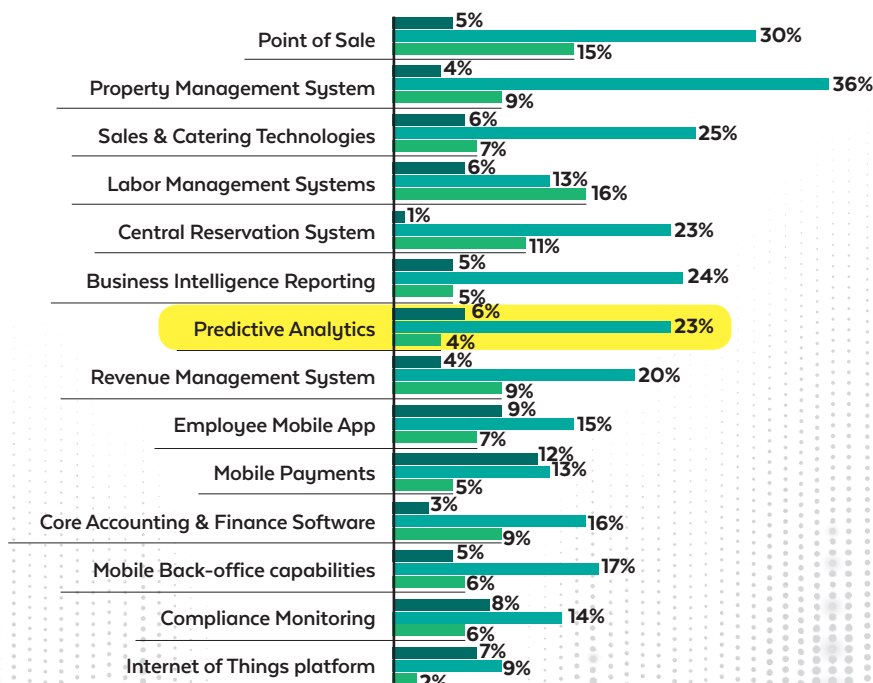
TECHNOLOGY INVESTMENTS

2018 LODGING TECHNOLOGY STUDY

PROPERTY SYSTEM TECHNOLOGY UPGRADES & ROLLOUTS

● ADD FOR 1ST TIME ● UPGRADE ● NEW SUPPLIER

1 out of 3
hotels will prioritize
systems with predictive
analytics capabilities.



2018), tablets in the guestroom and customer mobile apps (both with 13% of hoteliers planning to add for the first time).

Several major property systems are ripe for upgrades in 2018, with point of sale and property management topping the list. About one out of three hotels (36%) plan to upgrade PMS and another 9% will change suppliers. Half of hoteliers have changes planned for the POS, with 30% upgrading, 15% switching vendors and 5% adding the technology for the first time.

Areas gaining traction in hotel investments include a focus on predictive analytics and Internet of Things platforms. One out of three hotels (33%) will be making changes to systems to provide predictive analytics. In 2017, only about a quarter of hotels (26%) placed focus here. Also seeing strong growth with 18% of hotels planning upgrades or changes, IoT doubled from the 2017 study when 9% of hotels were planning rollouts and upgrades.

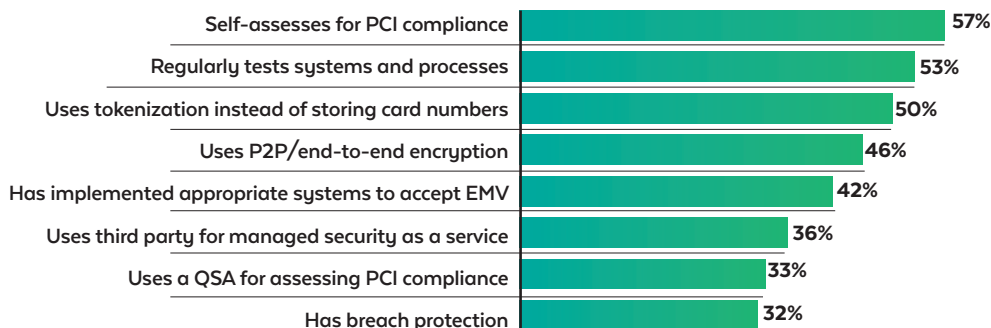
Mobile payments remain the top technology to see the most activity in new rollouts with 12% of hotels looking at enabling the technology. The next top first-time addition is employee mobile apps with 9%. This is also a top focus area for innovative companies: 45% of technology leaders plan to add, make changes or upgrade employee mobile apps.

Prioritizing Data & Payment Security

Hotels revealed that enhancing payment and data security is a top strategic technology goal for 28% in 2018. According to Verizon's 2017 Data Breach Incident Report, 15% of breaches involve retail and accommodation, second only to financial organizations.

According to the report, "Accommodation was the top industry for Point of Sale Intrusions in this year's data, with 87% of breaches within that pattern. Most of them are opportunistic and

HOTELS HONE IN ON PAYMENT SECURITY PRACTICES



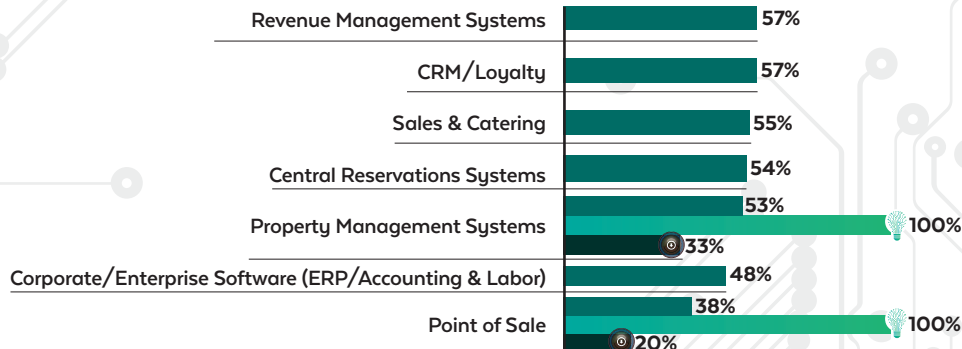
**Slow, but
promising
improvement:
3 security
practices
cracked 50%.**

TECHNOLOGY INVESTMENTS

2018 LODGING TECHNOLOGY STUDY

SYSTEMS OPERATING IN THE CLOUD BY 2019

● ALL RESPONDENTS ● INNOVATORS ● LAGGARDS



financially motivated and involve primarily malware and hacking threat actions. Time-to-compromise is quick but time-to-discovery and containment remains in the months category. Fraud detection is increasing compared to previous years.”

With half of hotels planning upgrades to POS systems and hospitality breaches regular fodder for news cycles, hotels must take every possible precaution to secure guests’ data. When asked to identify what they are doing to secure payment data, hotels responses are only slightly less troubling than last year.

More hotels have breach protection in place than reported in last year’s study, 32% compared to 26%, however that means that only 1 out of 3 hotels have breach protection in place and less than half (42%) of hotels have implemented EMV.

Innovators are less proactive than their laggard counterparts when it comes to security — only 26% have breach protection. In contrast, 40% of technology laggards say they have breach protection in place. Additionally, laggards outpace technology innovators in the use of tokenization and self-assessing for PCI compliance (67% of laggards compared to 44% of innovators).

Hotels of the Future: In the Cloud & Driven by AI

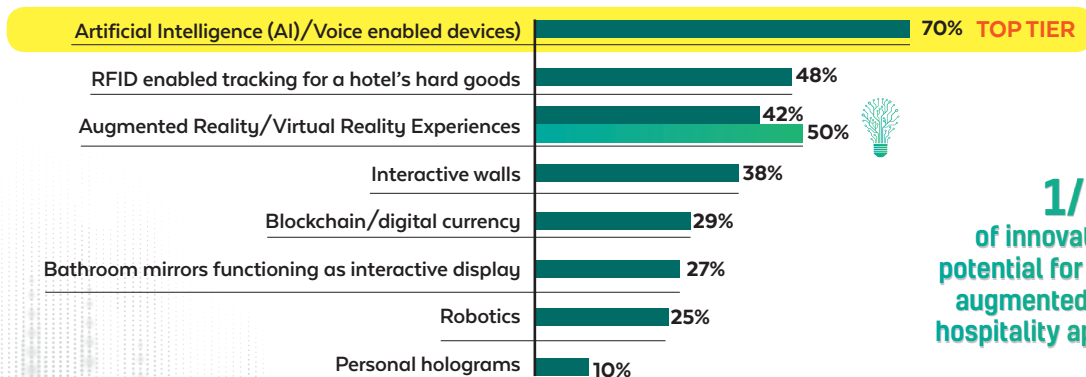
The burden of maintaining systems is the second top-most challenge hoteliers say they face. One solution to alleviate this is moving property-based systems to the cloud. Having hoteliers

identify which technologies they currently — or plan to — run in the cloud paints a picture of an industry’s sentiments on migrating above property. Findings reveal that with the exception of the POS and enterprise software, the majority of systems will be above property by 2019.

Companies that consider themselves innovators, however, claim that all systems will wholly be in the cloud by 2019. Laggards are less proactive, with only 33% planning to have PMS in the cloud by 2019 and only 20% looking to move the POS above property.

When asked to identify which emerging technologies had the greatest potential to effect change in the industry, hoteliers’ selections fell into three distinct tiers. The top tier distinction goes to artificial intelligence (AI)/voice-enabled devices with 70% of hotels seeing probably benefits and use cases. The proliferation of AI ties back to the hyper focus hotels are placing on getting customer lifecycle data. Every stage of a guest’s stay offers datapoints that can be analyzed by AI. In addition, the use of chatbots and other voice-enabled devices in guest rooms, have already seen successful implementations — such as Hilton Hotels’ implementation of IBM’s Watson to power “Connie,” a digital concierge. Further making the case for AI, Gartner says by 2021, early adopter brands that redesign websites to support voice search will increase digital commerce revenue by 30%. **HT**

TOP FUTURE-READY TECHNOLOGIES INNOVATORS



1/2
of innovators see
potential for virtual and
augmented reality in
hospitality applications.

Honoring Innovation in Emerging Technologies

HTNG's TechOvation Award identifies impactful innovation that will affect change in the industry

In today's world, innovation is all around us. Voice controls, IoT and artificial intelligence (AI) are just a few concepts that come to mind that are changing technology across many industries.

Easing convenience, these new trends are allowing robots to deliver a guest's room service and voice controls to answer questions which before would need to go through the front desk. These are just a couple examples of innovation that are gaining traction in hospitality.

As these emerging technologies come into our personal lives and homes, they start to become a norm for us and quickly become expected everywhere we go. With hospitality in particular, the guest experience is a critical factor to a company's success. A guest's anticipation of new technologies places a high demand on companies to be able to adapt to the changes going on around them.

In order to adjust to these new concepts, solution providers constantly look to enhance their technology whether it be to gain efficiency, effectiveness, better connectivity or less error. The surrounding desire for companies to stay ahead of the curve in order to excel helps drive the industry forward.

With diverse technologies evolving, it is important to look past the hype and identify which developments are most desired in the industry – and which actually work. HTNG's TechOvation Award helps to do this by shining a light on the most in-demand solutions in hospitality.

Created to recognize and reward technology innovation in the industry, the TechOvation Award annually highlights a company looking toward the next generation of systems and solutions. The winner of this award proves their ability to shift and adapt to embrace these new trends and revolutionize the industry.

Appreciating these innovative solutions, the TechOvation Award Program provides contestants global visibility and plentiful promotional opportunities to highlight their emerging technologies. The 2018 TechOvation Award is open to participation from anyone in the hospitality space with a new technology product on the market, or that is coming

soon to the market.

As part of the award competition, each TechOvation contestant will produce a 90-second video showcasing their product and the potential impact it will have on the hospitality industry. These videos will be hosted on HTNG's YouTube channel, where the public is able to engage and weigh in on what innovative technologies they seek to be effective to the industry. In 2017, the videos garnered over 66,000 views and 12,200 likes collectively from 76 countries across the globe.

All videos will be watched by an esteemed judging panel, comprised of HTNG board members and other industry leaders. The judges will choose seven semifinalists and the remaining three spots will be awarded through crowd sourcing. The semifinalists will advance to present their products live on March 14 at the 2018 HT-NEXT conference, taking place March 12-14 at the Manchester Grand Hyatt in San Diego.

With the rapid pace of technological change impacting the hospitality industry, it is important to identify innovation that guests and next-generation workforces want and how they will affect the industry. Throughout the years, TechOvation has been a center stage for emerging trends in our industry. For anyone looking to keep a pulse on technology innovation in hospitality, TechOvation provides a platform for the public to see how these solutions can potentially impact the hospitality industry. **HT**

Interested in participating in the 2018 HTNG TechOvation Award? Don't miss your shot to win! Keep in mind these important dates:

- **January 9 – Application fee and 90-second video submission due**
- **January 22 – Voting on the YouTube videos begin**
- **February 2 – Voting closes**
- **February 5 – Semifinalists are announced**
- **March 14 – Semifinalists present live at HT-NEXT and the winner is announced**

For more information, visit HTNG's TechOvation Webpage or contact HTNG at TechOvation@htng.org.

CONCLUSION & METHODOLOGY

2018 LODGING TECHNOLOGY STUDY

ABOUT THE STUDY

A Diverse Landscape Finds Synergy in Challenges and Goals

Guest expectations and demands for personalization create opportunities for IT leaders to leverage tech and data to create memorable experiences

The **2018 Lodging Technology Study** paints a picture of a diverse hospitality landscape in market segment and size that finds alignment in a hyper focus on digital and data. The data contained in this report offers balanced representation of distribution among the various segments. By profiling the plans and strategies of technology leaders and their lagging counterparts, benchmarks show how these companies do things differently and what can be learned from them. Innovators and laggards alike plan to increase technology spending and they also agree that driving digital engagement and improving analytics will top priorities in 2018.

Innovators set themselves apart in several key ways. Progressive companies are more likely to have chief experience and insights officers in place within two years, indicating that they are prioritizing and investing in putting leadership behind these strategic areas of focus. Not all companies can be leaders, but as the evolution of digital continues at a rapid pace, companies that aren't looking for opportunities to be first, might not have the opportunity to even play catchup.

Findings are based on a survey of subscribers to *HT* magazine, distributed via email in Q4 of 2017. This year's online questionnaire yielded 171 responses over a six-week period. Respondents stated that their respective companies own or manage a total of 64,409 global properties. STR Global estimates that there are 187,000 properties in the world (STR Global, 2012). Collectively, the respondents' decisions directly impact 14,700 hotel units. According to STR Global's 2015 Hotel Census and AHLA 2015 Lodging Industry Trends report, there are 53,000 properties in North America. Over one third of the respondents (375) had decision-making responsibilities at the property level while 63% indicated being a decision-maker at the C-level. About 30% of the rooms in the U.S. are categorized as independent and 34% of the respondents to the study reported representing an independent property. **HT**

2018 LODGING TECHNOLOGY STUDY BY THE NUMBERS

64,409 PROPERTIES

PRIMARY BUSINESS SEGMENTS

Luxury/Upscale	57%
Midscale	38%
Economy	5%



DISTRIBUTION OF HOTELS BY SEGMENT

Luxury	36%
Upscale	46%
Midscale	57%
Economy	25%



59% of innovators fall into the luxury/upscale business segment.



COMPANY TYPES

			
Corporate/Brand Entity	35%	31%	50%
Independent	34%	40%	21%
Management company	27%	24%	29%

1/2 of laggards come from corporate structures.

40% of innovators identify as independent companies.

RESPONSIBILITY LEVEL OF RESPONDENTS

		
Corporate	63%	74%
Property	37%	26%

74% The majority of respondents who identified as technological innovators overwhelmingly have corporate-level responsibilities.



Laggards cite resistance to change in the organization as the second top challenge facing IT. This indicates that in order for technology strategies to succeed, leadership must be in place to get buy-in and drive innovation.

INSIGHTS, BUDGETS & BUSINESS DRIVERS

HT Research: Deep Market Insight for Restaurants and Hotel Innovation

TECHNOLOGY IS CRITICAL TO SUCCESS across all areas of operations, from business intelligence, to employee efficiency, to customer engagement. Hotel and restaurant executives turn to *HT* for deep market knowledge, available through a portfolio of industry research reports that are published annually.

Research findings cover everything from technology budgets to top investment properties and emerging trends.

Visit *HT*'s research library at www.hospitalitytech.com/ reports for insight that will help your organization make more informed technology buying decisions.

HT RESEARCH HIGHLIGHTS:

- Restaurants' tech budgets: **2.6% of revenue**
- Hotels' tech budgets: **4% of revenue**
- Ease of online reservations influences booking and dining decisions: **80% of potential hotel guests select hotels** based on the ease of the online reservation process; **64% of diners** pick restaurants if they can make a reservation from a mobile device.
- Top challenges facing hotel and restaurant IT departments: **lack of sufficient IT budget and difficulty to measure ROI.**
- **PLUS**, find out the top **10 hottest technologies** in both hotels and restaurants

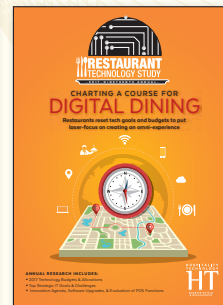


JUST
RELEASED

2018 LODGING TECHNOLOGY STUDY

Technology spending and allocations reset as hoteliers put laser focus on streamlining service and operations with data-based initiatives.

(Published each December)



2018 RESTAURANT TECHNOLOGY STUDY

With restaurant tech budgets remaining steady, annual study reveals that companies are placing hyper-focus on appealing to digital natives to remain competitive.

(Published each March)



2018 CUSTOMER ENGAGEMENT TECHNOLOGY STUDY

Research tracks CXM spending and strategies of hotels and restaurants, while tapping into consumer research to perform gap analysis of customer preferences.

(Published each August)