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HOTEL Yearbook 2017

FORESIGHT AND INNOVATION IN THE GLOBAL HOTEL INDUSTRY

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WELCOME

Dear readers,

Welcome to *The Hotel Yearbook 2017 – Technology*. We are very proud to present, for the fourth year in a row, such an extensive compendium of insights and advice contributed by a selection of the most thoughtful and respected opinion leaders in this dynamic part of the hotel industry.

In this publication, you will find more than 30 articles, each addressing a rapidly evolving element of the hospitality technology landscape. If you are involved in integrating technology into your company's operations, you will not want to miss the chance to read what this knowledgeable group of experts has to say. Their articles are not only insightful, but practical and actionable.

This year, for the first time, we invited a senior executive from the hotel industry to take on the role of Guest Editor-in-Chief. Floor Bleeker is the Chief Information Officer for Mövenpick Hotels and Resorts, based in Dubai. Thanks to his hands-on experience as a technology executive, with an insider's understanding of the industry's tech challenges, he was able to assemble a stellar group of authors to address the various aspects of how the tech landscape is changing. We'd like to thank Floor for his energy and ideas, and for the terrific results he achieved!

Last year, in our 2016 edition, we highlighted a handful of interesting new tech start-ups. This year we are carrying on this tradition, but we have done so in a more structured way: We approached two organizations that support promising start-ups in the hospitality arena, and asked them to choose some of their interesting tech-based "babies" to profile. METRO Accelerator, powered by Techstars, is a mentorship program for tech start-ups across the entire hospitality value chain. And at Les Roches International School of Hospitality Management, the "Made in Les Roches" program showcases alumni start-ups in the hospitality space. These two organizations each proposed a selection of young companies applying their entrepreneurial talent and energy to pursuing a fascinating range of different tech solutions addressing all kinds of hospitality challenges, and we'd like to thank them for sharing them with us. You will find the profiles of these start-ups beginning on page 54.

The Hotel Yearbook could not even exist without the continuing support of two other organizations, the Hospitality Financial and Technology Professionals (HFTP) and Hsyndicate. Together, they help assure excellence in our content, and wide distribution of the finished publication. We'd like to thank them both very sincerely for their generous help and always useful advice.

For now, we wish you a fascinating read, as you delve into the many technology challenges – and solutions – described in this year's edition!

Yours,

Woody Wade | Publisher   *Henri Roelings* | Publisher

HOTEL Yearbook **2017**

TECHNOLOGY

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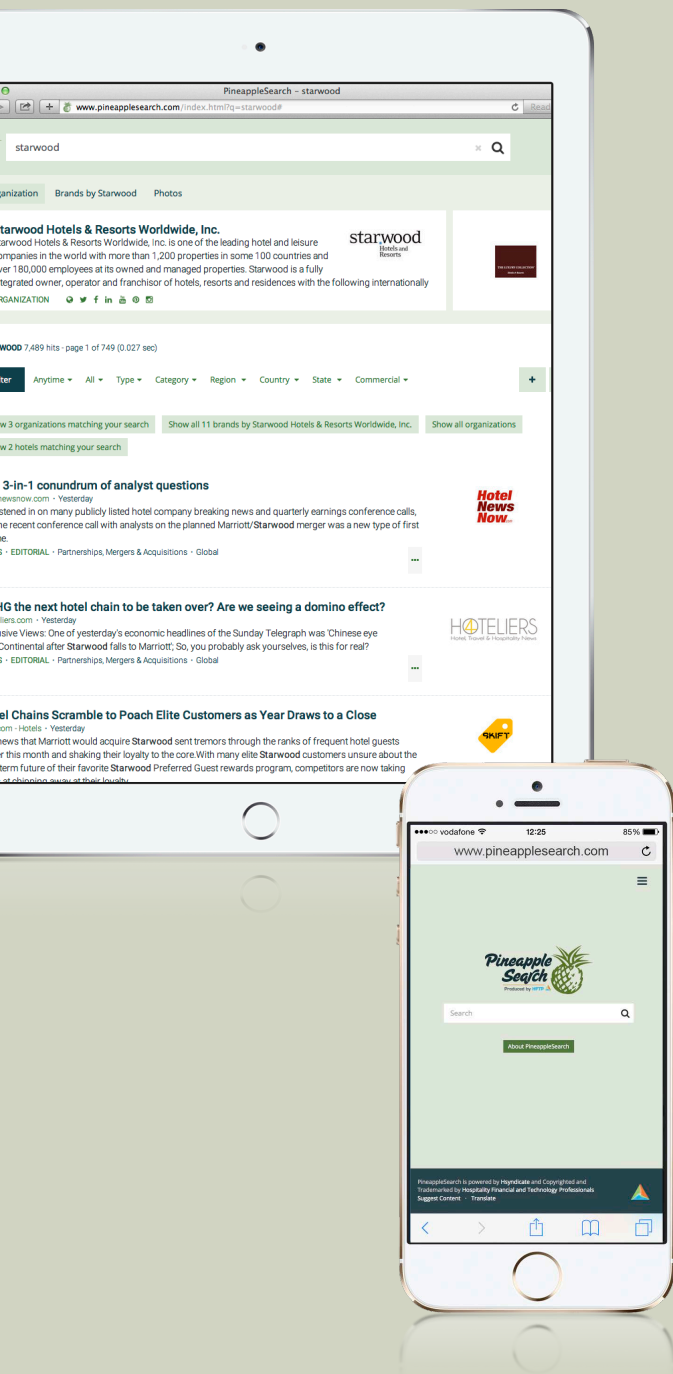
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A word from Frank Wolfe, CEO of HFTP

Collaboration and creativity are often the roots of innovation. We have seen our industry transform and evolve when teams of creative and talented individuals have joined forces. As part of its core purpose, Hospitality Financial and Technology Professionals (HFTP®) actively supports such collaborations so that ideas can build and innovations can continue. We understand that it is crucial to bring great minds together and that is exactly what The Hotel Yearbook does, and we are proud to partner with them again in 2017.

The following articles are composed by some of the most respected experts in hospitality technology. They are all prime examples of innovation through collaboration. A willingness to share ideas and discoveries in The Hotel Yearbook is a testament to their dedication and passion for our industry. It is through publications like this that the hospitality innovators of tomorrow are able to gain insight into today's exciting developments and advances.

HFTP is committed to investing in the future of hospitality technology with programs such as HFTP's Entrepreneur 20X pitch competition, which you can learn more about in this issue. The Hotel Yearbook shares HFTP's commitment and passion for nurturing future innovators and they have featured several of the upcoming leaders of our industry in the following submissions. It is a great pleasure to continue the wonderful relationship that HFTP has with The Hotel Yearbook because it is through collaboration that creative minds can achieve grand endeavors.

A word from Floor Bleeker, our Guest Editor-in-Chief

It was a great honor to be asked to be this year's guest editor of the Hotel Yearbook's special edition on Technology.

Every article in this edition has a special connection to me. There are authors I have worked with, writers who taught and mentored me, as well as a lot of old industry friends.

I attended the Hotel School in The Hague, and my first real job as a young graduate was at The Emirates Academy of Hospitality Management in Dubai. Both institutions have provided thought leadership articles for this book, along with some of my mentors that have supported me throughout my career.

During my time at Jumeirah Group I was fortunate to work with some of the most innovative executives in our industry, and quite a few of them became C-level executives of some of the world's leading hotel groups. Bill Walshe, now the CEO of Viceroy, was one of the first sales and marketing executives to recognize the commercial value of IT for example, and he shares his vision in this book.

I have also learned to appreciate the value of governance, and you will find articles written by some of the top security specialists and IT specialized lawyers, and my favorite asset manager, in this edition as well. They are known to give heads of IT a run for their money, but are adding tremendous value at the same time.

Hospitality Technology Next Generation (HTNG) has always played an important role in our industry and my career in particular. I am very pleased that we have both the first and the current President featured in the Yearbook to address the future of HTNG and innovation in our industry.

This edition of the Hotel Yearbook wouldn't be complete without a vision for the future and we have plenty of that, too. We discuss how virtual reality will impact our industry, what the future of hotel architecture has in store, and how Hostech startups are moving the industry forward.

Lastly, at Mövenpick we are currently going through a large transformation process with many technology-led changes. Good communications is often the difference between success and failure of those transformational IT projects, and we have articles from the specialists that helped us successfully navigate this change and communications process.

I would like to thank every contributor for creating a fantastic edition of the Hotel Yearbook.

I hope you enjoy reading it as much as I did putting it together!

A CEO's perspective on technology

*by **Bill Walshe*** 🔗

Are we optimally realizing the role technology can play in revenue generation yet? As we apply technological solutions to many of our challenges in the hotel industry, how can we be sure that we won't discount safety in favor of innovation? Given its widening role, where does IT optimally fit in the organizational chart of a hotel management company? And when will the hotel business see its first CEO whose career was shaped as a manager with one of the leading technology brands of our time? Bill Walshe, CEO of Viceroy Hotel Group, ponders these and other thought-provoking questions.

Let's start with a bold statement of our times. Years ago, as a Sales & Marketing guy, I never imagined myself having to think through the implications of technology in crafting a global marketing campaign or closing a sale. Perhaps I was simply naïve. Fast forward to 2016, my paradigm has changed beyond all recognition and I now find myself musing on the possibilities of robotic colleagues, intuitive loyalty program management driven by artificial intelligence, and how long it will be before "Alexa" has a family.

Advances in technology are changing every aspect of the hospitality industry: how architects and developers plan and design incredible spaces, and how construction and core infrastructure is deployed. Additionally, operational practices on property are being redefined by continued innovation that will radically change our approach to human resourcing and talent. Most importantly, our consumers' expectations around how they engage and transact are challenging the very core of how our industry delivers hospitality. The big question ahead of all of us must be "How do we maintain technological investment and delivery in lock-step with our guests, whose expectations are driven by industries and brands born with agility and reinvention as a natural behavior?"

At Viceroy, our technology strategy has three core pillars:
• Security
• Facilitation
• Revenue generation
Our guests and ownership groups sit at the heart of all three.

Guests entrust us with their data. Partners entrust us with their assets. Our role as a management company is to advocate the "unseen" importance of a secure infrastructure in delivering safe and reliable guest technology. It saddens me to learn that in 2015, data held by hospitality firms was (in 98% of cases) compromised within minutes (Verizon RISK team). The ability to detect, react and be ready with a solid incident response plan is critical to guest and colleague data and identity safety.

How we prepare for, manage and maintain our networks, hardware and software solutions is a central obligation of our brand at a legal, compliance and human level. All colleagues must understand the importance of data protection and the disastrous implications of any breach in trust.

Technology's role as a facilitator cannot be understated. Hospitality brands seek to achieve more with less, and consequently they look to the benefits of increased automation, improved connectivity across multiple platforms and systems and solutions that simplify life for guests and colleagues alike.

It should be as natural as the air we breathe. Most importantly, technology should never be the reason why we fail to deliver against a consumer's expectation, be it "on property" or "above property".

Technology's role in revenue generation has yet to be realized in an optimal fashion. In recognition of the increasing convergence in traditional sales, marketing, revenue and digital disciplines, the Viceroy IT function reports into the Commercial Team. We must absolutely ensure the voice of IT in shaping how we go to market, manage consumer engagement and delight our guests. Early adoption is encouraged where there is demonstrable value to our consumer.

Our collective success is of course pegged to the efforts and commitment of key industry providers. In putting forth such a statement, I am perhaps revealing our Achilles' heel and legacy challenge. We look to industry providers for progress and speed – and ultimately, for competitive advantage. We must share accountability for success down the line to guest engagement as opposed to a "subscriber relationship" only concerned with their respective micro contribution in the end-to-end process of hospitality.

In summary, our industry should be careful not to discount technological safety in favor of innovation. As a facilitator,

technology is a great tool for enhancing the guest experience, provided:

- It consistently works
- It is not too complex for guests to operate
- It has value and appeal across multiple generations of consumer

As we look to the future leadership of our hospitality, I have no doubt that we will see a new breed of CEOs potentially born from some of the leading technology brands of our time. Now that will be interesting.

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*A 20-year veteran to the luxury hospitality industry, **Bill Walshe** provides Viceroy Hotel Group with a truly global perspective, bringing extensive senior management experience with leading international hospitality companies, including Jumeirah Group, The Doyle Collection and Kempinski Hotels and Resorts. As the CEO of the Doyle Collection, Bill led the brand through its reinvention into a modern luxury urban hotel group that includes eleven hotels in the USA and Europe. Prior to The Doyle Collection, he served as Chief Marketing Officer for Dubai based Jumeirah Group at a time of tremendous growth for the international luxury hospitality group.*

Big data and big trends mean big opportunity for revenue managers in 2017

by **Tammy Farley** in

Looking to 2017, Rainmaker's Tammy Farley explores some of the more significant and current disruptive trends that will affect the hotel industry, and what savvy revenue managers will need to be taking from, and doing with, the big data they are gathering about each segment of their market, in order to make it *actionable*.

The hotel industry is far from a static one, and is heavily influenced by a variety of factors, from cultural shifts in consumer behavior to the constantly changing tides of the global economic markets. Current disruptive trends, including the impact of industry consolidation stemming from high-profile mergers & acquisitions, the rise of alternative accommodation options like Airbnb, and the growing importance of group revenue, are not only generating more data, but are making interpretation of that data increasingly difficult. As the needle gets smaller and the haystack through which revenue managers must dig to find that needle gets larger, it is critical for revenue managers to be able to pinpoint the big opportunities by effectively decoding the data that is being created by these growing trends and shifts in the market.

As these radical changes continue to take hold and create a ripple effect throughout the industry, data technology is also continuing to evolve and is becoming an even larger influence on the daily operations of hotels, allowing revenue managers to capture relevant data. Even so, a high level of diligence is required in their data analysis in order to make the best, most informed decisions that ensure continued success. Looking to 2017, we explore some of the more significant and current disruptive trends, and what savvy revenue managers will need to be taking from, and doing with, the big data they are gathering about each segment of their market, in order to make it actionable.

The impact of industry consolidation

The staggering pace of hotel industry consolidation over the past year has left many hoteliers wondering what the long-term effects will be on their markets and their properties. However, this trend has also brought about many benefits and opportunities. In addition to helping traditional hotels maintain a competitive edge compared to alternative accommodations, it has also helped to create economies of scale with suppliers, and provide a counterbalance to the large OTAs. However, these M&As do not come without their pitfalls.

Increased consolidation by large hotel chains has made them even bigger and increased their clout in taking back their route to market. This has caused the lines between all the key players to be re-drawn, and tends to cut the smaller players out of the equation. For example, the erosion of rate parity due to the rise of loyalty rates from the large hotel brands, while a positive for the large brands, does have negative effects on small and mid-sized hotel companies. These companies often don't have the infrastructure to support similar programs and offer loyalty rates to their repeat guests. While consolidation may serve to balance power between the OTAs and the big brands, small and mid-size hotel companies, as well as independents, can get lost in the mix and have a hard time regaining their footing in the market.

As the consolidation trend continues to intensify moving into 2017, savvy hotels will be the nimblest in navigating the changing market landscapes, using smart data to outperform

the large chains and play the OTA game effectively to their own advantage. This means going beyond traditional revenue management practices and ideals, bringing together diverse market intelligence to make the most informed decisions, and provide that direct, one-on-one atmosphere that maintains the repeat, loyalty and group business these properties need to stay ahead. Additionally, clear cut goals and a direct understanding of what success will look like for their hotel in the new landscape, along with in-depth analysis of the average length of stay, booking windows and pace data, will put revenue managers in the position to master big data and make it actionable.

The impact of the "sharing economy" and alternative accommodations
In continuing to figure out and cater to the individual needs of each guest segment, alternative accommodations, such as Airbnb, lifestyle brands and localized hotel chain properties, have seen unprecedented success because they're not only cost efficient, but often come equipped with homey touches and personalization that make guests feel comfortable during their stay. With flowers and a bottle of wine on the table, or a special brand of almond milk in the refrigerator, these accommodations typically go above and beyond what hotels have traditionally included in their base rates.

The rise of Airbnb, lifestyle brands, localized properties and other alternative lodging options has proven to be stiff competition for traditional hotels, and has many hoteliers and revenue managers asking: what is the impact and how do we respond? While the answer to this varies widely, based on location and the type of hotel, it's important to first assess how much alternative accommodations have penetrated a particular market and how they are accomplishing this. Rate shopping plays a key role here, and effective rate shopping tools must give revenue managers visibility into alternative accommodations and shifting distribution strategies.

When it comes to these alternative accommodations, revenue managers need to do more than simply rate shop, they must also supply shop. This matters specifically because a larger supply of accommodations from Airbnb in a hotel's particular area will have a direct effect on that hotel's rates and performance. Revenue managers need comprehensive intel and insights that paint a complete picture of pricing, occupancy and forward-looking demand forecasting. Once they have this, it's important to use those specific data sets to pinpoint where the demand is coming from and the impact on performance, so they can adequately evaluate and implement a proper strategy to gain that market share back or retain it.

The growth of group and how to leverage it
A recent study from PricewaterhouseCoopers found that the meetings industry directly spends an average of $280 billion each year. Out of this number, $39 billion is spent on accommodations, which translates to room revenue. ↓

An additional $30 billion goes towards food and beverage and another $10 billion on venue space. This is a huge earning potential for properties that can accommodate this segment, and hoteliers need to respond quickly in order to increase their chances of winning the business. Smart revenue managers can go beyond traditional and often suboptimal Minimum Available Rate (MAR) strategies, using analytics to quickly figure out how to address the needs laid out in a group RFP, and calculate the optimal price where profitability will be maximized.

Revenue managers are receiving more group RFPs than ever before, due to advanced technology that makes it easier to issue them. Unfortunately, the tools and methodologies in place for responding to these RFPs has not continuously advanced along with that technology, causing revenue managers to become the bottleneck in the process of sending responses. This can be costly to hotels, since a large majority of group RFP's are awarded to first responders. Today, big data is helping to bridge that gap.

Making use of innovative data sources, like lead-scoring (e.g. from cvent), helps to prioritize RFPs and streamline the sales and group revenue management processes. Group pricing analytics can cut through what has traditionally been a large workload for revenue managers in seconds. This allows revenue managers to more quickly figure out an appropriate pricing strategy that will maximize revenue from the group, so response times on RFPs can be minimized and the proposed services more pinpointed to the group's needs.

What's next?
During 2017 and beyond, it will continue to be critical for hotel revenue managers to stay ahead of big trends and big data in order to take advantage of the big opportunities that come from both. Current and future hotel industry consolidation, the rising popularity of alternative accommodations and advancing technology in the group business sector will all continue to impact the hospitality industry in varying ways, but the big data that comes with it has the potential to ensure each hotel's continued success.

At the very least, big data will continue to serve in helping revenue managers drive the best business through the right channel at the right time and for the most optimal rate. In the year to come, big data is poised to become less of an uncharted territory and will become easier to navigate, helping revenue managers to decipher and truly understand market and competitor trends, and changing guest behavior. This data can pave the way for revenue managers and hoteliers to more clearly understand shifting market landscapes, pinpoint demand in varying locations, decipher the impact from new and recurring disruptors, and effectively bridge the gap between the various processes that allow hotels to run successfully.

Cloud-driven leadership: 5 mandates to grow market share

by **Sundar Swaminathan** in *&* **Dr. Peter Agel** in

Hotel technology is not about the nuts and bolts; it's about finding ways to apply the nuts and bolts to enhancing guest experiences, improving efficiency and motivating staff. Oracle Hospitality's Sundar Swaminathan and Dr. Peter Agel share some wide-ranging ideas for exploiting the cloud to its fullest.

Do you know your guests really?

For hoteliers, it is a seemingly simple question but one that requires a significant amount of knowledge to answer well: their likes and dislikes, wants and needs, preferences and aversions.

Just as importantly, can you recognize them when they walk into your lobby?

If these queries are followed by silence, stop and take note: Delivering such individualized service in ever-escalating degrees is what will drive the industry in the years ahead. And to achieve it, hotel management will need to demonstrate bold leadership inspired and buttressed by information technology.

Specifically, cloud-based solutions will play an integral role because it's the best means to address the industry's divergent mandates – operate efficiently at scale yet simultaneously provide personalized service for each guest. Cloud technology can do both because of its speed, flexibility and affordability. For those who might worry that an even greater reliance on IT will erode the human element of hospitality, fear not. By moving to the cloud and resolving IT challenges "above property," hoteliers and their staff can actually elevate engagement with guests – and deliver the exceptional experiences they'll cherish.

Unlike conventional software models that require the significant capital expense of purchasing licenses, cloud is sold as a service, enabling clients to buy as little or as much computing resources as needed. Available on demand and broadly accessible through client platforms, including mobile devices and workstations, cloud instantly delivers the latest capabilities to help hoteliers tackle a host of challenges.

Perhaps, most importantly, cloud enables properties to "stop on a dime" and change direction to stay in line with shifting market demands. In fact, an Oracle-sponsored study (Cloud Computing Comes of Age) conducted by Harvard Business Review Analytic Services validated that point: 64% of global business and technology leaders surveyed said using cloud increased their business agility. Furthermore, the study showed that "cloud leaders" – who embraced a more managed, enterprise approach to cloud – capitalized on their newfound agility, with 72% launching new products and 62% expanding into new market segments.

Going forward, wielding cloud to address the following top priorities will redefine hotel leadership:

Accelerate innovation
It's been repeated ad nauseam that one of the key challenges facing hoteliers is the need to reduce IT cost and complexity. But the worst consequence of failure often goes unsaid: Unmanaged IT kills innovation.

Many operators still are shackled to enterprise management systems that require housing on their property. The capital investment needed for on-premise hardware and software alone can be exorbitant and doesn't even factor the time,

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money and manpower for maintenance and support. Indeed, industry experts say the on-premise model is unsustainable, considering that 75% of expenses are typically drained by routine maintenance and integration efforts, leaving only 25% available for actual innovation. Such conclusions were corroborated by the HBR study's findings, too, which included 52% of cloud leaders reporting that the technology has freed up their IT organization to focus on more strategic issues.

Adopting cloud is all about accelerating innovation. Simply put, conventional software is updated infrequently because deployment to individual, on-premise servers is costly and time-consuming. That's why implementing new capabilities seemingly takes forever. But cloud data centers incorporate advancements routinely, making them quickly and easily accessible to clients. Empowered by cloud's centralized control and operational efficiencies, hoteliers can accelerate innovation across the board: for example, faster introduction of new services at locations, better management of distribution channels, speedier delivery of targeted promotions and enhanced guest experiences.

Defend against commoditization
According to Merriam-Webster, a commodity is a mass-produced unspecialized product. In other words, it is exactly what a hotel experience shouldn't be.

As much as hoteliers tout individual guest service and loyalty programs, the truth is most don't treat each guest uniquely, failing to tailor stays based on personal preferences. Far from it, many operators struggle to even recognize valued guests, and typically, just clump them together in tiers based on the points they've accumulated through so-called "loyalty" initiatives.

To make matters worse, hotels often aren't truly connected, disenfranchising guests – especially Millennials – from on-demand Web service that they expect to receive everywhere.

Hoteliers must understand that they're operating in an Era of Individualization. In a major Oracle study that recently surveyed 300, C-level executives from various North American industries, 84% said their organization has witnessed customers wanting a more individualized experience. But fewer than 20% gave their organization an "A" in its ability to offer highly individualized customer or employee experiences. Cloud remedies that weakness and enables hoteliers to:

- Provide staff real-time access to rich profiles of each guest, detailing preferences, stay history and consumption patterns
- Deliver a connected experience, making the entire property a borderless environment and enabling guests to be recognized, whether they're enjoying the hotel or its restaurants and shops.
- Equip staff with mobile devices and applications, untethering them to cater to guests wherever and whenever needed.

Engage the Millennial employee
If they're not already, millennials soon will represent the rank-and-file of your staff. And the fate of your hotel will rest in their hands.

It's critical to recruit the best among them, retain them and empower them. But if your hotel is saddled with obsolete technology, odds are, you won't. That was one of the key findings of Millennials and Hospitality: The Redefinition of Service, a major Oracle Hospitality study that surveyed more than 9,000 Millennials in eight countries: Australia, Brazil,

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France, Germany, Mexico, Japan, United Kingdom and United States. More than one third (36%) of Millennials who had worked in the industry in the past five years said their employers' use of technology was lacking. What's worse, only 15% said their employers sought their suggestions for better using technology to improve service.

Millennials, like all workers, want to make meaningful contributions, and empowering them with cloud and mobile platforms provide them the means to that end. It's important to boost morale by reducing training time and encourage engagement with intuitive, easy-to-use displays that yield improved operations, from service delivery to reporting to self-managed tasks (i.e. shift scheduling).

Lower operating costs

With the ability to address so many facets of the business, cloud solutions hold the potential to become the single, most-important driver in reducing operating costs. That's critical because it goes hand-in-hand with boosting productivity, improving efficiency and minimizing waste.

With cloud, the need for on-premise servers at every location is eliminated. The implications of that change are enormous: Downtime configuring servers at various properties and dispatching costly contractors become issues of the past. Productivity is bolstered because operational failures are virtually nonexistent. (Applications, servers and storage are all managed and monitored 24 hours a day, 7 days a week and 365 days a year in the cloud.) And new functionality can be activated at multiple sites simultaneously, meaning innovations can be introduced faster. For example, cloud-based property management systems (PMS) can mobilize front-desk, housekeeping and maintenance staff with devices that provide real-time access to hotel and guest information.

Such communication is the key to improving collaboration and productivity. For hotels with restaurants, cloud can orchestrate operations – from the back office to the kitchen to the dining room – and improve efficiency of tasks such as inventory and labor management, meal preparation and order processing.

Optimize distribution

Distribution is a varied and complex challenge, but such difficulties can't be excuses for underperforming in this vital arena. A hotel's success, if not survival, depends on mastering it.

Trying to analyze voluminous amounts of data for rate management or juggling partnerships with third-party intermediaries almost guarantees paralysis. Both scenarios underscore the importance of using cloud technology that can effectively share data with "best-in-breed" channel and revenue management providers, enabling them to tackle their respective specialties and maximize your presence in the marketplace. In the case of revenue management, cloud continuously sends historical rates and occupancy data as well as current information to revenue partners, providing the best information to optimize rates.

On the direct booking front, cloud enables hoteliers to fully integrate online efforts with their PMS. Achieving seamless operations means customers booking directly can access room availability in real time and up-to-date information about various hotel initiatives. Remember: The guest experience begins on your website. Delivering accurate information strengthens relationships, bolsters the brand and maximizes bookings.

They're all part of the results cloud and innovative leadership can reap.

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Cloud computing agreements: Five things to look out for

*by **Joby Beretta*** 🔗

In the Hotel Yearbook 2016, several contributors predicted the use of cloud computing shifting to the mainstream. Some of the benefits highlighted were reduced cost and increased flexibility, accessibility, updating, security and guest service. Now Joby Beretta of UAE-based The Bench offers some practical guidelines to consider when making this move.

Before jumping into the cloud, you should be aware of the associated legal issues. The precise legal risks depend on a number of factors including the type of cloud (e.g. public, private, hybrid), service (e.g. Saas, PaaS), solution (e.g. PMS, CRM), type of data (e.g. guest, employee) and the country (e.g. the location of your hotel and your supplier's IT systems).

The following are the top five legal issues that I suggest are considered before implementing a cloud-based solution.

1. Keep an eye on your data!
When hotel guest data is stored on-site, compliance with data protection laws is relatively simple. However, with the transition to cloud solutions, in order to ensure compliance you need to know exactly where your supplier is intending to store, transfer and provide access to the data. In many countries (especially in Europe), there are fairly onerous data protection laws preventing the transfer of data outside of the jurisdiction without the guests' consent and/or without the assurance that the data is going to a country with adequate levels of protection.

I therefore recommend obtaining sufficient information on the supplier's system architecture and seeking contractual protection that the supplier will comply with all applicable data protection laws. You cannot however pass all responsibility onto the supplier. You will also need adequate internal data protection policies to ensure that you are complying with the relevant laws when accessing or sharing guest data, e.g. with

other group hotels. You should also review your guest-facing terms and conditions to ensure they cover the proposed solution, and pay particular attention to the use of any sensitive data (e.g. medical history obtained at gyms, spas etc.)

2. Data security
With the increased accessibility of cloud technology, enabling users to access the data potentially from anywhere in the world, also come increased data security concerns. If there is a data security breach and guest or credit card information is hacked into, misused or disclosed, the relevant regulator will be knocking on your door – and it is your brand that will be impacted. Just this year a number of major hotel chains, including Trump Hotels Collection, were reportedly affected by data breaches relating to credit card information. Cloud systems relating to POS and others holding credit card information are particularly at risk.

Although the supplier should have more up-to-date technology than many hotel systems, you should still carry out due diligence on their systems, processes and disaster recovery plans and include adequate contractual protection (e.g. PCI DSS compliance etc.) in this regard.

3. Service levels and service credits
When transitioning to the cloud, it is essential to understand the level of service you will receive. This includes the service description and service level but should also deal with planned

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maintenance and what happens if the system goes down. Don't expect the supplier's standard form agreement to be generous in terms of service credits for failure to meet the service levels or unplanned downtime. Generally, the supplier will want these capped at a percentage of the fees, and normally they will be expressed as the exclusive remedy for breach of the service levels.

This may or may not be appropriate depending on the circumstances, and I suggest the supplier's standard template should be challenged and amended as necessary.

4. Limitation of liability
Many cloud solution suppliers (especially SaaS) take a very strict line on the types of liability they will accept, so carefully review (and challenge where necessary) the list of exclusions (e.g. loss of data, revenue, etc.) and the proposed liability caps. Pay particular attention to whether key warranties and indemnities (especially IP) fall within these caps.

Although many may perceive these clauses as purely legal issues, the commercial impact can be substantial and therefore worthy of detailed consideration by the hotel management team. At the end of the day, you need to achieve a balance of risks equitable for both parties considering the specifics of your cloud project.

5. Termination
You should also consider what happens if it all goes wrong. Firstly, if there is a breach from your side (such as a delay in payment), should the supplier have the right to suspend or terminate the service? If these are revenue-generating cloud solutions, then you would want to argue "No", but at a minimum, you should be provided the opportunity to remedy the breach. On the flip side, you need to be comfortable with your rights to terminate for the supplier's breach and similar scenarios so you are not locked in with an underperforming supplier. You also need adequate provisions dealing with what happens upon termination, e.g. transfer of data from the cloud solution back to you or an alternative supplier (in a suitable format).

Finally, before signing any cloud agreement, I would strongly suggest you run it past a good technology lawyer!

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Not your father's service bus

*by **Nick Price*** in

Introducing the Hotel Operating System, or Hotel OS. Coined here by citizenM's Nick Price, this cloud-based concept supersedes the old notions of a service bus, moving the PMS to the periphery as it provides the basis for consolidating fundamental information across dissimilar source systems. In short: an integrated, well-oiled machine. Dream or reality?

If you went to a hospitality technology conference and started talking about "service bus" to anyone but a very few super techie individuals, until recently you would most likely have been met with blank stares and a confused "a what?" in response. But that's now starting to change, and the concepts of service bus, and the opportunities afforded by the technology, are beginning to creep into mainstream consciousness.

Let's start with a clear statement. I'm not talking here about your father's enterprise service bus (ESB), born in the 1990's and used sporadically in large enterprise deployments, most commonly in the telco and financial services industries – Tibco, Neuron and many others being product examples. These guys were the cutting edge and took many of the knocks for the rest of us while we sat back, watched, waited, and learned from their experience. No, here I'm taking about a newer generation of capability most commonly found in public cloud technology stacks, and used for communicating between applications or modules within an application. Microsoft, Oracle, IBM, Google – service buses are everywhere today and becoming mainstream.

So, enterprise service buses have been around for a long time. They are most certainly not new, so why are they now becoming relevant? Conceived as a fundamental element of Service Oriented Architecture (SOA), for years service buses and the loosely-coupled application architectures that they were supposed to enable were confined to the periphery of application development. There were many reasons for this, but mostly because the cost and complexity of developing SOA applications was simply too high, so most application developers continued to develop with on-premise point-to-point integration patterns, which for the most part worked well enough for the small-scale

applications that they were developing. And by small-scale, I include as a reference point familiar to all hoteliers such applications as the on-premise Property Management System.

But then came cloud and Software as a Service (SaaS). The operational scale at which modern hyper-scale cloud applications can operate, and the expected rapidity of feature development, has again focused attention on modern application development
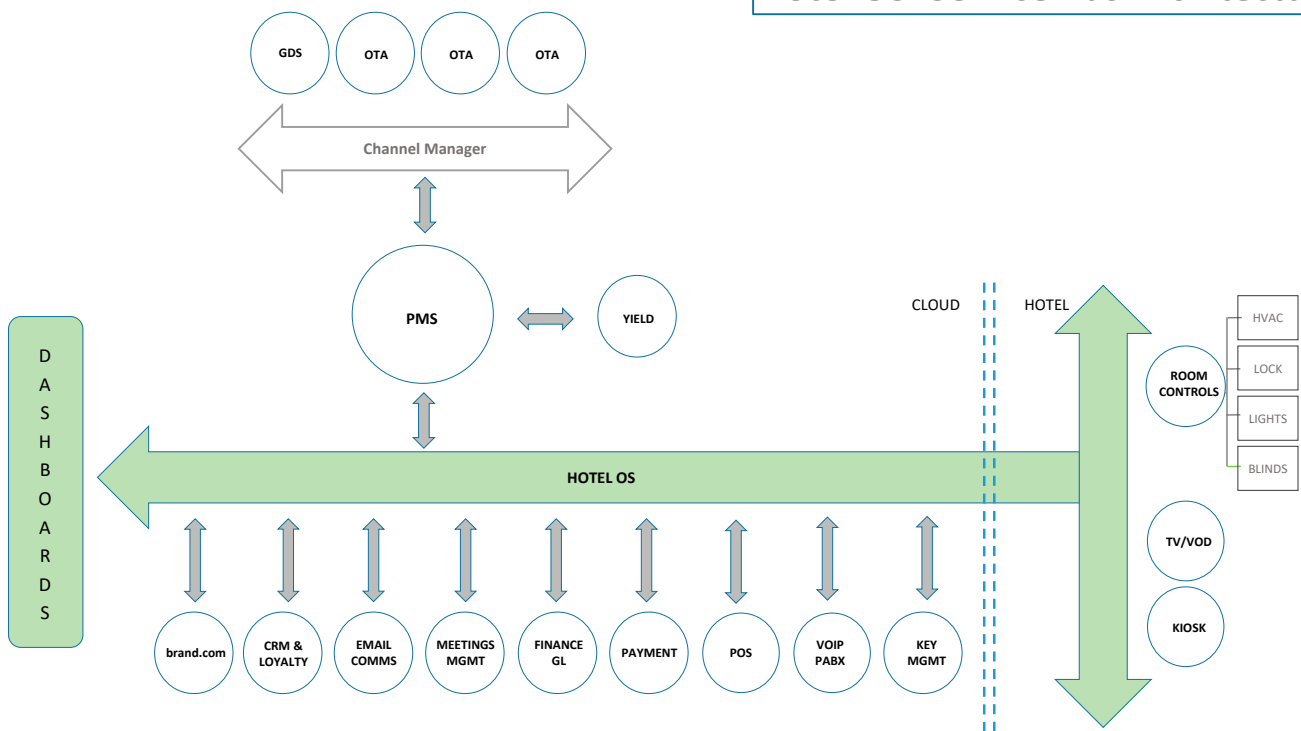
and deployment architectures – we now see XML replaced by JSON, SOAP replaced by REST API's, and applications are now finally being constructed in SOA terms – as services, loosely coupled and coordinated via messaging. In this large-scale SOA world, service bus is again a legitimate, highly desirable, and in fact necessary, part of the modern application dev/ops toolset.

In its very simplest form, a modern ESB consists of a collection of queues managed by a coordinating service that provides publish and subscribe event messaging semantics to connected applications or services, and they are delivered as low-level functionality within a cloud application stack forming the service-based abstraction layer between applications or application components. But in that stack, and above the service bus, we also have a rich development environment in which to develop and host modern application services, and this is where the value of a modern ESB really starts to become apparent.

When you hear "ESB" today, you should think of a flexible, distributed, scalable infrastructure, where you can build, deploy, and monitor any kind of (micro)services in an agile and efficient way. Development and deployment can be done on-premise, in the cloud, or a mixture of both. Think about that for a second: a single distributed infrastructure that can span cloud and on-premise, and do so at hyper scale. That's perfect for our industry, isn't it? Even more so, when the same technology stack can be procured as OPEX rather that the familiar CAPEX enterprise license model of the past.

Let's round out the definitions and move on. A modern ESB is built for: integration, orchestration, routing, (some kinds of) event processing / correlation / business activity monitoring.

A bus makes sense if you want to correlate events happening in different (micro)services. Keep these events in-memory, make them visible for real-time monitoring and analytics.

So, that's what a service bus is and what it does and its history. But how does this in any way relate to hospitality?

The answer is that service bus and a micro-service architecture is a valuable strategic weapon for hospitality companies.

For many years, the PMS has been the legitimate center of hoteliers' systems universe. It sits at the epicenter of the systems architecture acting as the hub of on-property communication, and over time has become the system of revenue recognition for pretty much everything that goes on in a hotel. It's the metaphorical kitchen sink of assumed functionality and responsibility, and to many of us it has become a monster that we long to get rid of, but believe we can't. We feel powerless, locked in, and helpless, a slave to the PMS machine. But wait… perhaps we can in fact do something? Not all at once, but maybe a little at a time, by peeling back the layers of poorly thought through functionality or poor implementation, to arrive at a place where the PMS does only those things that it was intended for in the first place: mostly room inventory, availability, pricing, sales and distribution, reservation, check-in/out, room allocation, and settlement.

But what about all that other functionality: What do we do about that? We reimplement in smaller, simpler, more modern applications better suited to the task. In place of one big PMS, we might think of a core rooms-focused PMS and five or ten additional applications, probably located above-property in the cloud, and most likely contracted on a SaaS OPEX basis. ↓

Peeling back the layers of PMS functionality is a liberation. It's the start of a process of de-emphasizing the role of PMS, something that I have been arguing for a long time is both overdue and extremely necessary if we, the technology providers to our hotelier colleagues, are to provide a responsive, agile, and capable technology infrastructure aligned with the reality of the mobile first, cloud first world in which we now live.

So, if we de-emphasise the PMS, moving it to the periphery of our hospitality systems architecture, reducing its functionality, what takes its place? What now forms the hub of our architecture, taking on the integration role? The answer is obviously service bus and the micro-services above it, comprising something that the tech industry might call a middleware. But regardless of the name, it's a functionality that is much better suited to the task at hand today than anything that we have had available to us before.

So, let's come up with a better name than service bus or middleware for this new non-PMS-centric architecture. For want of a better term, I contribute to the lexicon, *hotel operating system*, or simply *Hotel OS*.

With this Hotel OS, and at its core, the global-scale service bus and middleware technology hosted by public cloud, we can start our journey towards a global enterprise hospitality system comprised of loosely coupled applications from multiple suppliers. Hotel OS is not a one-to-one replacement of what we had before, and it's not a fantasy either. It's real, in use, and there are not surprisingly a number significant advantages over the previous PMS-centric model:

- Being both native cloud and on-premise, Hotel OS allows for optimum placement of system components to suit the need, and this choice of placement can even be different between hotels without changing or breaking the architecture.
- Hotel OS abstracts the specifics of any one system, so multiple similar systems can be used across the enterprise. Think multiple payment, multiple POS, even multiple PMS.
- Hotel OS provides the basis for consolidation of fundamental information across dissimilar source systems – a unified customer record across multiple customer profile and loyalty systems perhaps, or a unified reservation record.
- And because it is built on a modern public cloud infrastructure that is being continually updated, Hotel OS brings with it modern reporting and business intelligence tools that are not some add-ons, but a fundamental and aligned part of the core technology stack.
- And lastly, the more systems that are connected to, and communicate over, the Hotel OS bus, the more derived value can be realized. When all systems participating in a business process (think check-in, check-out, web reservation, etc.) communicate over the bus, an opportunity arises where we can correlate events to visualize and map the processes in real time, providing an opportunity to take immediate and possibly automatic corrective action – the dream of any hotelier.

In conclusion, I say that It's time to move on from the world where the front desk asks the multi-repeat customer whether he/she has ever stayed at the hotel before, responding when told, "Yes" with an enthusiastic, "Well, welcome back!", and I think it's clear to all of us that this acceptance of failure is just not good enough anymore – if it ever was.

The somber reality though is that guest interactions like this are an everyday example of hospitality technology failure, all too frequent, and at hotels worldwide. We can further extend the everyday customer expectation misses to room technology; issues such as air conditioning malfunctions, or low water pressure, or lights or door locks not working. The list is endless, and these are all very common issues, so let's fix these irritants before the guest ever finds them. The room connected to Hotel OS can place rooms in a non-saleable condition and even automatically dispatch a maintenance engineer, the room automatically returning to sale when the problem is fixed. The only things standing in our way here are complacency and acceptance of failure. It's not technology's fault any more. Now we must do something about it, and the Hotel OS is a good place to start.

Nick Price is the founder of NetSys Technology, a software development and technology consulting company focusing on the hospitality and travel sectors. As part of his portfolio of responsibilities, Nick also holds the post of CIO at citizenM, a happening Amsterdam-based hotel company with global aspirations. Nick has worked with citizenM since early 2013 and is responsible for a large and growing set of digital technologies, including traditional IT. Prior to starting NetSys, Nick held the CIO post at global luxury hotel brand Mandarin Oriental for twelve years, where he participated in a significant global expansion of the company from its base in Hong Kong. Nick is an inductee in the HFTP (Hospitality Financial and Technology Professionals) Hall of Fame and a co-founder and past-president of HTNG (Hotel Technology Next Generation).

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Customer-centric hotel payments: Are you missing an opportunity to get more direct bookings?

*by **Diederik Van Gool*** 🔗

As hotel brands desire to grow direct bookings and additional ancillary revenue streams to get ahead of others in the race, their next big challenge is to offer a customer-centric travel service that supports guests throughout their journey – from inspiration, booking and payment, to transfers, check-in, stay and departure. As Worldpay's Diederik Van Gool explains, embedding a customer-centric payment eco-system can be a key enabler for this vision.

A service that generates more direct bookings, manages itinerary changes, offers ancilliary services, facilitates check-out and takes payment seamlessly sounds ideal, doesn't it? There's only one catch.

What should be technically easy to implement is almost impossible due to the property-by-property payment model that exists in the hotel industry today. Payment information is currently captured during the booking process and forwarded to each individual property, which in turn has its own acquiring agreement to process payments.

The hotel industry has to shift to a model where payments are managed centrally to increase revenue opportunity while improving the booking experience for guests. This is the only way that ancillary services can be offered centrally without the need for a "many suppliers to many properties" relationship. It would also enable pre-payment rates to be processed immediately and centrally, without the need to forward payment information in a PCI compliant manner.

Many hotel chains have shied away from converting their brand website into a true transacting platform on par with online travel agents. One of the main reasons is the percieved complexity around taking payments and forwarding funds to individual properties and third parties. But it's not that complicated.

So what are those critical areas in your payment set-up to get more direct bookings and ancillary sales?

1. Become the "merchant of record":
This is a core requirement to become a true hotel "e-retailer". Taking payments for bookings means taking on more responsibilities such as contracting with an acquiring bank, managing the payment process, funding the associated costs, organizing the onward flow of funds, keeping fraud low and taking care of chargebacks. It might sound overwhelming, but every travel agent in the world has mastered these basic requirements – and they do it to make a profit!

2. Offer an amazing payment experience:
Conversion is everything. The key challenge is to create a seamless omni-channel customer experience across all guests' payment touchpoints. This is a lot easier if it is done centrally, for all your properties. Optimize the look and feel of the payment screen with

worldpay

adaptive payment pages, store payment details of frequent guests and enable one-click, invisible payments.

3. Customize your payment method mix:

Offer the payment methods your customers want to pay with, and the currencies your customers understand, to win a higher share of wallet in countries where credit cards are not commonplace.

While cards are still predominantly used in the travel sector, alternatives like Sofort, Ideal, PayPal or Alipay are becoming increasingly important. Research done by Worldpay demonstrates that Alternative Payment Methods (APMs) will form the majority (59%) of all online payments on a global level by 2017.

4. Manage fraud and chargebacks:

Fraud will always be a cost in business, but if managed well it can be controlled. Use fraud management tools that can be customized for the travel sector and fine-tuned to match your company's exact needs. Automated chargeback tools combined with a strong chargeback services team from your acquiring bank can minimize the administrative overhead that you will require internally.

5. Control the payment flow:

Detailed payment reports can help match bookings with payment transactions to reconcile your accounts. Being in full control of when and what is paid to whom gives you the ability to deduct any agreed commission fees at source.

6. Pay your individual properties:

How can you forward revenue from holding accounts to individual properties and third parties? There are several options. Using costly and time-consuming international bank transfers is probably the least preferred. Using a global transfer system which is funded centrally (in multiple currencies directly from your online sales) and converts international transactions into local bank transfers is a lot faster, and more cost-effective. This can be complemented by virtual credit card systems for pay-outs via "one-time" credit card numbers.

Choosing a customer-centric set-up for your payments eco-system is the first step to more direct bookings and ancillary revenue. This can be easily achieved with a complete and integrated payment service: from taking payments, managing stored credit cards and fraud prevention to chargeback processing and managing funds and pay-outs to properties in local currency.

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Taking the guest experience to the next level with mobile access

*by **Markus Boberg*** 🅛🅘

Providing guests with the ability to unlock guestroom doors using personal smart devices is no longer just a futuristic concept or non-essential amenity. With record numbers of hotels around the globe now adopting digital key solutions in order to streamline operations and better serve the increasingly tech-savvy, mobile-oriented generation of guests, mobile access solutions are going mainstream. As Markus Boberg of ASSA ABLOY Hospitality explains, growing demands for instant service have spurred hoteliers to seek out platforms that minimize wait times and inconvenience. With continuing advancements in mobile access innovation, more and more hospitality professionals are finding that they too are able to benefit from a solution that takes personal budgets and needs into account, while allowing them to tap into today's increasingly mobile lifestyles in a way that maximizes guest satisfaction without jeopardizing security.

The explosion that has been the influence of mobile technology on countless global industries has also made itself apparent within the hospitality market, with a seemingly endless array of solutions being churned out on a yearly basis. But while each may aim to provide hoteliers with a way of catching up with increasingly technology-laden guests, as with any product, only those designed to meet a legitimate need can ever hope to provide a return on investment. By focusing on providing guests with a tool that allows them to use smart devices as electronic guestroom keys, mobile access technology consequently stands apart in its ability to answer longstanding demands for a streamlined and hassle free hotel check-in experience; one that, thanks to society's growing emphasis on the value of time, is measured more by speed of service, rather than level of human interaction. When initially unveiled, mobile access understandably may have been viewed by some as an exotic, eye-catching amenity designed to provide cosmetic value. But with the capacity to free guests from front desk lines and instead allow them to go directly to their rooms the very moment that they arrive, mobile access technology has proven to be invaluable to the skyrocketing number of properties that have since implemented it around the world.

Based on a BLE and NFC framework, mobile access solutions crucially rely on technology that is already present on the vast majority of smartphones and personal devices available to consumers. With this advantage, the mission of mobile access from the start is one of providing guests with ease of use and accessibility. Widely considering their smart devices to be indispensable tools that facilitate daily activities and tasks, today's guests can now effortlessly extend this outlook to the very moment that they first interact with a hotel, with the simple download of a mobile access app. Once a guest initiates a request to use the solution, an effective mobile access platform will automatically assume all necessary tasks such as check-in, guestroom allocation and digital key distribution. For weary travelers seeking to bypass tiresome inconveniences upon arrival, the ability to leverage mobile access' benefits proves increasingly to be a game-changing factor in the booking decision process. In fact, studies indicate that a remarkable 73 percent of travelers would prefer to use mobile access if given the option. Such numbers are undoubtedly having an impact on the buying decisions of hoteliers, with a recent Hospitality Technology report revealing digital key platforms as being among the top nine investments for 2016.

Yet as with any solution involving guestroom access, security is understandably a concern due to the liability that it may incur. Here again, hoteliers will find that industry-renowned platforms go to great lengths to implement cutting edge technology that does not just maintain a property's pre-existing level of security; it may actually aid in enhancing it. Any mobile access solution worthy of consideration will leverage the latest in encryption innovation to guarantee that any transmitted data is fully protected at all times. A reputable solution will, for instance, be able to encode all information sent to a guest's smart device such as room number details and the digital key itself. From there, it should also be able to offer continued protection by ensuring data placed on a smart device remains securely stored within the app; once presented to a respective lock, the app safeguards against any transmitted data falling into unauthorized hands.

Often on par with concerns over security is affordability and the practicality of implementing a solution. Here as well, mobile access innovation is working to ensure that its advantages are obtainable by virtually any hotelier regardless of budget. Any industry-leading security access provider should be able to supply solutions that are "future-proof", and allow hoteliers the option of upgrading their offerings in stages, either as technology becomes available or as financial circumstances permit. For example, a hotelier who does not find mobile access to be feasible at the time of upgrading to RFID functionality, but may wish to consider it at a later date, should not have to incur the expense of once again replacing all components. By partnering with a reputable provider, a probable necessity might only be the addition of a small BLE board to each door, which causes minimal disruption in the process and sidesteps additional costs.

In keeping with a digital key solution's responsibility of adapting to a hotel's pre-existing door lock infrastructure, the accompanying mobile app should be able to accommodate the specific needs of each hotelier. With some properties having embraced mobile technology more than others, today's leading mobile access platforms must be diverse enough to offer a solution capable of seamlessly integrating with existing hotel guest apps, while also providing a straightforward path to implementation for those lacking their own. For those fortunate to already have their own mobile application, up-to-date mobile access technology will be able to merge with backend systems by simply using a software development kit and onboarding services. Using this option, hotels can provide guests with greater value in downloading their mobile apps, and increase the chances of them interacting with other amenities or promotions.

Alternately, those hotels needing to implement a mobile access app solution from the ground up are today just as able to take advantage of digital key technology by leveraging a stand-alone platform. Quick and easy to implement, a stand-alone app is ideal for those properties that simply want to provide their guests with the option of skipping the front desk, without having concern themselves with unnecessary and often complex software programming.

Finally, for those hoteliers wanting to pursue a middle ground where their property does not currently have its own in-house app, but would like to offer more than access control, today's market offers a variety of options from which to choose. In choosing to work with an established provider, hoteliers can take advantage of certified third party applications that can provide additional services such as direct booking or amenity upgrade features. When comparing mobile solutions, hoteliers considering a third party app should consequently take note of a provider's list of certified partners and their range of offerings, ensuring their ability to find and implement a platform that is ideally suited to their needs.

Mobile access' ongoing expansion and adoption rate in markets across the world is nothing short of impressive, given its relatively brief existence within the hospitality industry. Yet at the same time, such a feat is hardly surprising due to the universal consumer demand for services that are compatible with their mobile-oriented lifestyles. The speed at which mobile access' popularity grows has seen the new technology develop into a platform that is able to meet any unique need or expense concern. Now obtainable by more hotels and resorts than ever before, hoteliers are taking notice of its vital value in maintaining their competiveness, and in ensuring guest satisfaction and their continued business.
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ASSA ABLOY

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So much more than "fixers"

*by **Brenda O'Neil*** in

One of the most common concerns expressed by IT teams is that they are seen as "the people you call when the printer stops working". Changing the perceptions of IT – from fixer to strategic business partner – demands that communication is not an afterthought, but an integral part of every project from the get-go. Brenda O'Neil, head of the Dubai-based Right Consultancy FZE, explains how to improve this vital connection.

So the IT system is changing? Again? And why exactly? Faced with a substantial Capex request, a system upgrade or team members pulled out for training on a new interface, many senior managers and busy operational employees may not feel so sympathetic to the "improvement" brought to them by their IT function. Successful implementation depends ultimately on successful adoption. But your users have their own KPIs for the year and their own demands on their time and energies.

When tech becomes perceived as another hurdle to delivering a great guest experience now, the IT team has effectively increased its own level of challenge. How can IT really deliver on its promises to the business if it does not communicate effectively with end users, bring them on board, share the possibilities and listen to what those end users have to say?

__Brenda O'Neill__ helps companies communicate more successfully with their employees by working with clients to develop workable internal communication strategies. She has spent over 30 years in communication and was responsible for setting up the Internal Communications Department for Jumeirah Group, a Dubai-based luxury hospitality brand with a workforce of 11,000. She now runs her own consultancy, working with major local entities to deliver internal communication projects and build communication competence.

Communicating a roll-out

If IT only speaks to me when there is a problem or a change, doesn't it make sense that the function will be perceived as primarily a fixer or a disruptor?

One of the most effective ways of ensuring a successful roll-out for a specific project and a high level of adoption is to continually and proactively work to create a shared understanding of the strategic role of IT, outside of a specific project. This means investing time and resources for communicating foundation messages:

- What is the "big picture" role of IT in ensuring business success?
- What are your current strategic goals? How to they support wider organizational goals?
- What tech changes are on the horizon and why are these changes important to the business?
- What is the role of day-to-day "hygiene" (back ups, upgrades, security, appropriate use of technology) in keeping the business running?
  There are numerous opportunities for the IT function to own and communicate these messages.
- Do all seniors have easy access to an up-to-date one pager that summarizes your direction of travel? Is it jargon free and does it present a good business case for your claims on their time and budgets?
- Do operational leaders have the information that will help them explain to their teams in easy and comprehensible terms just why their technology works the way it does?
- Are you present in a positive way at company orientation and in employee guidance – or are new team members just given a list of rules and a helpline number?
- Are you able to be physically (or virtually) present to build positive working relationships? Are you recruiting team members who take communication seriously? Are you ensuring that even a junior administrator can explain in everyday terms how a task contributes to business success?
- Do you invest in proactive, user-friendly training on systems, or expect users to work it out themselves?

Developing an effective communication program requires commitment, and all too often is perceived as outside the core competencies of the IT function. However, if you want to shift perceptions of IT to its ever-growing strategic importance, communication has to have a senior "owner" within IT and become an integral part of annual planning. If this groundwork has been done well, a specific roll-out becomes a much more manageable proposition.

Communicating a specific project

When you are planning the communication campaign for any project, follow these three important steps:

1. First consider the audience - who am I communicating to? Unfortunately, when we are communicating, we tend to believe that the majority of people are "just like us". We routinely get other people wrong and the result is mutual frustration. Picture your stereotypical IT team member, whether CIO or junior administrator. One thing is for certain: They are highly likely to be an early adopter, ahead of the bell curve. They are problem solvers, excited by the possibilities, motivated rather than intimidated by new technology. But in most cases, the people you are relying on to maximize the ROI on your new investment have a different profile. They are in F&B because they love F&B. They want to be in the restaurant, not on their computer. The result is familiar: A busy operational employee frustrated because they are suddenly presented with an unexpected upgrade feels that "IT just don't get it". And the IT guy can't understand just how long it takes a team member to get to grips with a perfectly straightforward new interface….

So before you start, get your team out of the IT echo chamber and fight against "confirmation bias". When you are looking for input from non-IT employees, don't head exclusively for the most tech-savvy. They are more likely to share your ambitions and tell you what you want to hear. It is only going to be part of the story.

2. Formulate the essence of your message for each of your audiences. For some projects, for example, you may need to ensure support from a senior finance colleague. They will have specific concerns and will respond to very different ideas from, for example, a concierge who is dealing with guests every day. As usual, it will be about "what's in it for me"! If you have taken the time to really understand your audience, finding these key messages can be reasonably straightforward. Testing messages informally with members of your target groups can help you fine-tune them. Once they are in place, you need to make sure all your team are on message and stick to the script.

3. Choose your channel. So many people start the communication process at the wrong end – with "put up a poster", "tell them at the shift briefing" or "send an e-mail". None of these channels are necessarily the wrong ones – but neither are they necessarily the best. Choose your channel after you have formulated your message – the right choice will be much clearer. It is also easier to enlist the support of other functions: Marketing, Human Resources and Learning & Development may have lots of ideas and channels you have never thought of that will enable you to reach your audience in an engaging and timely way.

Any network engineer understands that "you are only as strong as your weakest link"! In many cases, communication with the internal stakeholders is this weakest link in the IT system. Great at problem solving, fantastic at finding new opportunities to use technology to support the business, but frankly not so good at bringing everybody else along. There are plenty of excuses out there. "We are IT - communication isn't our job!", "There is too much everyday work to do!" Unfortunately, not communicating effectively with employees can represent a massive hidden cost in terms of lowered ROI. This is especially true when substantial investments in IT are misunderstood and under-utilized by the business.

The stakes are high in a fast-moving and competitive market and unless we build communication into IT project planning from the inception, delivering on the amazing promises of new technology may prove a challenge.

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How IoT technology is re-imagining the guest experience

*by **Suman Pal*** 🔗

By 2020, billions of devices will be connected to the Internet of Things (IoT), providing huge improvements in efficiencies and cost savings, writes Suman Pal, Principal Product Manager at Agilysys. In the hospitality landscape, the applications are limitless – especially those that enhance the guest experience.

The concept of "the guest experience" in hospitality has significantly evolved over the last 5-10 years, mirroring changes in both demographics and technology. In the recent past, guests preferred to speak with a "live" person when making hotel or restaurant reservations, and they appreciated a warm greeting upon arrival. Now, many guests (particularly Millennials) prefer interacting with technology to interacting with hotel staff. For these guests, smartphones, tablets and laptops are their 24/7 companions. The bulk perhaps is a hybrid - guests who want to interact with staff, and wish to supplement that interaction with technology.

For hoteliers, the clear mission is to provide an incomparable experience for each and every guest. In order to do that, you must know your guests. Armed with guest data – such as anniversaries, room preferences, favorite wines and the like – you can personalize your services to create highly customized offers.

The results are increased guest satisfaction and loyalty. Moreover, spending levels per visit will grow, because the service provided meets – and even exceeds – guest expectations. Let's explore how hotels are leveraging technology to create these individualized guest experiences.

The evolution of IoT technology in hospitality
Let's start with RFID technology. RFID-enabled devices are found in everyday applications like security tags and room keys. This technology is simple – it broadcasts an identification number that identifies the tag or key. However, this short-range function is typically all the RFID-applications can do.

IoT tags and devices however have a unique address that can be identified on the Internet, making IoT devices networkable. They can communicate with other Internet-connected devices, including other IoT devices, tablets, smartphones, computers and network access points providing a wide array of new capabilities.

The technology of IoT
A basic IoT requirement is interconnectivity between devices and systems. Application Programming Interfaces (APIs), specifically Representational State Transfer (RESTful) APIs, are key to this interconnectivity and data exchange, and are especially critical for lodging systems – such as the PMS, CRS and CRM – to support IoT enablement. In the simplest terms, APIs are sets of requirements that govern how one application interacts with another. APIs make it possible to move information between programs, and they enable applications to run on top of an operating system.

Agilysys

Guest security considerations

As with virtually everything that was once new to hospitality technology, the IoT also brings security and privacy issues. Data and personal information confidentiality, authentication and authorization, and secure communication all must be addressed in advance, as part of a well-rounded deployment plan. IoT security should move toward perceiving threats versus reacting to attacks. The move toward greater autonomy for objects will bring the security of technologies and processes, and the privacy of guests into sharper focus, and even perhaps become a differentiating attribute across the hospitality industry.

Applications are practically limitless

Once security vulnerabilities are identified and addressed, the applications for the IoT are nearly unlimited. IoT is already here with many everyday items – such as thermostats, water meters and alarm systems – becoming "smart". In fact, according to a recent International Data Corporation (IDC) Spending Guide, worldwide spending on the IoT will grow from $698.6 billion in 2015 to nearly $1.3 trillion in 2019, indicating that the application of IoT is steadily growing.

For hotels and resorts, IoT systems are quickly shaping the next phase of the guest experience evolution, from devices that enable keyless entry to industrial grade sensors for measuring light, color, sound, motion and pressure.

IoT applications are almost limitless. Imagine a casino using eyeball-tracking devices that can distinguish between a passing glance and a 5-second gaze. The auto industry is already piloting this technology, and applications in hospitality are not far behind. Or, consider the combination of pressure and motion sensors that detect when guests leave the room, enabling housekeepers to schedule cleaning accordingly. If you can imagine a scenario, chances are IoT technologies will soon enable it.

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Adding to the value of IoT is data aggregation, processing and analysis, which is faster, easier, less expensive and more comprehensive than ever before. Combined with improvements in data security, development and adoption of IoT systems will continue to grow.

The role of IoT technology and guest data

Data collection happens in one of two ways: explicitly, when staff asks if the guest prefers red wine or white wine, for example; or, implicitly, when the hotel's CRM or POS automatically recognizes a repeat pattern of red wine ordering and stores that preference data. The more automated the process of data collection, the more likely you are not only to obtain more information but also to obtain more accurate information.

So how can hotels move toward increased implicit data collection and automation? Through IoT technologies. IoT-enabled devices offer data all day long – temperature, power consumption, presence of guests and more. There will be endless possibilities of what well-equipped hotels can do with all the data, provided they have the right systems in place to capture the data from IoT devices. IoT-enabled devices, and the resulting data collected, will help drive custom promotions or upsell opportunities.

Yet, for hotels, perhaps the most intriguing use of IoT technologies is in the area of guest service. Properties that want a competitive advantage will leverage the IoT to provide highly customized guest experiences and deliver targeted offers and services that enhance the guest stay.

Leveraging IoT technologies for the guest experience
The adoption of IoT technologies is going to be very quick in the coming years. Gartner predicts there will be more than 20 billion IoT connected devices by 2020. And many devices that are placed in hotels will be enabled with IoT capabilities.

As new HVAC models and elevator controls come on the market, many of the more advanced ones are likely to have IoT capabilities that will streamline hotel operations. HVAC systems that use IoT technology could report when a motor is showing signs of failing and report it to the maintenance department, for example. The presence of IoT capabilities in your hotel creates greater possibilities for more digital services and interactions that are actually desired by guests.

Start planning now
It's not too early. You might consider an incremental deployment, beginning with areas where you realize the highest return on investment and guest satisfaction. Take IoT into consideration when making technology investment decisions and partner with providers who offer systems with open architecture. This not only enables all of your networked devices to communicate more seamlessly, but also provides the greatest flexibility to customize the delivery of unique offers and services.

Whether it is the expanding needs of newer generations or the hoteliers' imagination of what they can offer and how they re-imagine guest experiences, IoT technology is a key component to bringing that vision into reality. Maximize the value of every guest engagement. Preferences change quickly. Start planning now.
∎

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Why hack a thermostat in a hotel room?

*by **Alexander Mohammed Dörsam*** in

While the Internet of Things (IoT) continues to grow and provide the basis for myriad services and efficiencies, it also poses potentially serious security threats. Alexander Mohammed Dörsam, Head of Information Security and Partner at Antago GmbH and CEO of Dörsam Cyber Defence, explains how easy it is to hack into a hotel – and what you need to do to keep this from happening.

The Internet of Things (IoT) was ranked the second most important strategic technology trend of 2015 by IT research firm Gartner in their world-renowned annual list, after Computing Everywhere, and has been included in many other technology trend lists globally.

The IoT is the network of physical objects or "things" that can collect and exchange data with each other and the Internet. Examples are all around us, from parking sensors in the mall and carts on the golf course, to almost everything in the car and the Apple watch. It is expected that 50 billion ''things'' will be connected to the Internet by 2020, so it's big and here to stay. In the hospitality industry we are seeing the first adoptions of IoT, while hotels have for years achieved energy savings and managed their buildings by using building automation, lighting control systems and guest room management technologies.

One of the biggest risks and concerns in intelligent buildings and IoT is security, but the problem is that building automation typically doesn't sit within the classic domains of IT security. Why would anyone hack a thermostat? The core focus of hotel IT security teams revolves around payment security, guest data and networks in general.

Hotels are vulnerable
Yet I would like to call attention to the vulnerability of buildings – including hotels – that use products based on the KNX protocol, which has been adopted by more than 400 manufacturers of building automation products globally. KNX is the association that administers the KNX standard and provides the backend software ETS, necessary to configure and control the KNX devices from a server. The KNX protocol originated back in the 1990s, and ever since it has been adopted far beyond its original application in private homes.

The security flaw affects any KNX device, including light switches, thermostats and even door locks, in any environment where the technology is installed and physically accessible. The vulnerability makes it possible to alter selected devices connected by KNX and to remotely control them. Can you imagine that someone could take control of a hotel's guest room management system and make all the lights in a hotel go on and off continuously or heat the rooms up to 35°C? A 100% check-out rate within hours would be guaranteed.

Since its discovery, the issue has been widely debated at security conferences and specialized industry forums, but it's yet to be resolved. Not only does this vulnerability put thousands of existing buildings, such as hotels, hospitals and airports at risk globally, but manufacturers and installers are still selling and installing KNX as if nothing has happened.

At Antago, we started working on this issue in 2013, but it was only a year later, after a hack at a luxury hotel in China due to insecure WiFi, that the issue first received public attention. Since then, this has evolved into a hardware hack and today, access to just one light switch or thermostat in any room or public area, is sufficient to gain control over an entire building.

It's surprising that despite all the information that is publicly available, including a security checklist and statement from the CEO of the KNX association, there is so little attention paid to this major vulnerability, and no solution offered.

As clearly stated in the KNX security checklist, the only way to secure an installation is to ensure there is no physical access by an unauthorized party (anybody other than the hotel management for example) to any of the installed KNX products or cables. While physical access to these devices can be prevented inside a private residential environment, this is by definition impossible to do in any public building such as a hotel.

How a live hack went down
Having contacted manufacturers that use the KNX protocol for years without success, I decided to raise awareness by reaching out to building automation vendors that don't use the KNX protocol. I received a response from INTEREL, a specialist supplier of hotel guest room management systems. Subsequently, when talking to senior IT and engineering hotel executives, we were invited to do a live hack at a luxury hotel in the UAE that uses products based on the KNX protocol.

During the live hack, I demonstrated the weakness of the KNX protocol and the impact it can have on a hotel's operation in three easy steps – and in just eight minutes:

1. Armed with a screwdriver and my KNX module with hack software (called "Thanatos"), I checked into the hotel and entered the room.

2. I removed the thermostat from the wall to gain access to the KNX bus cable, read out the KNX commands being transmitted without encryption (so-called "sniffing"), and installed the hidden device behind the thermostat.
3. I checked-out of the hotel and immediately began controlling that room remotely – as well as other selected rooms (but it could have been the entire hotel).

What was I able to do? I could remotely switch the lights of that room, or any other room in the hotel, on and off at random, make them blink, switch the AC on and off and change the temperature.

A senior global IT representative from the hotel chain where the live hack took place said, "We were shocked to see that the hotel's room management system could be hacked in just eight minutes. We are now undertaking a global inventory and audit of our KNX-based systems to understand what steps we have to take to resolve this issue."

Within days of the first hack we were invited by two other hotels in the UAE to demonstrate the vulnerability through a live hack, both of which were successful in just under eight minutes.

While controlled hacks – such as the ones performed at the hotels designed to demonstrate the KNX vulnerability, performed without actually damaging any systems – require a lot of professional knowledge and experience, regular hacks of this nature can be done by amateurs. The necessary know-how is in the public domain, the entry barriers are low, and the hardware used for this hack can be purchased online for less than eight dollars. Hacking is no longer exclusive to the professional hacking community and can be done by amateurs as young as twelve years old – which is the average age of a hacker today.

What can we do to solve this issue?
The solution is not to take the "smart" out of smart buildings, but to optimize the security of the systems used and to carefully consider security when selecting new technologies for the hotel. The Internet of Things is here to stay, and buildings will become even smarter in the future. The key is to make them more secure as well.

Unfortunately, for the thousands of hotels that have installed KNX-based room management systems, there is no proper solution other than to replace the technology with specialist hospitality systems that don't use the KNX protocol. This becomes even more critical for hotels that have their door lock systems connected by KNX, as this is an immediate threat to guest safety.

My recommendation to hoteliers and the hospitality IT community is to review their guest room management systems – and to make this a priority for 2016.

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__Alexander Dörsam__ is a consultant specializing in IT security. As a partner in Antago GmbH and head of Information Security, he deals with IT security incidents in banks, pharmaceutical companies and energy companies on a daily basis. In addition, Alexander carries out research on the security of building management systems, anti-forensic research and evidence injection, among other focal areas.

Building an adaptive security program for the hotel industry

*by **Dileep Sreedharan*** in

Cyber attacks in the hotel industry are on the rise, and in particular, this year, there has been a series of high-profile data breaches affecting payment cards and guest data. Experts had already warned that the hotel industry would be the next big target for cybercriminals. Cyber criminals are releasing technology-focused malware such as MalumPoS that are designed to target systems running point of sale systems. The industry is also facing an unprecedented technology revolution that provides innovative solutions either to enhance the guest experience or to improve the operational efficiency of staffs. For the Hotel Yearbook, Jumeirah's Dileep Sreedharan provides a practical guide to security.

The changing technology landscape in the hotel industry introduces new threats and attack vectors, and hoteliers need to take a different approach to managing their cybersecurity programs. A hotel cybersecurity program must address security threats in all the three areas of the technology stack - Information Technology (IT), Guest Technology (GT) and Operational Technology (OT).

Key challenges

IT Security focuses on protecting IT Technologies
Traditionally, IT security teams allocate resources only to manage the security of IT systems such as Property Management Systems (PMS), Point of Sale (POS) systems, booking portals, customer relationship management (CRM) systems, and others; what about an organization's critical Room Management System (RMS), IPTV, Door Lock System, Building Management System, CCTV or IPTV, etc., which has a direct impact on a guest's stay experience? Imagine if someone accesses a guest's personal laptop over the hotel's WiFi network and leaks sensitive data, or someone turns on the camera of the smart TV and starts recording, or if someone manages to take control of the temperature, lighting, or DND settings of the room. Such actions will have a serious impact on the hotel's ability to provide exceptional service – a brand promise every hotelier is striving to provide. Failure to address the security of these systems means hoteliers would have to deal with issues of privacy and reputation if they were exposed.

Converged networking infrastructure

New technologies are being introduced within the hotel, such as door lock access using smartphones, sensors to monitor energy utilization and lighting systems, location-aware marketing, etc. Integration of cloud and mobility components will further increase the risk of exposure, as they create new attack vectors.

Connected devices / Internet of Things (IoT)

The hotel industry is going to witness a massive adoption of IoT-based solutions that is designed to enhance the guest experience and improve the operational efficiency of the hotel staff. IoT-based solutions such as location-aware marketing, energy metering sensors, guard tour systems, etc., are some of the solutions that have already made their presence felt in the hotel industry. Hoteliers are even considering using drones to provide essential services such as for patrolling and delivering hotel amenities. Other systems such as smart transport, smart recycle bins, and smart streetlights are just a few among thousands of technologies that are about to be introduced. According to a Symantec Internet Security Threat report released this year, the number of connected devices will grow from 6.4 billion to 20.8 billion by 2020.

The bad news is that these technologies have been designed with limited or no security in mind. IT security teams will have to struggle to meet the privacy and security requirements of these systems. According to Symantec research, millions of Internet-connected TVs are potentially vulnerable to click fraud, botnet attacks, data leaks, and even ransomware.

Lack of security monitoring

It is important to understand that you may host a hacker in the hotel room, and all technology access points are available to the hacker. If you don't have any capability to monitor access violations, you may endanger the security and privacy of all guests staying at the hotel.

Building an adaptive security program for hotels

The security threat within the hotel industry is going to grow – and may become more complicated. Advanced Persistent Threats (APTs), targeted malware, attacks on hotel's WiFi, keyless entry systems, self-check-in, etc., are some of the new, constantly evolving threats the industry faces. As hoteliers continue to spend on innovative and smart technologies, cyber security needs to play a major role in ensuring security and privacy issues are addressed in all areas. Hoteliers need to develop cyber security programs to adapt to the changes in technology and adopt a cultural shift from a "prevent block" to a "continuous response" approach model.

An adaptive security model focuses on establishing key capabilities to implement a "continuous response" program which will help the hotelier to be agile and responsive to the new threat vectors. This model recognizes key principles of adaptive security architecture defined by Gartner, and establishes key capabilities with their essential controls which will help hoteliers analyze security threats from all angles and develop a control model that is flexible to the changes in technology.
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Capability no. 1: Prediction

The cyber security program should include capabilities to predict risks that might affect the hotel. But you can only predict if you know your existing operating environment, what technologies you are considering, and how different threat actors will exploit the changes.

a) Baseline systems – establish a baselining model for everything you do. Changes will be introduced, new technologies will be added, new vulnerabilities will be discovered, and new threat actors will be introduced within the environment. Create a continuous re-baselining approach to review those changes and focus on the threats that affect your systems. For instance, you may be upgrading your IPTV systems, and this change may require you to provide continuous remote connectivity to the vendor as part of the agreed service level agreement. This change is a deviation from your current operating environment and may require additional controls to mitigate any risks associated with this connectivity.

b) Threat intelligence – Subscribe to an industry-focused threat feed source to gain intelligence on adversaries and understand their attack types. These feeds can be then passed to the security monitoring system.

c) Analyze emerging technology trends – Security is always late in the game because they are involved only in the last stage of providing the service, and it will put immense pressure on the business to take risk-based decisions. However, security can also stay ahead if they consciously keep an eye on the technological developments in the hotel industry and develop controls to minimize or limit hotel's exposure. One best way to address this challenge is to include the IT security team with the hotel's innovation team.

Capability no. 2: Prevention

Preventive capability is one area where IT security is very much focused on the Information Technology system, but it needs to expand to other areas of guest-facing technology and operation technology.

a) Take the harden approach – Remove unwanted service and less secure protocols from all devices or applications. It is a common practice that vendors usually leave the system with the default configuration, especially for guest technologies where most vendors have limited security knowledge. Create hardening security baselining standards for all types of systems installed in the hotel network and ensure they are applied. For instance, create security standards for the IPTV system, In-room management system, guest wireless, door access control, Point of Sale (PoS) system, CCTV systems, etc. If you are providing an iPad device with application to control room management function, then those devices must be hardened and make sure only approved applications are allowed to run.

b) Isolation of system / networks – reduce the attack surface by isolating systems. Implement segmentation using firewalls to isolate systems so that even if one system is breached, hackers would not be able to penetrate to another system. Implement private network concepts within the guest wireless, so that guests can only communicate among their connected devices. If a Wi-Fi network is used to control room management functions, then you need to take measures to trust devices and secure communication channels. Implement controls on the wireless network to allow only trusted devices to connect by using a certificate or at least a MAC address.

c) Control third party access – Most systems require remote support from vendors to install the application or to provide after-sale support. Hotels have very limited IT support staffs, and they rely on vendors to provide all assistance. Analyze what type of access is needed and to which system. Implement a centralized remote access for vendors to log in to only systems under their support contract. Implement approval of a workflow-type of solution which enables the requirement of the IT staff's approval before getting access to the system.

d) Adopt the least privilege approach – Running software with reduced privileges can protect the system when exploited by vulnerabilities that take advantage of the privileges of the running user. Revoke local administrative access from all systems and use identities that have limited access to the system. Use a privilege access management solution to manage identities of privileged users such as IT administrators.

e) Use smart technologies to do basic security review – How can you make sure all of your endpoint systems, such as PCs / laptops, are running with fully functional endpoint security software? If you don't have a fully operational endpoint security software, then you won't get either visibility of security breaches or required protection. A traditional scanning approach won't work, especially when you have large, geographically dispersed networks. It is a time-consuming task for the security engineers to go and find these systems. You need to implement smart solutions to hunt for unprotected systems using machine learning methods to maximize the endpoint protection footprint.

f) Prevent incidents – Implement preventive controls to limit unauthorized access to the network. For instance, use wireless rouge access detection and intrusion prevention system to limit attack on the guest wireless network.

g) Endpoint security – Traditional perimeter-based security model is collapsing due to the adoption of the cloud and mobility solutions. Consider implementing endpoint security protection solution to protect all endpoints whether they are server, laptops, interface systems or smartphones.

Capability no. 3: Detection

Detective capabilities are designed to discover attacks on the network. The key goal behind this category is to reduce time for threat detection and therefore prevent potential damages from becoming actual damages.

a) Monitor security events – Traditional IT systems have the capability to forward logs to a Security Incident and Event Monitoring (SIEM) system. However most of the guest facing systems do not support any log forwarding options, which will limit their ability to detect unusual activities. One way you can approach this issue is by using endpoint security protection, which can apply a whitelisting model to enable only approved services and trusted connection. The logs from the endpoint security protection can then be sent to the security monitoring system.

b) Detect anomalies – The challenge is how do you monitor security violations in your systems that do not support any form of security monitoring. One approach is by detecting anomalies in the normal pattern of network traffic or endpoint behavior by using machine learning solutions. Anomaly-based detection will help you identify interesting activities such as unusual account creation, unusual connection requests etc.

c) Contain incidents – When you install a system, no matter which technology, always define a quarantine procedure. Once the incident is confirmed, your immediate response should be to contain the situation. You may want to quarantine a PC, a server, or maybe a portion of a network.

Capability no. 4: Response

Response capabilities define actions that can take place to contain the impact of the attack once it's detected.

a) Incident response plan – Establish an incident response plan that clearly defines what to do when an incident occurs, with specific roles and responsibilities of the members of the team. For serious cyber security incidents that can lead to a crisis situation, such as a data breach, an additional cyber security crisis management playbook can be created to guide senior management on how to deal with the situation.

b) Implement security orchestration to rapidly deploy policy changes to security policy enforcement points, such as firewalls, intrusion prevention systems, (IPS) or endpoint security protection software.

c) Forensics analysis – Ensure that you have in-house or a third party forensic expert to investigate an attack, contain the situation, and restore operations back to normal.

d) Booking partners – Identify your booking partners used for booking car rentals and air travel, and establish an incident escalation procedure to involve them as soon as possible when you detect a breach.

The key capabilities of the adaptive security model will enable you to define controls that can adapt to changes in the environment and help you design a "continuous response" based cyber security programs. Such a model can help you address specific threats your environment is facing so that you can limit or minimize your exposure to a cyber-attack.

Stay secure.

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__Dileep Sreedharan__ is Information Security Director of the Jumeirah Group. In this role, he is responsible for the design and implementation of cyber security program across the group. Dileep joined the Jumeirah Group as Director of Security in 2009, leading the technology division of physical security and was also involved in establishing enterprise risk management and crisis management functions within the group. Prior to joining Jumeirah, Dileep worked for NCR Corporation for nine years, heading its IT Security division in the Middle East & Africa. He holds a master degree in Business Administration and also obtained professional security certifications such as CISSP and CISA.

Total hotel revenue management? Scratch that! Call it revenue optimization!

*by **Sherry Marek*** 🔗

The exciting evolution of revenue management continues to develop in the hospitality industry. Initiatives in revenue management by hotel groups and hospitality vendors started in the 1980s, focused mostly on room revenue. Over the last few years, the official evolution path in revenue management has grown to include virtually every revenue stream, affecting colleagues throughout the property, writes Datavision's Sherry Marek. A significant amount of data is now available to the team at the property level or at the corporate level to assist in the decision making/tracking process, she says. Many properties use the term "revenue optimization" to encompass the process, and use the title in the job description.

What is revenue optimization? Total revenue optimization is essentially the application of revenue management techniques to ensure the maximum profitability in all departments.

Twenty-five years ago, the primary focus was to control market segments, booking sources and channels, restricting price, length of stay and creating better forecasts. Today, the advanced data analysis systems provide much more granular breakdown of data sets, capturing customer behavior, patterns and interests. As the revenue team reviews opportunities to improve profit throughout the property, they need knowledge of operational situations as well as the ability to research, brainstorm and learn from peers at other properties. They need to partner with the sales team to ensure that their sales process conforms to the goals and be able to create and communicate effectively with colleagues.

Involving the team

In addition to traditional selling by the reservation team, many colleagues in the organization can be incentivized to track and sell additional revenues. Upon check-in, the guest may be interested in upgrading to a club room or book a restaurant reservation. Are rooms unsold because an unexpected number of walk-ins arrived? Make sure many colleagues or other department managers can participate in cleaning a room and understand housekeeping standards for rooms, so the property does not end up with with 3 rooms unsold at 10 pm because the system marked them dirty from a room change from a few hours earlier. Define the customer internet infrastructure and ensure that the

capital is available for the IT group to install and support this expected guest amenity. If the marketing strategy involved welcoming a government rate or crew to the property, have a property-wide meeting to explain the strategy on how the bottom line profitability will improve with these lower paying guests (yes, perhaps smaller tips) for days when the rooms would otherwise sit empty.

Many restaurants utilize standard KPIs of Average Check. Some are using newer metrics to track revenue per square foot for the restaurant, or revenue per chair/seat. Review the peaks and valleys in each department's business. Understand how to yield better at the spa, golf course or restaurant during the slower hours so you can fill the midweek spa appointments or the 3 PM golf tee time or the 5 PM restaurant seat. Would discounted rates fill these voids, yet still create profit? Do the restaurants offer incentives to sell wine and desserts? Does the team selling catering understand the costs of the meals they are selling? If a special meal is priced too low, this will affect the profitability of the banqueting department. Agreement between departments should be reached prior to agreeing to an RFP or promotion.

Reducing costs in revenue optimization
It's not enough to "tighten the belt" when the economy is in a downturn or when a major event such as SARS, 9/11 or the 2008 economic crisis hits. Daily, many report on the RevPAR (Revenue Per Available Room), TRevPAR (Total Revenue Per Available Room) or at month end, with all expenses and revenues reconciled, report on GOPPAR (Gross Operating Profit Per Available Room).

Some additional goals for reducing expenses could be found in labor, breakage and energy costs. Most properties today have established labor standards for each position for specific work tasks. In Housekeeping, cleaning a room for a stayover guest may be different than for a checkout guest. Cleaning a standard king has a different Minutes Per Room Labor Standard than a 1 bedroom suite. Reduce laundry loads by gently encouraging guests to reuse their towels. If the program is not successful, check the wording with peers at other properties. If worded well, this saves both on daily laundry costs and overall life of the towels and linens. The Association for Linen Management documented hotels saving up to $6.50 per occupied room with such programs. Starting in the 80s, hotels added monitors for energy consumption in virtually every major point to understand and control energy cost savings. A 10% reduction in energy costs is equal to increasing the ADR by 2.5% in some properties.

The use of data
How to manage all these data points? No man is an island, and the same is true for managing total revenue optimization. The revenue optimization team consists of many people sharing key data to ensure that decision makers are working from consistent data sets. The team needs the disciplines of analysis, communication, collaboration, and operational knowledge to implement new KPIs. With or without an automated practice,

simple spreadsheets can be maintained to track the KPIs and ensure the tasks are on track, both from a timeline standpoint and from that of yielding greater profits.

There is more guest data available today than we had 20 or 30 years go. The key is to capture customer data for future use and ensure technology is set up at the property to capture the key data points needed today. For example, when properties initially built web sites, they often included the link to a web service for booking the actual room nights that is interfaced with their PMS. But they didn't include a final landing page back on the property website, thus losing the ability to easily track booking conversions. There are multiple theories on the number of views or looks on a website before it is booked, so it is important to understand accurate website bookings conversion ratios. Landing pages are also linked to specific marketing campaigns to enhance the booking process and determine the success of ads. Different landing pages recognize factors for driving conversions for different customer segments. A property that frequently has small family groups (but too small to be a group in the sales booking engine), wants an easy way to book 5 to 6 rooms and update changes. Tracking room rates and social sentiment of competitors, weather, flight capacities, local events, regrets, and other data sets leads to a more accurate market view, thus more strategic pricing for the property.

Customer Relationship Management (CRM) and Business Intelligence (BI) software provide a wealth of data and understanding of customers: purchase history, social media comments, and interests (in and outside of the properties). There are big data companies that can scan a list of people, finding their social media accounts on Twitter and Instagram, their LinkedIn profile, etc. and compile a list of interests. This may help a property sell packages for the local sports events or delight repeat guests with unique gifts. In addition to knowing where the guest is spending money, it is beneficial to know their tendencies and requirements. CRM systems need to track the lifetime value of a customer in addition to their communication preferences – text vs. e-mail, etc. BI and CRM data sets need to be comprehensive: customer comment card scores, competitor occupancy, Google Analytics, e-mail exchanges, SMS text messages to/from the front desk, interaction with the spa team, Twitter exchanges, Facebook comments, etc. The full guest experience should be available in one source to understand guests and their interests.

Today's customer is often more business savvy in revenue management techniques, since pricing optimization is discussed in many industries today besides airlines and hotels. Customers
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expect the ability to negotiate for a better room, look for flash sales on Cyber Monday and expect to find lower rates in the shoulder seasons – for instance in October in Miami, at the height of hurricane season.

The design of E-commerce sites is much better today. Fifteen years ago, RM teams used multiple awkward, unwieldy green screens that proved cumbersome to update pricing and restrictions. Today, the systems used to update RM strategies in the online environment provide better connectivity among many distribution sites. A time reducing, hair-saving solution!

The future
Literally every industry is applying RM techniques to the products it sells. It's not just at hospitality management schools where this is studies; many MBA programs now include classes addressing RM. In 2002, Columbia University's graduate school offered an elective called "Pricing and Revenue Optimization". Articles can be found explaining RM techniques to publishing executives, retailers and even managers at the local Starbucks. Starbucks actively uses their CRM and their customer purchase patterns to entice their "Reward" members to purchase new items or return at another time of the day for more rewards.

Rinse and repeat (i.e. measure and review)
There is a familiar saying: How do you eat an elephant? The answer: one bite at a time. If a revenue manager is the only one reviewing data and squinting into the computer screen late at night, it is time to share the wealth of data with other department heads in Sales, F&B, and Front Office; involve Finance and IT to help set up tracking or better connectivity between systems that show the trends; and involve department heads who can offer insight into the current operations and how they can be adjusted to increase revenue. In the beginning of the RM cycle, many speculated that revenue management was a blend of art and science. Many revenue managers grew to understand that bad weather on the weekend caused more short term cancellations.

Make sure housekeeping and restaurants are aware of these trends. This gives them time to change staffing levels or work on other projects to the benefit of the guests. Determine short term and long term goals for the year and goals for the next three to five years. By using accurate and useful data, the revenue optimization process will be ingrained in the property's culture, allowing them to maximize profitability while ensuring guest satisfaction.

Another advantage of involving multiple department heads in the revenue management process is that it should result in better forecasting from each department as everyone understands the goals and (hopefully) gets their data from the same trusted sources. A revenue optimization team may have many goals and ideas, but the end game is to establish a strategy that is agreed on by multiple colleagues to maximize profitability across the property. The team should be agile enough to evaluate and measure metrics, communicate without barriers, shift focus and rearrange priorities based on results in real time. And don't forget the key step – as each milestone is achieved, celebrate the success with the whole team!

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Boosting direct hotel bookings with personalization as the solution

*by **Kristian Valk*** in

In the past few years, we have seen an increasing effort by hotels to improve their direct channels so as to reduce their dependence on online travel agencies (OTAs). Hotelchamp's Kristian Valk writes that hotels should not get rid of OTAs and third parties but aim for a better balance to manage control over their own distribution.

Looking back at the past decade, hotels based their digital marketing strategy and budgets on channels and third parties such as OTAs in order to gain more bookings. In recent years the battle for online hotel reservations has come to a boiling point; hotels pay more commission and advertising costs each year as they cannot compete against the advanced technology of OTA websites. Globally, hotels are searching for solutions to improve sales through their direct channels, engage with potential hotel guests and drive more direct bookings via the general customer journey.

The chances and challenges for hotels

Extensive research proves that the majority of people visit hotel websites for more information, mainly related to visual impressions and price. This is known as "the billboard effect". However, between 97% and 99.5% of potential guests leave the hotel website without completing a booking and tend to continue their search with OTAs. These websites focus purely on conversion, neglecting the customer experience, whereas hotels have to differentiate themselves against their competition.

Hotels should not get rid of OTAs and third parties but aim for a better balance to manage control over their own distribution. This is part of fixing the basics; revenue managers must

have a clear pricing strategy on their distribution and ensure they offer the best rate guaranteed via their direct channels. Besides optimizing their pricing strategy, hotels should also be critical on the user experience of their well-designed websites, booking engines and mobile presence. The healthiest and most profitable channel in the whole distribution range is of course the direct hotel website where no or little commission is involved. On average, an online customer journey exists of visiting 22 different websites before a guest finally decides to make a booking. Considering the customer journey, making a direct booking on the website should be convenient – and that's exactly the point where hotels should start optimizing their conversion rate.

Solutions based on personalization

On aggregating websites such as metasearch and OTAs, every hotel is presented in the same way. For this reason people tend to visit the specific hotel website in order to be convinced it is the right option for them. If hotel websites are able to catch the visitor's attention based upon their specific needs and requirements, this is where the magic happens.

During the onsite booking journey, people already share a lot of quantitative and qualitative data. For example, there are a lot of

Hotelchamp

anchor points in the calendar, such as specific days and dates of the stay, and whether it falls upon weekdays, weekends, high-season, low-season and public holidays. Additionally, further data can be collected based on their room preference (i.e. single rooms, double rooms, executive rooms and suites), number of guests, including number of adults and children, as well as specific requirements for the stay (business meeting rooms, spa treatments, weddings packages etc). Based on our research and experience, we realized hotels do not analyze and use this data to instantly provide potential guests relevant triggers based on their preferences.

The onsite booking journey of a potential hotel guest provides a wealth of digital information which hotels can easily use and apply to smarten up the customer journey for each individual website visitor or visitors with the same preferences. Hotels can create and identify different audiences and be creative to offer personalized and relevant services. Interacting and engaging with predefined audiences makes direct website visits much more relevant.

Instead of a static website, hotels should explore solutions for dynamic content that is based on the needs of the guest to influence decision making. The famous theory of Professor

Cialdini and the persuasion principles, which are often used in the hotel industry are one of the most used triggers to influence people in decision making and can be adapted online. While entering the battle for the online hotel reservations, hotels should find out what works best for their potential hotel guests through a/b testing. They cannot rely on assumptions. Impact can be made with personalizing the customer journey, next level engagement and interactions.

Hotels should benefit from the fact that the majority of potential guests do visit brand websites. By using the same level of conversion knowledge and advanced technology as the global giants, hotels can convince their visitors to book directly and positively impact customer engagement as well as establish the right balance in their booking channels.

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Ride the wave: The analytics tsunami is upon us

by Paul van Meerendonk in

With the sophistication and adoption of analytics growing tremendously, there's a massive opportunity to evaluate your own analytical capabilities – both as part of an organization or as an individual – and map out how analytics can move you from being reactive to proactive and predictive in revenue management, says Paul van Meerendonk, Director of Advisory Services, IDeaS Revenue Solutions.

I speak a lot at industry events about the power of today's sophisticated analytics. With many unique challenges facing the industry today – notably around an increasingly competitive distribution landscape – hotels are looking for the best ways to account and solve for the complexity in the market.

With new entrants (such as Airbnb and Google) and growing powerhouses (such as Expedia and Booking.com) posing a potential problem for hotel direct business, discussions have been taking shape around how to tackle these mounting revenue management and distribution challenges. The emergence of important concepts like big data, machine learning and business intelligence are landing at the forefront of many conversations, but they can all mean different things to different people. What they all have in common, however, is they are all components of the sophisticated analytics available in today's world.

The analytics tsunami is here, and it's engulfing revenue management with no signs of stopping – nor should it. Analytics uses data mining, machine learning and statistics to churn out optimal pricing and inventory decisions for hotels. And with the sophistication and adoption of analytics growing tremendously, there's a massive opportunity to evaluate your own analytical capabilities – both as part of an organization or as an individual – and map out how analytics can move you from being reactive to proactive and predictive in revenue management. This is what will set hotels apart from their competitors: everyone has access to the data, but creating meaningful action out of that data is the key.

Analytics help to move beyond the normal revenue management processes. They start harnessing data and forecasting capabilities to explore, predict and optimize revenue results. Today's analytics can explore why patterns and trends are happening so hotels can predict whether they can expect similar, or different, results moving forward – and this is where analytics becomes really exciting. By determining why specific results are emerging – and if you can expect them to continue – you can start to optimize them. This happens when you take action to get the best effects and deliver revenue performance. As a result, you get truly prescriptive analytics that not only predict what will happen, but how and why. Hotels then develop strategies that allow them to anticipate the impact of those strategies on their business.

There are many aspects of analytics that play a role in delivering optimal results: High performance forecasting capabilities provide a dynamic selection of hundreds of forecasting algorithms and models to give the best possible results; granular data and decisions can be provided for multiple hotels by departments, segments, room types, day parts and rate codes; predictive analytical tools allow you to understand the impacts of changing your strategy; advanced pricing and inventory controls maximize revenue opportunities; and expanded data sources such as reputation, competitive performance, rate shopping, travel intent and demand intelligence can be integrated into your decision outputs.

To take advantage of these approaches and ride the analytics wave, there are three key components to take into consideration:

- **Technology**: Do you have a best-in-class infrastructure and the right tools available? The benefits of sophisticated analytical technology provide a solid foundation from which to build a performance strategy. It is important that technology leverage those sophisticated analytics and apply them in an automated fashion to keep hoteliers focused on the strategic while the system can deploy the tactical.

- **Processes**: Optimal processes should not only take advantage of the analytics outputs, but almost as importantly, the inputs. To make analytics work effectively for your organization, the company culture needs to be geared towards a common goal of data integrity and effective implementation of analytical decisions. If an organization is focusing on optimizing profit they must begin to understand and track costs in order to support those business goals.

- **People**: Who is going to apply sophisticated analytics in your organization? Increasingly, the role of a data scientist is becoming an essential component of an effective revenue management strategy. In-house resources are becoming more commonplace in the larger organizations. Cross-departmental data scientists can apply their skills where needed at the right times, while balancing the overhead costs to maintain a new industry role. External resources and third parties that can provide analytics as a service are also available. Dedicated support services for your analytical technology and processes will ensure you can perform at your maximum potential.

These three components are equally important and, in order to leverage the power of analytics, hotels must address their strategy for technology, processes and people – and how each piece impacts the other. A hotel that has a well thought out strategy on managing their data is certainly building a strong defense against their competition and ultimately, a better offense for stealing market share. Accounting for each of these components will ensure the most optimal revenue results – helping you confidently ride the analytics tsunami and avoid drowning in today's sea of big data and distribution.

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About IDeaS

With more than one million rooms priced daily on its advanced systems, IDeaS Revenue Solutions leads the industry with the latest revenue management software solutions and advisory services. Powered by SAS® and more than 25 years of experience, IDeaS proudly supports more than 7,000 clients in 94 countries and is relentless about providing hoteliers more insightful ways to manage the data behind hotel pricing. IDeaS empowers its clients to build and maintain revenue management cultures—from single entities to world-renowned estates—by focusing on a simple promise: Driving Better Revenue. IDeaS has the knowledge, expertise and maturity to build upon proven revenue management principles with next-generation analytics for more user-friendly, insightful and profitable revenue opportunities—not just for rooms, but across the entire hotel enterprise.

www.ideas.com

HFTP - Advancing on many fronts

*by **Frank Wolfe*** in

Hospitality Financial and Technology Professionals (HFTP) is a professional association with an ardent dedication to providing continued professional development and industry resources. It is also a long-standing supporter of the Hotel Yearbook. Frank Wolfe, the organization's CEO, provides a briefing on the association's latest activities.

HFTP uniquely understands our industry segment and assist our stakeholders in finding solutions more efficiently than any other organization because of the expertise of our volunteers and their dedication. Our commitment to our members and our industry has been the driving force of HFTP since its inception in 1952. As the industry evolves, we've remained on the cutting edge so that our members are prepared for whatever occupational obstacles they may face.

We know our members are busy professionals so it is crucial that we are strategic in how we deliver information. Resources such as The Hotel Yearbook are wonderful for compiling outstanding content in one convenient package. This is very much the approach HFTP takes in its new slate of information sites: HITEC Bytes, HFTP Club Bytes and HFTP Finance Bytes. These sites are constantly being updated with the latest news and information in their respective fields. Another site, HFTP News, has a similar approach, but with news and reports from the association and its research centers. These sites join PineappleSearch – the hospitality-specific search site, as incredibly extensive yet equally specific tools for compiling hospitality news.

We were excited to report last year that we were on track to expand HITEC® (Hospitality Industry Technology Exposition and Conference), and we are even more excited to report that in 2017, two new editions of HITEC will become a reality. In March 2017, HITEC Amsterdam will bring the conference to Europe for the first time. Fall 2017 will see the debut of HITEC Dubai which HFTP is co-producing with Naseba. These conferences will join the traditional North American edition which takes place at the end of June in Toronto. HFTP will continue its popular Annual Convention in Orlando for 2017 and several regional conferences and chapter events are on the schedule as well.

Sometimes it isn't possible to travel to one of the many events HFTP offers, and we understand that. The educational offerings do not stop at our conferences, they continue in the form of ProLinks webinars. These presentations focus on the latest happenings in hospitality and they provide industry

professionals not only a depth of information but also a chance to earn continuing education points. These incredible resources are free for our members and remain available in our archive for viewing at a later date.

These items are truly just a sample of the resources that we provide our industry. Our conferences, events and even online community (Community@HFTP) are designed to bring industry leaders together so they can share their experiences. They provide an amazing support system to one another that allows everyone to improve. This is exactly the approach that HFTP has when it comes to working together with other hospitality groups. HFTP aims to grow and support the hospitality industry and that goal is far more realistic when you have exceptional allies. Please enjoy the following information from one of HFTP's exceptional allies, The Hotel Yearbook. ∎

HITEC 2017

HOSPITALITY INDUSTRY TECHNOLOGY EXPOSITION AND CONFERENCE

Triple the Tech

The world's largest hospitality technology event is expanding in 2017. HITEC delivers a top-notch education and expo program backed by 45 years of planning expertise from the only organization that globally produces nonprofit hospitality conferences — **Hospitality Financial and Technology Professionals**.

Join industry professionals at one *(or two or three)* of three to cover the latest trends specific to hospitality technology.

Explore the HITEC portfolio of events
at **www.hitec.org**.

HITEC	HITEC	HITEC
AMSTERDAM	TORONTO	DUBAI
March 28–30, 2017	June 26–29, 2017	Fall 2017
		A partnership with Naseba

Produced by **Hospitality Financial and Technology Professionals (HFTP®)**, an international professional association with a network of over 5,000 hospitality finance and technology professionals across the globe, in-person and online education opportunities, industry research reports and numerous leadership opportunities. Details at **www.hftp.org**.

Technology pressures on today's property management systems

*by **Jos Schaap*** in

Hotel property management systems (PMS) have been around for a long time. They have evolved over time to become highly sophisticated and impressive business tools. But as Jos Schaap, CEO and Founder of StayNTouch, reminds us, from the days when a System36 with a hard drive the size of a bathroom mirror was the envy of hoteliers around the world to today's cloud solutions, one thing has always remained a constant: the requirement for the PMS to connect seamlessly to as many things as possible technologically.

Property management systems are considered to be the heart of a hotel. They keep it beating and ensure that the operations of the hotel are optimized and running smoothly. Some people have referred to them as glorified cash registers, but they are so much more. The PMS does indeed help hotels manage their revenues, but it also connects a myriad of systems to ensure that all facets of a guest's stay are recorded and ultimately measured. It connects to back office platforms, guest rapid response systems, restaurant and gift shop systems, phone systems, hotel's central reservation platform, door locks… the list goes on and on.

However, times are changing at lightning speed, and the pressure on the property management system to deliver and connect to new and innovative platforms is becoming chaotic. Emerging technologies, guest demands, and business needs require the property management system to be flexible, open and most importantly, geared towards guest service. Gone are the days when having a great product or a competitive price was enough to succeed in the marketplace. Service differentiation is now among the highest priorities within the hotel landscape. Every day a new entrant is touting the virtues of engagement with guests and letting guests choose the type of interaction they want using whatever device they happen to be using at any moment. The most prevalent of course being smartphones and tablets. Mobile devices are expected to unlock the door, send and receive messages between hotel operators and the guest, deliver promotions and upsell products to the guest – oh, and still function as their phone and camera.

Guest engagement has gone from being just an industry buzzword to profoundly changing the way that hotels interact with and serve

their guests. However, it goes far beyond enabling guests to check in using their mobile device and sending them messages. Primarily, hotels are focused on delivering service and driving revenues. These two things go hand in hand, so operators need to fully understand what their brand's mobility strategy is and how their hotel is going to be able to provide what the guest wants at every touch point, without becoming intrusive and alienating them in the process.

As technology-driven change accelerates, hotels need to untether their employees from their current antiquated systems. We live in a new world where advances in connectivity and technology have essentially freed us from "being chained to our desks" and offices. So why, as an industry focused on hospitality, do we still insist our front line employees work in such an antiquated, restrictive fashion?

HOTEL GUESTS: ENGAGEMENT AND SPENDING BY GENERATION

In the hospitality industry, about one in five customers on average are fully engaged. This percentage is relatively consistent across generations. But when it comes to spending, engaging guests in Generation X offers a stronger potential return on investment, as they outspend all other generations on average.

Generation	% fully engaged	Average spent at the hotel visited most frequently in the past 12 months
Millennials	20%	$351
Generation X	22%	$538
Baby Boomers	25%	$468
Traditionalists	26%	$471

With all of these new requirements, apps or web native solutions, the industry faces a challenging issue – and it is all about "face time". In most cases, front desk staff greet the guest, and then redirect their attention to the screen of the property management system to locate the guest information and folio, make sure the data is correct, check them in and then encode their room key. For most of this time, the front desk agent is disconnected from the guest. The converse applies to the guest. They are likely distracted, always looking at their phone to check in on social media, so their friends know they have arrived, or sending out a tweet. They may even be receiving a location-based push notification from the hotel about specials in the restaurant or guiding them to a fantastic spa deal.

There will always be guests that want to do away with the pleasantries surrounding the service aspect of a hotel – at certain times anyway. They just want to go to their room, relax and possibly do some work, get room service and check out in the morning. The challenge lies with the guests who still want to receive exemplary, relationship-based service.

In the past few years, we have seen Software as a Service PMS solutions that are transforming the way the industry functions. Hotels no longer require a front desk computer to track, measure, monitor and account for every aspect of a guest's stay. These cloud-based solutions run on tablets, smartphones and empower hotel employees to deliver exceptional face-to-face service. They also enable employees to create a relationship with the guest and maybe, just maybe, sell them more services or products that will enhance their stay. Not only can this mobility empower front desk staff, but other departments within the hotel can now, using a tablet or smartphone, truly connect and engage with the guest when the opportunity presents itself.

With travelers seeking personalized interactions, it is important for hotels to connect with them in a way that goes way deeper than the usual hotel-guest relationship. Continued advances in mobile, data and the Internet of Things create additional possibilities for the new cloud-based PMS to impact the evolution of hotel service and operations. And, even though we may concentrate on new technologies shaping the future of hospitality, if you really think about it, all of these elements are only important in how they help us to enhance guests' experiences with our brands.

This is the future, and the future is now.

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STAYNTOUCH®

THE NEW WAY...TO HOTEL

Hotel apps: What's next?

by **Roger El Khoury** 🔗

In an increasingly competitive environment, with mounting pressure on profitability, hoteliers continually look for ways to make their operations more efficient while ensuring an enhanced guest experience. Not an easy feat, writes Roger El Khoury, Managing Partner of NEORCHA, but one where mobile applications have a big role to play. Here's how.

I think it's safe to say that mobile is here to stay. Hotels have been investing heavily in their digital presence, from responsive websites and social media strategies to online distribution and mobile applications, to ensure they respond to the changing behaviors and expectations of their guests. Hoteliers are increasingly using mobile to attract guests to their hotel, and in turn, travelers have become more familiar and comfortable with researching and buying travel online. The question now is, what can hotels do to enhance the guest experience and upsell their services once guests have arrived at their doorstep? With booking and other pre-arrival services covered, what's next for hotel apps?

In the 2015 GBTA Business Traveler Sentiment Index™, 55 percent of global travelers said that their overall business travel experience is enhanced by the use of mobile applications that are provided by travel suppliers, event organizers or travel destinations. In the same study, 61 percent of travelers said that in the future they would be "interested" or "very interested" in using GPS navigation tools to find services when they travel. In the 2014 Fortune and Travel+Leisure magazines readers survey, 55 percent of readers identified hotel WiFi as the most valued hotel amenity, while 71 percent of business travelers sneaked in some sightseeing and shopping time in between meetings. The opportunities to upsell hotel services are infinite, but how can hotels use mobile apps to take full advantage?

Apps can streamline hotel processes and reduce hassle for guests. A good example is mobile check-in/out, which is seen as one of the most critical guest satisfaction triggers as it's the first and last impression the guest has of a hotel. Many hotel companies are still struggling with this often cumbersome process because of legal requirements, local regulations and credit card authorizations. Mobile technology is increasingly used to enhance this process, which has a positive impact on guest satisfaction and reduces cost, as less paper and manpower is required once it's automated.

When adopting mobile check-in, it's vital to look for technology solutions that comply with local government regulations and that are easily integrated with your hotel's own management systems. Once deployed, hotels benefit from capturing accurate data and preferences from guests before they arrive, streamlining check-in processes and reducing waiting time, and proactively engaging with guests, for example through in-app messaging.

Once mobile is effectively used to simplify check-in, the question becomes how we can make hotel stays smarter and simpler between arrival and departure; the most critical point of the guest lifecycle.

Mobility, combined with the use of beacon technology, allows hoteliers to proactively engage with guests – on-and offline –

throughout their stay. Integrating check-in with a hotel's loyalty program, for example, allows for personal preferences to be captured at any time, allowing the app to instantly personalize a guest's stay; from automatic room assignments and instant loyalty redemptions, to push notifications for offers and promotions. Or why not offer the services of a virtual concierge on your hotel app that won't just provide useful tips and information about the destination, but also books restaurants and entertainment before the guest arrives? That's a lot of potential additional revenue before the customer arrives.

Another powerful application of beacon technology on a mobile app is tracking and maximizing the movement of guests; offering a personalized greeting when they arrive at the hotel (or even the airport), alerting housekeeping, getting a car out of the valet as soon as guests are ready to leave, or guiding them to different points of interest and services within the property: It's all possible. Internal marketing teams benefit equally from movement tracking, being able to identify popular hubs for guests within the property as ideal spots for digital signage or pop-up stores to promote hotel services.

Once people accept the use of this form of "Big Data" and experience the benefits of better service, more personalization of the hotel guest experience will be possible with less manpower and at a lower cost.

The future of apps is bright, smart and simple – but only if you can secure enough downloads and active engagement with the technology. I am often asked the question how we ensure the use of apps. Here are a few tips:

- Integrate your hotel loyalty program; offer special rates and privileges for members if they book through the app and let them redeem points in real time
- Add a QR code to your marketing collateral, pre-arrival communication and website to make it easy for guests to download the app
- Offer film streaming subscriptions with each download
- Incentivize guests to download the app to simplify and enrich their stay; reward them for pre check-in use of the app
- Provide instant messaging with staff members and management
- Allow guests to use the room phone via the app, to connect with their family and colleagues at no cost, on their own device
- Extend location-based services, including way-finding, to guide guests through the hotel
- Offer keyless entry with the app

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Boosting innovation in the HoReCa business

*by **Olaf Koch*** in

There are historically valid reasons why so few technology-based innovations were adopted by the hospitality business, writes Olaf Koch, CEO of Metro AG. But these reasons no longer hold water, and that is why his company goes to such lengths to help hospitality innovators develop their ideas and bring them to market.

The HoReCa sector is one of the largest and oldest industries of the world. For literally thousands of years, passionate people have created businesses, which are based on culinary competence, personal service and memorable experience. The sector is built on tradition, and in fact many businesses have been in family ownership over many generations. The very large number of entrepreneurs who drive this sector is a great foundation for the future.

It is remarkable, though, that the sector has experienced little modernization. Beside the introduction of new kitchen equipment and utilities, the value chain has hardly been adapted. That is true for almost every part of the business, from supply chain to customer interaction to administration. Most of the work still is manual and analog. The operating system in many ways is the brain, a pencil, and piece of paper.

By comparison, other industries like automotive, transport, consumer goods, and financial services have been optimized over decades. Their introduction of new methodologies and systems has accelerated the flow of goods, massively improved efficiency and quality, and enhanced their productivity. This has created trillions of value.

This raises the question: Why did such modernization not reach the broader HoReCa sector? There are various answers to this question.

First of all, technology was very expensive. It was simply not attractive to consider the acquisition of a sophisticated system which required significant investment in hardware and software. Today, this has massively changed. Technology costs have come down to a fraction of what they used to be, with smartphones being as powerful as high performance PCs ten years ago.

Secondly, only very few technology companies considered the HoReCa market to be attractive. Therefore, only a small number of solutions were available. Nowadays, this is also completely different. A significant number of solutions are emerging that can help HoReCa entrepreneurs to improve their businesses.

Thirdly, the HoReCa market is very fragmented and therefore difficult to reach. A community of literally millions of entrepreneurs cannot be reached with standard sales force approaches.

In summary: The preconditions for modernization have improved massively, but there are still significant hurdles to overcome.

For us at METRO, it is of utmost importance to make a contribution to our clients. We aim to be the champion of independent business and as such, we always seek new ways to support our customers in optimizing their business. This includes locally tailored assortment, value added services, advisory and training as well as solutions. Our ambition is to build lasting relationships and to become an active member and contributor to the HoReCa sector.

In this context, we have started to explore digital opportunities three years ago. At that time we raised two questions:

- Can digital solutions really create substantial value?
- And are there enough of them available?

We quickly identified a quite large number of solutions, which can substantially improve the business of our clients. They range from online reservation, ePOS solutions, reputation management, quality control through to HR and payroll tools. We also identified the need for substantial business development to make these solutions solid and reliable for our customers. In order to achieve that, we teamed up with Techstars, a US-based company which has been professionalizing business building for more than ten years. Together we conduct programs which are perfectly tailored to turn a great idea into a solid business.

However, a key challenge remains in all this, namely: how to reach customers. We at METRO are absolutely committed to playing this role. Our unique international presence and coverage make for a perfect platform to introduce, roll out and scale new solutions into a wide number of HoReCa businesses. In line with our strategy to contribute to the success of our customers, we will undertake significant efforts to turn this potential into reality. By doing this, we will make a contribution to our customers, we will make a contribution to the innovators, and finally we will make a contribution to the HoReCa sector.

We are convinced that a great future lies ahead for the HoReCa industry and we are glad to be part of it and to play a vital role.
■

About METRO Accelerator for Hospitality

The METRO Accelerator for Hospitality powered by Techstars is a highly selective mentorship program for technology-first startups across the entire value chain of hospitality and food. Each year the METRO Accelerator invests in ten companies who gather in Berlin for 13 weeks to grow, accelerate and scale their business concepts with unprecedented access to resources from the METRO and Techstars' network.

- *An offer of €120,000 worth of investment*
- *Access to METRO's experts and leadership*
- *Mentorship from key METRO and Techstars executives and leaders, other hospitality and food tech industry leaders, venture capitalists and experienced entrepreneurs*
- *A free dedicated working space in the heart of Berlin for the duration of the program*
- *A high stakes Demo Day at the conclusion of the program where each startup group presents its product and solution to hundreds of investors*
- *The opportunity to become a lifelong member of the METRO and Techstars alumni network*

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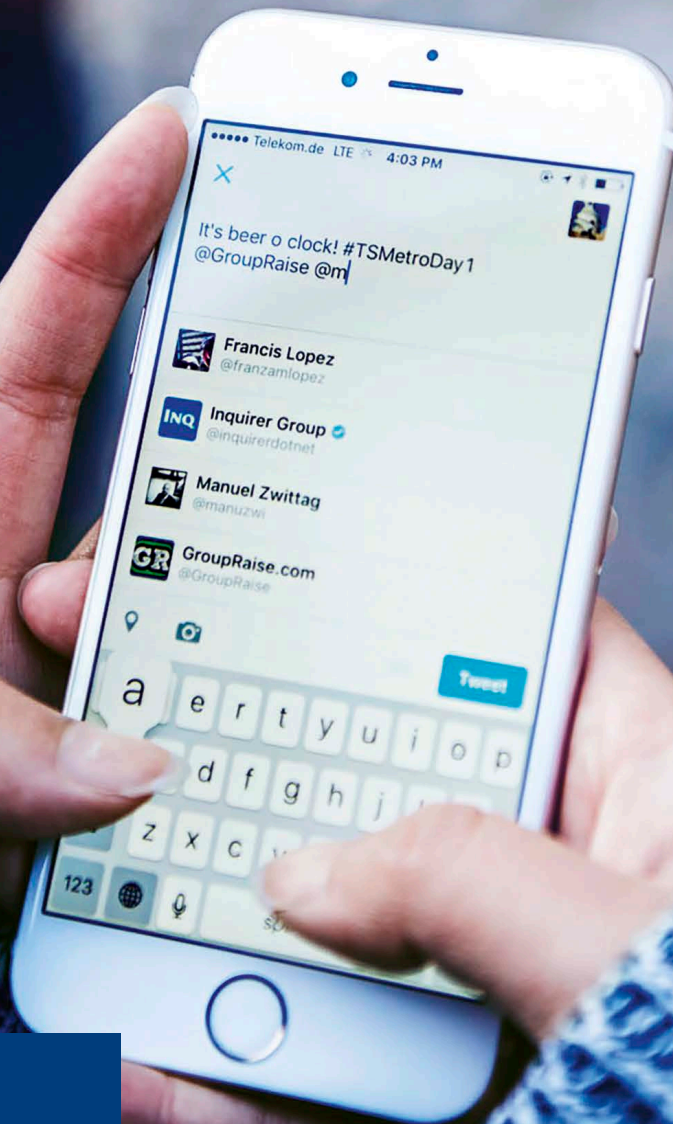
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What to do when being an astronaut is not an option any more

*by **Jens Lapinski*** 🅛

Helping tech entrepreneurs is a way to influence the future, says Techstars' Jens Lapinski. He explains how he got started in the start-up business.

My dad had a hobby when he was a kid. That hobby was science fiction literature. He had a huge collection of books during his childhood. I started to read them after we visited my grandmother and picked up boxes and boxes of books. I was hooked on Sci-Fi from age eight. My biggest dream always was to become an astronaut.

When I was 12, I broke my back in an accident. I was in hospital for some time, had to learn how to walk again. I have not been allowed to do many types of sports since then. Obviously, the accident also disqualifies me from going on a rocket.

At school, I was always better at natural sciences than the humanities, so I studied biology. I got a scholarship to go to the UK where I managed to get the scholarship to attend the Institute of Biotechnology at Cambridge for my PhD. That experience changed my life in more than one way.

The Institute was founded and run by Professor Chris Lowe. Chris was a serial entrepreneur who had not only founded several biotech companies, but also the Institute itself. Every project in the Institute had an industry-facing or entrepreneurial angle to it. So did mine.

One of the things that I learned at the Institute was that if you want to create a successful new technology or technology business, you can't do it by yourself. You need other people to do it with. The most important support you can receive is typically not (just) cash, but advice and guidance.

In more than 15 years of joining a startup, building my own startup, as well as building a startup studio, I have realized that the more you give, the more you'll get in return. It was for that very reason that I joined Techstars. The Techstars motto is #givefirst. Right now, there are about 150 employees at Techstars and all of them comply with this ethos.

Supporting tech founders and helping them grow their business is my way of building the future. Here are the ten startups that I have been working with this year. I can't fly to the stars, but maybe some of them will become rocket ships.

#givefirst

Jens Lapinski is a Managing Director at Techstars where he invests in ten technology startups per year. He founded the Berlin office in 2014, which has quickly become the second largest location for Techstars globally, after New York.

About Techstars

Techstars is a global ecosystem that empowers entrepreneurs to bring new technologies to market wherever they choose to live. With dozens of mentorship-driven accelerator programs and thousands of startup programs worldwide, Techstars exists to support the world's most promising entrepreneurs throughout their lifelong journey, from inspiration to IPO.

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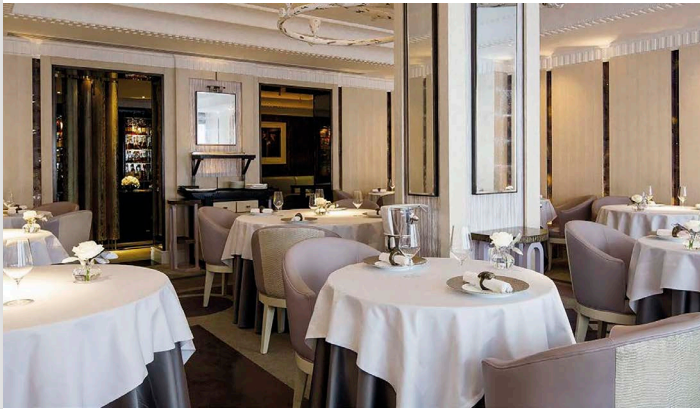
Apparier matches your restaurant's customers' personal preferences with your passion for food, hospitality and your finest experiences, transacted at a premium and in advance of the customer visit, all year round – vastly increasing your restaurant's profitability. Our solution, adopted by your restaurant, works seamlessly across all of your existing customer touch points by simply converting a customer's personal preference to sit at the best table at the best time on the best day and pay a premium – and in advance of his visit. Eradicate no-shows from your highest occupancy times and improve the efficiency of your back and front of house by knowing in advance your customers and their selected menu or experience. Apparier is re-defining reservations, by facilitating the restaurant's desire to improve the full customer experience, and in doing so, driving substantial improvements in profitability.

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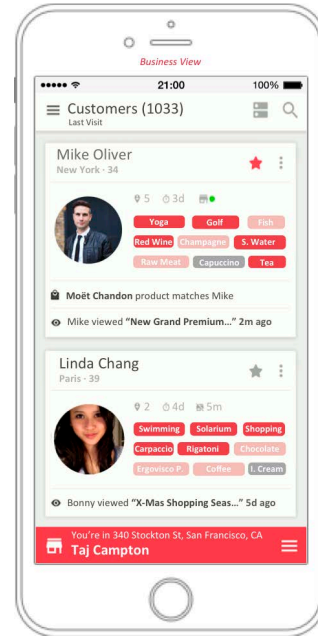
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Cheerfy is the on-premise customer engagement solution for high-end hotels. Cheerfy boosts hotels' knowledge about their customers, enabling highly personalized interactions that drive loyalty and increase revenues. By integrating hotels' existing Wi-Fi network and their CRM/PMSs, Cheerfy identifies customers as they walk into the hotel, or an area within the hotel. This gives hotels the unique chance to automatically engage guests with highly personalized messages. Even more, by notifying hotel employees of the arrival of VIP customers, they can treat them to a greater personal experience and make them feel special! Cheerfy key advantages are:

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hyre

hyre eliminates the need for staffing agencies by directly connecting event organizers with trained event staff personnel..
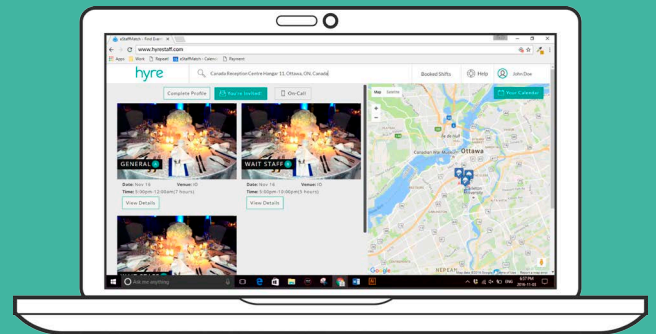
The main problem in the event staffing industry is the low quality staff provided by staff agencies, for astronomical fees. They often charge twice what the staff are actually being paid. But event organizers have been forced to pay that money as there have been no other options to hire temporary staff – until now. hyre is an online marketplace that is revolutionizing the event staffing industry by connecting event organizers with high quality event staff. For event organizers, hyre is the easiest and fastest way to staff events. Organizers are given complete and total control over price and quality of staff through the platform's unique performance rating system. For event staff, hyre is the most convenient way to book shifts, allowing them to have flexibility and entire control over their schedule. The platform's rating system also helps them stand out and rewards great performance with higher earning potential.

www.hyrestaff.com

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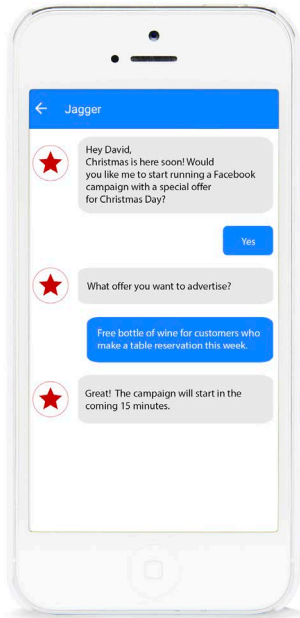
★Jagger

Chatbot assistant for restaurant managers

Jagger is a virtual marketing assistant for restaurant managers that provides the easiest and fastest solution to build effective online marketing campaigns. It helps save precious time and thus increases the number of customers. Due to their busy schedule, many restaurant managers don't have the time or the knowledge of how to run smart online marketing campaigns. As a smart chatbot assistant with artificial intelligence capabilities, and having a messaged-based user interface, Jagger represents an innovation with which every manager can easily communicate. Jagger can be operated in a simple way and is particularly helpful when it comes to promoting special events. It informs managers of upcoming events and offers to run the campaign for them. Managers only need to answer a few questions via chat so that Jagger can take care of running the campaign for them.

www.gojagger.com

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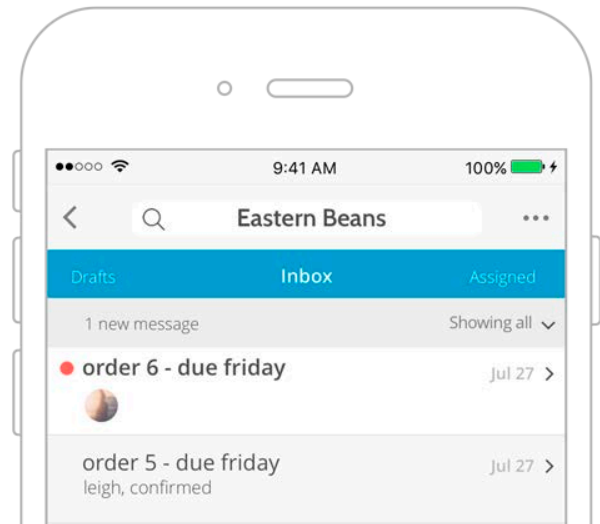
⚓ pantreeco

The #1 co-commerce platform in hospitality

Pantreeco is an online communication tool which strengthens supply chain management for small and medium sized businesses, across hospitality. By connecting the devices teams communicate on, we help buyers and suppliers move away from managing business partnerships solely with e-mail, fax and SMS. Pantreeco brings the conversation, from order right through to fulfilment, into one central location. The benefits of real-time information and integration into inventory and accounting systems means teams are reducing the risk of miscommunication and incorrect deliveries, and they are operating in a more collaborative and effective business. With Pantreeco the partnership wins.

https://pantree.co

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Reputize

Reputize is the leading reputation management platform which creates internal big data for hotels.
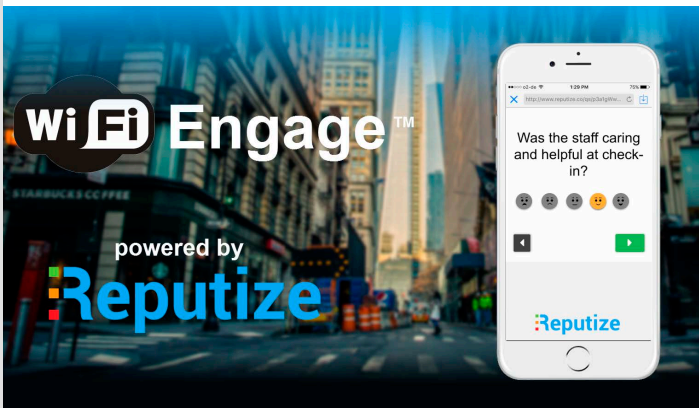
We help hotels improve their customers' satisfaction, while increasing their online visibility and rankings, thus ensuring more recurring direct bookings for them. Additionally, Reputize is an end-to-end Online Hotel Reputation Management platform. As a growing SaaS start-up based in London, we help the hospitality industry better understand and improve customer experience and manage brand reputation by aggregating online reviews from more than 100 OTA's and social media mentions together with internal guest feedback into a single business intelligence platform.

www.reputize.co

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The innovative tool for HR management in hospitality
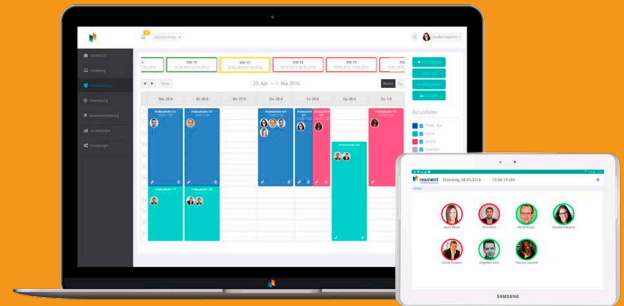
resment offers an innovative HR management assistant for the hospitality industry. So far, resment combines the employee management and document management system as well as an interactive and innovative shift management, a smart time tracking solution with an own tablet-terminal, payroll accounting, and holiday and absence management. resment's solutions change and ease the way how companies will work in the future by combining multiple benefits. The solution provides significant cost savings through automated and digitized HR management processes. resment succeeds in eliminating time-consuming and error prone activities, such as the manual calculation of time tracking sheets, adaptation of working time changes, planning of shifts for upcoming weeks and coordination of absences and holidays. With resment, business owners can integrate their employees into HR management easily, moving the owner's role from executing toward coordinating. They succeed in reducing efforts which equally leads to higher employee satisfaction based on a transparent and up-to-date HR management.

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SMUNCH

Smunch - the best lunch program for companies
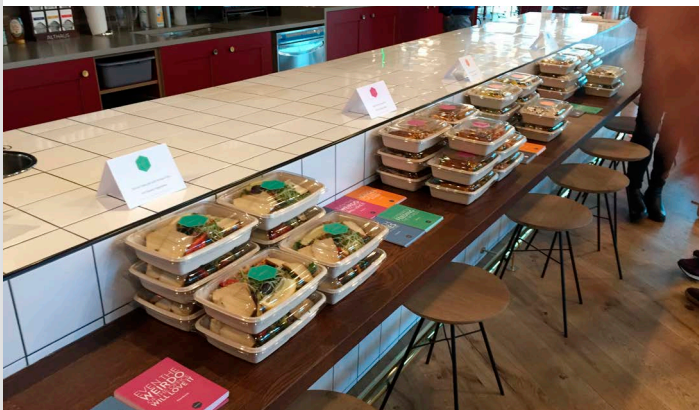
Smunch is the best lunch program for companies. It lets companies have fantastic food for employees, right in the office, without the huge investments in kitchens and canteens. Smunch takes care of everything, from planning to delivery, so the teams enjoy the food together. The employees love the food because it comes from an awesome new restaurant each day. These restaurants receive large orders in advance that can generate up to €1,000 per day. Since Smunch delivers across a large part of the city, it is free advertising for the restaurants and helps them reach new customers. The food is carefully curated by Smunch nutrition experts, in partnership with the restaurants, to offer their best items. The food is nutritionally balanced and care is taken to offer options for the usual dietary constraints. Smunch is a fantastic perk to keep employees healthy and motivated. The restaurants get to use their kitchen to generate revenue where it was lying empty before.

www.smunch.co

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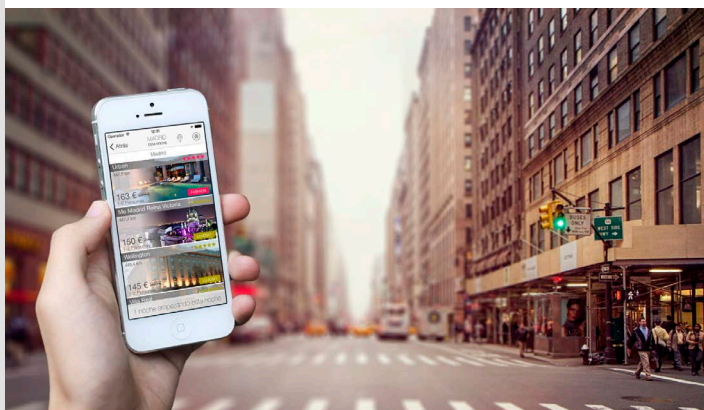
Hot.es was founded by Conor O'Connor along with Ade Muriel, Jose M. Fernandez and Joe Haslam in December 2011. We enable hotel bookings via smartphones. On the Hot app you can find discounted hotels in over a hundred cities. Hot's vision is to provide hotel rooms for same-day booking in every city in the world. Currently we offer 5,000 hotels in 333 cities across Europe, the Middle East, Africa and Latin America. Hot.es was awarded the prize for Best Startup 2016 by the Andalucía Business Club.

IYASSU is the premier discovery and booking app for salons, spas and beauty services. We make women's lives easier by providing 24/7 real-time access to thousands of salons. Customers can search, book and pay online for services such as sport & fitness, yoga, tattoos, holistic treatments, manicures, massages and hair salons. Through our marketplace of salons and spas, we also help businesses acquire new clients and fill empty seats. The platform is easy to join and simple to use. Our unique interface connects directly with the schedules of salons and in real-time, which means that there is no extra work required to showcase appointments on IYASSU. IYASSU serves thousands of salons and spas across Central and Eastern European.

http://hot.es/

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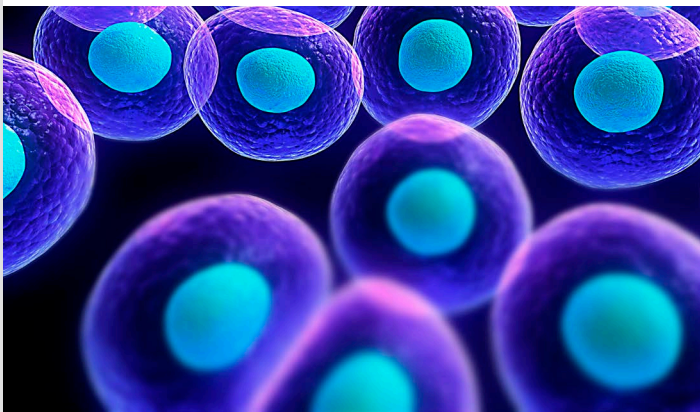
Moreinx AB is a Swedish research and development company specializing in the development and commercialization of its patented nano-based G3 technology in the areas of oncology, vaccine adjuvant and drug delivery. The company is run by a team who come from various industries with a focus on realizing discoveries and inventions. Our group has innovative visions and works with both standard and non-standard methods to achieve results. We currently have several ongoing collaborations and alliances globally. These strategic relationships take many forms, but our goal is always the same: to advance scientific research and to deliver innovative, differentiated solutions that provide value to patients, physicians and health care systems around the world.

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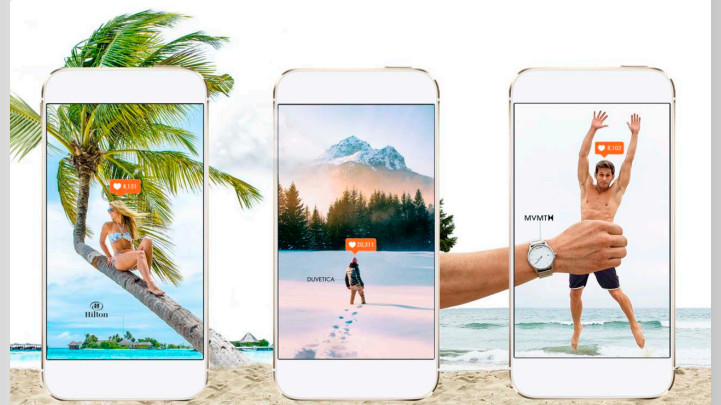
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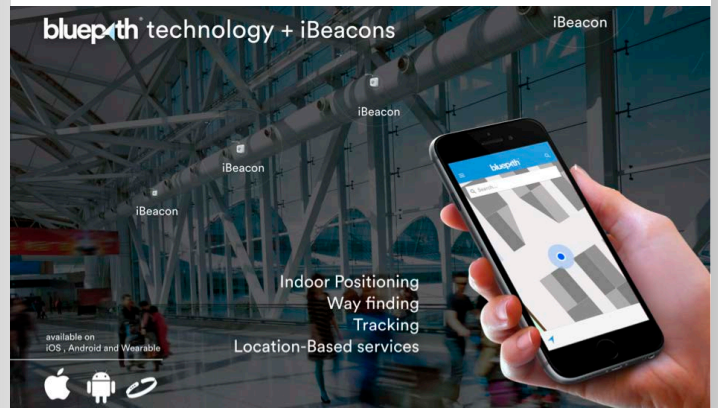
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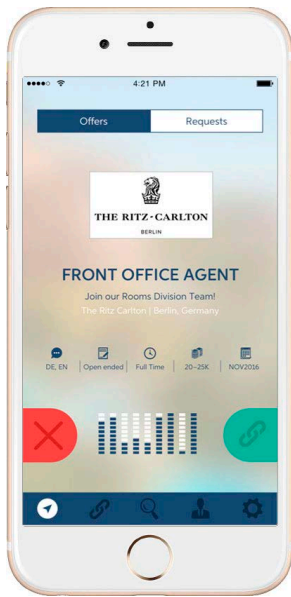
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MENTORSHIPS

My approach to revolutionizing the hospitality industry

by **Ian Millar** in

Maintaining a high level of innovation is crucial for the well-being of the entire HoReCa sector, writes Ian Millar of the Ecole hôtelière de Lausanne. One way to foster this innovation is through mentorships, he explains: By providing our professional expertise to young innovators, we can help them become competitive – and this ultimately enables them to contribute to the future of all of us in the industry.

The hospitality industry is striving for innovation. Conquering new frontiers requires us to face new challenges and, above everything else, to create an environment in which innovation can flourish. I'm convinced that bringing together professional expertise and the innovational spirit of young entrepreneurs is vital if we want to establish a bright future for the entire hospitality sector.

I have been living hospitality for my entire life. Believe it or not, my passion started when I was born in a hotel room and up to now, I have spent the most of my time living in hotels. As Senior Lecturer at the Ecole hôtelière de Lausanne and Certified Hospitality Technology Professional, I am deeply engaged with the hospitality industry on a professional level. Based on my everyday experiences, I strongly believe that maintaining a high level of innovation is crucial for the wellbeing of the entire HoReCa sector.

But in order to leverage innovation, we need to create the necessary framework first. By embracing a "give first" mentality, we can create an environment that young entrepreneurs are

willing to innovate for. By providing professional expertise, we can help young innovators to become competitive which eventually enables them to contribute to our all future. The entrepreneurial spirit of creative startups has to be the focal point of this framework at all times. As a METRO Accelerator mentor, I have seen firsthand how important it is to impart knowledge and to be part of a powerful network.

I believe that It is impossible to meet the high standards of our industry and to create value for our customers if we don't learn to act as a global community. The METRO group and its partners are aware of this issue and willing to spare no expenses whenever there is a chance to create value for customers – a necessary contribution to create the badly needed ecosystem that embraces innovation. All the participants of this ecosystem will benefit equally: fresh impulses and innovation in exchange for expertise and business networks.

There is too much at stake and so much to win since both the startups and the mentors will benefit mutually from the collaboration. Startups need the support of experts who can

***Ian Millar** is a Senior Lecturer of hospitality technology at the Ecole hôtelière de Lausanne and is a frequent presenter at international IT conferences. He was a member of the Board of Directors of HFTP and also served as a member of the HFTP Executive Committee. Ian also serves at an advisory level to various hospitality technology companies and served as a Member of the Hotel Industry Expert Panel for the Singapore Tourism Board.*

provide substantial knowledge. Despite their bright ideas and inspiring concepts, these young innovators simply lack experience, networks and know-how. In order to allow for innovation and progressive concepts, startups need mentors for orientation and to establish contacts.

To reach our goal, it is imperative that more professionals engage in mentorships. Taking part in a mentorship program has numerous advantages. Mentors will get the opportunity to have their finger on the pulse of the time. They will get the chance to acquaint themselves with the latest technological developments and innovations. They will have the chance to better themselves by reviewing their own experience against the fresh ideas of young and creative minds.

I believe that mentorship programs will not only increase the overall experience for everybody involved, but, more importantly, they will introduce sustainable improvement

and value to the industry its customers. I believe that in order to advance the hospitality sector, we need to be brave and embrace innovation. The METRO Accelerator is serving as a beacon for a progressive ecosystem that stands for creativity and innovation. I believe that the more mentors are ready to share their knowledge and support startups, the more the entire hospitality sector will flourish. And I believe that we are brave enough to create this bright future for our HoReCa community.

■

Guest value: the limiting factor to digitization in hospitality

by Pierre Boettner 🔗

When it comes to digitizing key aspects of a hotel stay, are hotels thinking through the impact on the guest? Pierre Boettner, co-founder of hospitalityPulse, addresss a few hard questions, namely: Are we adding real value for our guests? Are we drawing the right conclusions from new technologies, and from technological advances other industries have introduced? In short: Are we even on the right track?

With technologically powered digitization in our industry, we all witnessed a digital shift. Not only enhancing and supporting traditional methods, we also enabled new types of interactions and embraced creative solutions. And our business is all about guest interactions!

In the early days, digitization at hotels was tackling central handling of inventory, rather than using a paper based guest book. Later, we saw the rise of electronic distribution, selling rooms via GDS, OTA and direct to guests via IBEs. With online price transparency, proper revenue management became ever more important, allowing better optimization of availability, price and revenue. Guest segmentation, a core aspect of revenue management, was soon supported by CRM systems that allowed digitally storing and distributing information about guests, their preferences and value, and allowing more targeted communications.

With the triumphal success of mobile technologies, we see the continued evolution of CRM into Customer Experience Management, defined in a recently published study as "the discipline of tracking, overseeing and organizing every interaction between a customer and the brand", as being the next frontier of digitization.

Using mobile technologies, today's guests can access the controls of their room's air conditioning, TV and lights; they may order room service, spa treatments, tours and activities around the hotel; interact with hotel staff to handle maintenance issues; or request wakeup calls. We allow guests to check in online, pick a room from a list or a floor plan, teasing to bypass lines at the front desk and to open the room door with their mobile device.

What will be next? Are we even on the right track, are we adding real value for our guests? Have we drawn the right conclusions from new technologies and from their advances in other industries? Are airlines sufficiently related to hotels to lend themselves to that? Just look at their flight check-in experience, which is now firmly in the hands of devices. While the communication to the passenger continues to be "…speed up your process…", "…bypass lines…", the reality is that (check in) lines have simply been moved to become the baggage drop off line, security line, etc. It is quite transparent to the traveler, that there really is little gain for them. They even see more work such as tagging their bags transferred to them, and fully understand the significant upside to the airline, in having fewer, and much less qualified staff at check-in.

When it comes to dealing with guests, hospitality is the industry par excellence – the benchmark, if you will. One may wonder if digitizing everything may even get in the way of a "perfect" stay experience.

We often learned the hard way where to be smarter about areas we digitized. We learned that while guests value booking online, they can easily get overwhelmed by too many room-rate combinations. That families don't care for business packages. We learned that business travellers declined the dinner packages offered through digital upselling. We learned that when you are asking loyalty guests for their preferences, applying them during every next stay becomes an imperative, or cause frustration. We may learn that guests checking in online may not care to pick

and choose their room on a floor plan, while it is unclear if the quiet room and the connector they booked will be fulfilled. We may even learn that some suite upgrades are not appreciated, if an important room feature is lost in the process. We will almost certainly learn that checking in online and not finding the room ready at time of arrival defeats the purpose. But most importantly, all too often we simply fail to learn.

Don't get me wrong: Whenever digitization creates true convenience and advantages to guests, we should embrace it with open arms! But all too often we fail to improve the guest experience by adding direct guest interaction through mobile or other paths; we have expended many efforts digitizing parts of our business, without rethinking how hotel operations work and without fully connecting the dots and the interactions. Guests using convenient solutions to indicate their preferences during booking are facing the true availability at the moment of check in. CRM preferences are not available to the front desk or restaurants. As a consequence, we start to improvise, and inadvertently create a guest experience that no longer conforms with the digitally created expectation. Therefore the next steps in digitizing should be less about transferring manual decision making to guests, and more about decision automation. Only then can the needs of both business and guests be taken into acocunt in an optimal way. It's about enabling existing systems to interact with, or embed decision making. Then we can start to seriously engage on a digital strategy that recognizes that we are dealing with humans!

■

hospitality
pulse

The end of the PBX as we know it

*by **David Maayani*** in

Times were good for the PBX department, recalls GrayMatter Networks' David Maayani. "We were the darlings of the IT crowd. Guests made phone calls, we generated healthy revenue margins while covering our costs – life was good!" Then the cell phone happened. Literally overnight, our revenue from guest calls disappeared. Left in the dust were the monthly costs for circuits, maintenance and staff. Boom to bust overnight: the only calls guests now make are for a towel, a hamburger… or to complain.

As legacy systems age and support contracts expire, we find ourselves looking around to the next thing. Buzzwords like "cloud based", "VoIP" and "unified communications" all running on "converged networks" surround us with ever growing urgency to do something… while all we want is to get a dial tone and make a call.

Let's take a moment and take a new look at these new technologies and maybe even at some growing trends. Maybe not all is lost.

In North America, as well as many other regions, emergency services (911 in the USA) must be available at all times. Enhanced 911 laws require transmission off specific location data (down to the room number in some states) in addition to stricter brand standards for alerting, logging and even recording of emergency services calls. Legacy systems need expensive reprogramming, while new IP based systems can easily be configured for this.

Guest services such as in-room dining, valet and house-keeping have developed into brand specific enhanced guest experiences. The brands realized that guest interaction at the Front Desk is very closely followed by interaction via the telephone. No longer are legacy "PBX Department" Operators meeting the brand experience needs. Virgin Hotels' "Yes!" department and 1 Hotels' "Hive" are just two examples of brands expanding this guest interaction with highly trained staff on how to answer the calls, how to triage and resolve issues quickly, what words to use, how to incorporate the guest's name into the response and more.

Statistics and management reports of the various queuing and routing methods of these calls are reviewed daily to maintain quality. Phone calls are reviewed and constant feedback and training is provided to maintain an edge. The software based PBX systems today make this a child's play – we no longer need to spend thousands of dollars on getting these features.

Value hotels are also realizing the power and flexibility of software based or IP based PBX systems. During the rush-hours of check-in or check-out, the Front Desk staff are not only inundated with guests in front of them, but also with phone calls. The value brands no longer employ expensive PBX

David Maayani is an industry-recognized authority and technology expert in voice and video communications and is widely known within hospitality IT circles for providing innovative and cost-effective solutions to the marketplace. As Chief Technology Officer for multiple companies specializing in Voice over IP and Video on Demand, David developed and deployed global solutions for major brands and markets including Hilton, Jumeirah, Starwood, Crowne Plaza, Virgin Hotels and implemented solutions for 5 star properties including Mandarin Oriental- Columbia Circle, the W Hotels in Ft. Lauderdale, San Diego and Chicago and Jumeirah Essex- New York. As CTO of GrayMatter™ Networks, David continues to lead the hospitality industry in delivering technical, cost-effective voice, unified communications, and SD-WAN solutions and is supported by a dedicated team of developers and support specialists within Septrivium focused on exceeding customer expectations in the telecommunications marketplace.

operators, opting to route the calls directly to the Front Desk. This leads to frustrated guests, employees, and callers. New and innovative companies have discovered a niche of remote PBX operator staff. Installing a new PBX that has full VoIP capabilities allows routing of calls to remote call centers where skilled operators assist guests and callers. The technologies allow for customer answering and branding of the calls – the guest never knows the operator is off-site and actually handling many hotel calls. This reduces traffic to the Front Desk significantly (industry estimate of 70% reduction) while providing Operators at 40% savings over direct employees. All this is possible with industry leading PBX systems that support VoIP and advanced routing.

Cloud-hybrid systems are also quickly replacing legacy systems that are being fork-lifted out of the traditional PBX rooms in the basement. These are often referred to as "cloud based". Though marketed as "cloud", these systems have some level of on-site equipment for redundancy, fail-over and technology reasons. Hotels can enjoy an extremely low, sometimes no-capital expenditure cost, and fold the PBX into a pure operating expense. The management of the PBX, call routing, voice-mail and all standard move/add/changes are managed via a vendor-provided portal. Some innovative vendors are coming up with a pay-as-you-go type model where the hotel is paying per occupied room per month. This way, in low occupancy (low revenue) months, the cloud-based solution cost is reduced substantially and the vendor makes up for it in high occupancy (high revenue) months. The hotel does not need to struggle with an upside-down cost model – costs follow occupancy directly.

Just as external calling by guests has dropped significantly, a new trend is emerging where the admin sales departments are making more and more outbound calls. Hotels, in order to increase sales, are directly calling out and targeting corporate and group sales. Outbound dialing micro-calling centers (1 to 5 people) are being set up in the bowels of hotels. Software based IP PBX systems allow for integration into solutions like Constant Contact, SalesForce and Zoho. Click to call on the portal pages, screen pops (browser based – nothing to install) and more features are all included. Call agents can focus on the actual task at hand and not on the tools needed to perform it.

One surprising find is that advent of the wake-up call. It would surprise many to learn how many wake-up call s are generated at a typical, 3-star, New York City property. Enhanced wake-up call techniques like automatic (system calls guest) to manual/VIP (system calls Front Desk, agent hits a button and gets transferred), advanced alerting and notification, and escalation of missed calls are easily developed and deployed. You want a wake-up call to dual-ring your room phone and cell phone? No problem. You want the PBX to use the XML API to the room control server and turn on the lights, too? Sure! It's software based. Don't ask what it can do – tell me what you want done!

Don't rush out to purchase a new PBX just yet. Your current legacy PBX still works – how can you justify it? You don't have to replace it. Some hotels are placing this new generation of PBX systems in front of – in line with – their legacy systems. Get all the enhanced functionality in your admin/back-of-house areas and maintain your analog phones to the rooms – that's OK! Upgrade the rooms when needed, in a phased approach.

The evolution of the PBX is not done yet – as communications converge, VoIP becomes cheaper, and hotels enhance the guest experience, you will see more innovation in this space. Stay tuned….

■

Hotel Technology Next Generation: The way forward

*by **Monika Nerger*** 🔗

Hotel Technology Next Generation (HTNG) was founded in 2002 as a non-profit industry association with a mission to foster collaboration and partnership, in the development of next-generation systems and solutions to enable hoteliers and their technology vendors to do business globally in the 21st century. One of the key industry issues HTNG initially set out to solve was the complex nature of integration between systems. As Monika Nerger explains, the hospitality industry has changed considerably since then, and HTNG is creating a vision for the next decade to support the ever-changing demands of our industry.

Industry Consolidation

One of the most significant changes during this time has been the steady downward pressure on Rooms EBITDA, leading to an increased pace of consolidation in our industry in search of revenue growth. This consolidation applies not only to the hotel brands themselves, but equally to the suppliers in the hospitality industry, competing with a shrinking market that has historically been fragmented. To add to this complexity, the shift to the cloud requires a completely different financial model, and many small and mid-size vendors to the hospitality industry have struggled with the investments required to support SaaS, due to the need to scale up before real profits can be realized.

This rapid pace of consolidation and change has led to partnerships and relationships that will ultimately serve the hospitality industry well. In keeping with these changes, the associations which serve our industry need to apply fresh thinking to support a new market and ecosystem of hotels and suppliers. HTNG has done just that, beginning with a fundamental appreciation that aligning our efforts with other associations will simplify and amplify our ability to serve the marketplace better.

In 2016, HTNG announced its first such alliance with HTF – Hotel Technology Forum – to merge the two North American technology conferences into one, rebranded "HT-NEXT". This event unites two industry leading events, Hotel Technology Forum and HTNG North America, into one immersive networking and educational event for hotel executives and solution providers. In parallel, HTNG and HFTP (Hospitality Financial and Technology Professionals) have begun to work more closely together, and recently announced the co-location of the HTNG Insight Summit Europe with the premier of HITEC Amsterdam in 2017.

There are many reasons to work more closely together as industry associations, and some of them deal more specifically with the complexity hoteliers face in the current marketplace.

Security and cyberattacks

Cyberattacks continue to be a vexing problem for businesses and for the hospitality industry at large, and we need to find better ways to communicate with each other and work together to bolster our defenses. HTNG has established a CISO (Chief Information Security Officer) Forum, which enables security professionals to meet and to discuss security issues, threats, best practices and security research. This is unique in the industry, and an area that we believe will continue to evolve in the next several years, particularly as IoT and other digital technologies demand a greater focus on security.

Monika Nerger, is Global Chief Information Officer for Mandarin Oriental Hotel Group, overseeing all aspects of the group's global technology. Mandarin Oriental Hotel Group is the Award-winning owner and operator of some of the most luxurious hotels, resorts and residences located in prime destinations around the world. Prior to joining Mandarin Oriental, Monika worked internationally with Pan Pacific Hotels, KPMG Consulting, and Royal Caribbean Cruise Lines. She holds an MBA from the University of Miami as well as an undergraduate degree in Computer Science, and is a member of Beta Gamma Sigma. Monika is currently a Board member and Vice President of HTNG (Hotel Technology Next Generation), and sits on the Advisory Board of CHTA (China Hospitality Technology Alliance).

Payment systems

If one area has grown tremendously in complexity in the past few years, it is the world of payments. From EMV to Point-to-Point Encryption, to mobile payments, WeChat Pay, AliPay, Apple Pay and more, understanding the complexities and technologies which support new forms of payment is a top priority for the hospitality industry. HTNG has a Payments Workgroup established to focus on secure payment frameworks. Undoubtedly payment solutions will be further disrupted by new forms of digital payment including Blockchain.

Digital transformation

Not unique to our industry, but foundational to the success of hospitality, the swift move to digital solutions to engage with our customers more directly and personally is well underway. This will have different repercussions and interpretations, but working together we can find solutions destined to serve the guest experience in new and compelling ways, many of which are yet to be imagined. Operating in both legacy and digital spaces, as any CIO will share with you, is massively complex! Finding ways to align business strategy with a pace of change unlike anything we have experienced before will require new frameworks and ways of thinking about technology. HTNG has initiated a CRM Workgroup to further this dialogue and better understand the underlying technologies and programmatic requirements to support this.

Looking ahead

As we think about the next 10 years for HTNG, beyond the obvious need to incorporate emerging technologies such as Virtual and Augmented Reality, IoT and more, the opportunity we face is really one of developing a more collaborative and informed group of CMOs, CDOs, CIOs and hoteliers. There has never been a better time for us to reimagine how we can work together, support our vendors and partners, introduce innovation and enable a community supportive of both startups and established providers to better serve our guests.

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The business of housekeeping: Is technology in housekeeping an option or a prerequisite?

*by **Eric Rogers*** in

Technology has the potential to enhance the guest experience in many ways. One of them, perhaps not immediately recognized by hoteliers, is to automate housekeeping operations, which will not only streamline processes and increase productivity, but give housekeeping staff greater opportunities to interact with guests. Eric Rogers, Vice President EMEA of FCS Computer Systems, explains.

Let's take the business of hotels back to basics. When we're looking to book a hotel today, most of us expect the world's most sought-after hotel guest room amenity, which is complimentary WiFi. But let's be honest, would you rather have WiFi than a clean room? Probably not, and you're not alone.

According to LateRooms, 90 percent of travelers avoid booking hotels labeled as "dirty" in online reviews. In a study by Hospitality and Catering News, 70 percent of hotel guests said that cleanliness and hygiene are the most important factors for a hotel, and if cleanliness standards fell below the expected standard required by guests, 44 percent of customers would simply never go back. Needless to say, housekeeping means business: if your rooms are not clean, your marketing is in vain.

Despite these statistics, it's interesting to see that many hotels still rely on manual processes to run their back-of-house operations, including housekeeping, missing out on opportunities to use technology to streamline processes, achieve efficiencies, improve guest satisfaction and increase productivity.

With growing pressure to reduce cost and maximize profitability in today's competitive environment, hoteliers are increasingly looking to achieve greater operational efficiencies while providing a more and more personalized experience for guests, which can be achieved through back-of-house automation. In addition, many hotels are looking to enhance and communicate their green credentials to their guests which can be done through

reducing the use of finite resources, including paper, while enhancing the operational efficiency of a hotel. Did you know that through housekeeping automation, a typical five-star hotel with 300 rooms can save 1.5 tons of paper annually? That's 35 beautiful, green trees every year.

Having said that, hospitality is first and foremost a people business, and staff turnover is not only costly, but can adversely impact productivity and efficiency as well. Technology can be used to make back-of-house departments such as housekeeping far more interesting to work in, which helps to attract and retain good staff. In turn, well-trained and motivated employees are better equipped to provide good customer service, and through efficiencies achieved by technology, will have more time to deliver a personalized experience for guests. With automation comes data, which can be used to reward staff based on ability and productivity in a very fair and transparent way. Conversely, analysis of the data may identify training needs, helping hoteliers to focus their attention on areas that need improvement, hence working smarter and more efficiently.

Mitigating mistakes

With a few hundred rooms to clean every day, there's lots of room for things to go wrong. While we can't avoid mistakes, we can mitigate them. Housekeeping automation not only reduces human error, it also lessens the number of staff needed on any given shift and gives housekeeping supervisors more time on the floor to interact with guests as the smaller, often mundane, tasks are being automated. Take the example of a 236-room hotel in Macau with 69 room attendants in housekeeping. Through the automation of their housekeeping operations they were able to save a staggering 90 percent of time spent on reporting lost & found items, 83 percent on minibar and room status posting, 40 percent on room allocation and 100 percent on informing check-out rooms. We all know time is money, and these time savings can either help to reduce departmental costs or allow for housekeeping staff to spend more time with the guest to personalize and enrich their experience in the hotel.

Sooner rather than later, hoteliers won't be asking the question whether to invest in housekeeping automation, but rather what system to use. When choosing a technology solution for any of your back-of-house operations, including housekeeping, it is critically important to ensure the system seamlessly integrates with your Property Management System (PMS) and other hotel operating systems. Once deployed, your hotel will undoubtedly be reaping the benefits of housekeeping automation really quickly and hoteliers should benefit from:

- Enhanced guest satisfaction through quicker cleaned room turnaround
- The ability to view the most up-to-date information from your PMS (e.g. cleaning status, room status and inventory etc.)
- Savings in manpower, time, paper and energy for cost optimization
- Smoother lost & found operations
- Optimized communication within the housekeeping department and between operational divisions in the hotel
- Improved staff retention through better motivation, productivity and feedback and reward mechanisms
- Greener operations and significant savings in paper (and trees!)
- Real-time room/public area cleaning assignments among the team without manual contacts and paper trail
- Automated reports with accurate real-time data
- Less human error through manual processes
- Improved housekeeping roster management
- More accurate inventory forecasts for manpower, linen, guest room amenities and mini-bar items
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Realistic visions on the virtual world of hospitality

by **Guy-Georges Trigallez** (in)

Virtual reality holds enormous potential to help hospitality businesses grow, says Guy-Georges Trigallez of Amsterdam-based No Dutch No Glory. By giving potential customers a more realistic sample of the real thing they will experience on-site, hotels can depict what their brand stands for while drawing guests further into a sales funnel.

When sharing my vision on virtual reality, I always like to keep it real.

Even though I make a living of virtual reality productions, I'm not the kind of guy to sell them to you, no matter what. Currently, there's a hype surrounding virtual reality that's reminiscent of the app days, when many businesses launched mobile apps just for the sake of it. Most of them have learned that new technology should always be treated as a means to an end.

Meanwhile, I believe that, when embraced with the right business strategy and with the end user in mind, virtual reality holds enormous potential to help businesses grow, especially those in the hospitality industry.

As more and more people start talking about virtual reality, it is often confused with other immersive technologies. Here's the difference, in descending order of virtuality:

- **Virtual reality** is a realistic and immersive simulation of a 3D environment, created using interactive software and hardware, and controlled by movement of the body.

- **Augmented reality** is an enhanced environment as viewed on a screen, produced by overlaying computer-generated images, sounds, or other data on a real-world environment.

- **360° videos** are video recordings where a view in every direction is recorded at the same time, shot using a collection of cameras. During playback the viewer has control of the viewing direction.

Each of these technologies has different applications and advantages which lie beyond the scope of this article. I want to focus on what they have in common: They can offer a more immersive experience to the viewer and make visual content more interactive.

I've noticed that some hospitality business owners find it a scary idea to offer potential customers an immersive experience before they have even booked. They are concerned that if it's done well enough, potential customers wouldn't want to pay for the real thing anymore. But time and again, I have learned that virtual experiences can never be a substitute for the real thing. In fact, when presented at the right moment, they can serve as a trigger for the real experience.

When it comes to marketing, the hospitality industry is a unique position. It has to sell a future experience in a faraway place. As consumers grow more media-savvy, it is becoming harder to sell such an experience through good-looking photos. This is why these new technologies should be of special interest to the hospitality industry: they can help future experiences come alive in a more engaging way, as if the customer is really there already.

Immersive technologies open up unprecedented opportunities for the marketing of hospitality services. First of all, they can help establish brand identities in a way that photography never could. Imagine an immersive experience in the Mövenpick. Now compare it, in your mind, with a multi-sensory trip to the Hard Rock Cafe. By adding interactions and music to the visuals, depicting what your brand stands for becomes much more outspoken and memorable. It can even position the brand in more creative spaces. What would the Hard Rock Café look like on Mars? Impossible in real life, yet it could be a credible experience in virtual reality.

Furthermore, immersive technology can give potential customers a more realistic sample of the real thing, while drawing them further into a sales funnel. We've all seen the 360° videos that hotels are showing on their website. Now imagine walking through these rooms as if you were really there, discovering the whirlpool, hearing the waves of the sea and seeing how beautiful the view is like from every window. As you progress through the simulation, you get rewarded with more points for the hotel's loyalty program.

Finally, your guests can use these technologies to share their trip with their friends and family. Major hotel chains are already experimenting with immersive postcards, enabling guests to feature in their own 360° video and send it to the folks at home. To them, it's really like being there, together. It's when immersive experiences become more personalized and social, that they yield a more emotional response and reach their full potential.

Creatively, the possibilities in virtual reality are as endless as our collective imagination. They're only limited by ever-advancing technology. Sometimes it is hard to grasp where technology will take us, and visionaries are often ridiculed. Take for example the technologies portrayed in the Back To The Future trilogy. While they seemed nonsensically futuristic at the time, now many of them have become a commonplace reality: The electric car, the hover board, video conferencing and fingerprint identification. The businesses that embraced these technologies at the right time with the right mind emerged as industry leaders.

The same goes for virtual reality. The future is already here. And if you know what you want, you can go beyond the gimmick and make history.

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*As a kid, **Guy-Georges Trigallez** was already fascinated by the moving image and knew many movies by heart. Today he is a digital marketing professional with a passion for digital imagery, combined with the latest technologies. His company No Dutch No Glory is based in Amsterdam and built on a team of talented creatives and developers. They are always searching for the ultimate design of meaningful visual experiences, giving people something they have never experienced before.*

Bridge on the River Data: Reinforcements are on the way

*by **Peter Starks*** in

A bridge has been long needed to connect analytics and analysts, one that serves students who wish to be analysts and active professionals who want to be students. Whether centralized or decentralized, there is a new wave of talent coming, writes Peter Starks, CEO of REDGlobal and educator-at-large. It is armed with new business simulation experience that can help you accelerate market and profit share. If they are under your radar, he says, take heed.

The hospitality "River Data" is professionally contained and monitored. The left riverbank is buttressed by companies who serve up indispensable comparative metrics and indexes. The right riverbank is reinforced by the contributions of companies who distill water samples into essential predictive analytics. And overhead, drone companies compile social media feedback.

This vital triumvirate dependably shows your current position, and suggests your next market moves. Enter the compiler: yield analyst, commercial manager, or revenue management team. Only they can see what lies beyond the riverbanks in the surrounding countryside; the realities on the ground, if you will, that computer programming isn't yet ready to offer, but nonetheless must be factored in. Working together, these four components form the man-machine partnering for hospitality revenue and yield decisions.

The traditional "man" part isn't easy. It can be a daily marathon of jogging the countryside, swimming laps from riverbank to riverbank, followed by much paddling through meetings and social media. In some instances, marathoners carry a weighty backpack of policies, procedures, budget requirements, or organizational dysfunctions that can slow the pace. It can be exhausting for the under-skilled and expensive for the company, especially if they can't see the true finish line (read: bottom line.)

Not everyone can do a marathon, but everyone can walk or roll. And a coordinated overview from the high ground is more effective than wandering point-to-point for information. Good news. The marathon is no longer necessary and a high ground view is

available. Downstream is a new bridge. It offers a panoramic view of the countryside, easy access to both sides of the river, and it reaches places drones can't. It's the new bridge on the river data; a metaphor for the unprecedented advancement in revenue and business acumen education and training provided to upper- level hospitality students and in-service professionals through executive education.

Example:
Five years ago a revenue management university course would either be an elective or not be offered at all. If offered, it might be led by a talented and dedicated instructor who nonetheless was given the assignment just a few weeks in advance of the class and had little knowledge of, and no experience in, the topic. The courses had to rely on Internet articles and the few textbooks available. This has changed, dramatically.

Consider the girders and trusses of the new education and training bridge:

- Revenue Management has become a required course and/ or part of a major concentration in hospitality programs of leading universities. These new generation courses are designed for new-generation professionals in a new-generation marketplace, accessed by new-generation data.
- STR Global, through its highly regarded SHARE center, provides university programs access to worldwide ongoing data, sample reports, index and metrics online training modules, and research collaboration, all in the interest of bringing real-life into the classroom and developing work-

*As a past Director for Marriott Hotels, a Regional Director for the United Nations Tourism Office, an Advisory Board Member for Universities; and as CEO of a leading training company, **Peter Starks** brings a broad-based perspective to his work as educator-at-large. His experience in living and working in over 40 countries provides an international perspective. A graduate of the Cornell School of Hotel Administration, he also holds MBA and MS degrees from Webster University, Switzerland. Peter is an elected member of the Institute of Hospitality, UK, and the International Society of Hospitality Consultants.*

ready analysts. Strengthening its education initiative, STR contributes vast resources in providing complimentary "Certification in Hotel Analytics" to over 200 hospitality professors around the globe.

- Building on STR contributions, companies like REDglobal provide the next step by contributing world-class, real-to-life business simulations to universities. These provide upper level students the analytic discipline of putting metrics and indexes to work in real markets, doing real business, and seeing true business results. Their hotel and food & beverage revenue management simulations reach some 7,000 students a year in over 40 countries and in eight languages.
- Industry members of university advisory committees are increasingly insistent on practical based courses in analytics and revenue management.
- Capstone, Asset Management, and Strategic Management courses in both undergraduate and graduate programs are requiring business analytics in final course presentations.
- Universities are hiring "professors of practice" into the faculty.
- Students no longer see data analytics and revenue management as have-to-do requirements. Their new profile is "highly engaging and rewarding careers".

In my view the high point of the bridge is that these students not only grasp the data and analytics, they also know how to connect the dots to the downstream impact on P&L, cash flow, balance sheet, management contracts, and owner returns; a complete package of business acumen know-how. And, there is a bonus. You won't need to spend time busting down the walls between revenue management, marketing, and sales for them. These new students understand different interests and they know how to team them. They are team-oriented by nature and by the new teaching systems of universities.

The bridge works equally well for experienced professionals who want to build fresh analytic muscle and take a new look from higher ground.

- Professional education programs, both online and live, from schools like Cornell are now balancing important theory with superb research, and strong industry based content.
- HSMAI has added to their well-known online foundational certifications program. Professionals can now join a networking and learning initiative with a keynote one-day live program of cutting edge knowledge and best practices for revenue managers.
- Witness the increased allocation of corporate training budgets to business acumen competence.
- Hotel companies are partnering with simulation companies to provide business analytics and business acumen skills to all operating managers. Revenue is a DNA element of culture.

The need for stronger analytic skills, combined the ability to connect data with business results, has been circling for too long. The solution is happening and reinforcements are on the way.

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The human side of change

by **Colin Abercrombie** 🔗

Managing change is hard. And thanks to the fact that technology evolves and improves so rapidly, IT managers can find themselves in the middle of large, complex change projects much more frequently than their colleagues working in other areas of a hotel group. Colin Abercrombie, a Dubai-based coach specializing in such projects, reminds us that managing the human side of change is vital to a project's success – and this means managing the emotions of those who have to lead it.

A very senior IT professional was talking to me recently about the challenges of managing IT projects. "Best case scenario" he said, "is we make people miserable. Worst case, our project fails because of adoption challenges." This brief truism reaches to the very heart of the problem: projects failing because of a lack of ownership.

IT professionals are tasked with dragging often reluctant businesses into the "information age" and although their innovations are begrudgingly welcomed when they work, the pain of going through the change process is dreaded and at times bitterly resented.

A simple search on the Internet will reveal a myriad of different change models. Diagrams of John Kotter's 8-step process, Kurt Lewin's "Unfreeze, Change, Freeze" model, and Prosci's ADKAR ("Awareness, Desire, Knowledge, Ability, Re-enforcement") model abound. And while the Kübler-Ross Change Curve, Bridges' Transition Model and Roger's Technology Adoption Curve are all relevant observations of the emotions that people live through, they don't give us guidance on how to manage them. Everybody, it seems, is an expert – and yet I feel that nobody gets it quite right, as every project is different, the people involved in them are different, and therefore the dynamics are different.

  For me, the success of any project depends on how the human side of change is managed: the emotions, not the mechanics. We all have our own unique approach and attitude towards change, and our own internal software pre-disposes our emotional reactions. Some people detest change and want things to stay the same forever; others prefer a gradual, natural and safe evolutionary process that allows the alterations to happen almost unnoticed over a period of time. A series of small software upgrades, if you will. Yet others want each change to be a new, revolutionary, life-changing experience. They love to throw themselves in, embracing the challenge passionately, and then they are surprised and disappointed that their own euphoria is not mirrored by others.

My experience of coaching senior executives for many years has enabled me to come face to face with all three of the above emotional reactions, as well as with many more. Frequently, individuals embrace some change initiatives whole heartedly and yet resist others. Clearly, something causes them to decide how they are going to respond to any given change initiative, and this ultimately determines whether they will lead, support, quietly ignore, undermine, or even, in extreme cases, sabotage the initiative.

A particularly insightful model
In my experience, the Michigan State University Extension – "Change Process Model" is particularly insightful, as it considers change from an emotional perspective. It considers five key factors that lead either to a prolonged and painful transition or to a faster, smoother result. These are categorized as Vision, Plan, Resources, Skills and Incentive. Getting these five factors right helps to secure the emotional "buy in" to the project by those who are involved in, or affected by, the initiative.

Establishing and communicating a clear Vision or sense of purpose is key to the success of any project. If all of the business stakeholders, solution developers and IT project management have absolute clarity on what the project aims to deliver, then they are more likely to "buy into it" emotionally. If the Vision has not been established, or if it is unfocused and blurred, then those that are affected will become confused. They will most likely not understand the need for the change, will not own it emotionally, and will therefore tend to resist it.

If this confusion is at the top of an organization, passive resistance at lower levels is likely to increase. Senior managers can be expert at quietly undermining initiatives by not "owning" them or supporting them visibly.

Communication and execution of the Plan is the next area of focus. Without a realistic project plan, control over the project is lost. Deadlines pass or are continuously pushed further back, and timelines slide until eventually the initiative dies due to

Colin Abercrombie, *Managing Director of Dubai-based Abercrombie Training and Consultancy, is a very experienced executive coach and a passionate and entertaining facilitator. Colin has extensive experience working at all levels within national and multi-national organizations throughout the Middle East, Europe and Asia. He holds a Master's degree in Applied Coaching, is a Certified Practitioner and Master Practitioner of NLP, Time Line Therapy and Hypnosis, is an ICF certified Professional Coach and one of the only MBIT coaches in the Middle East.*

inertia. Another proven way to kill off a project is to "plan it to death".

Project plans always change, and it is therefore neither feasible nor possible to plan for every contingency. Getting as much in place as we can to get started, and then adopting a Richard Branson-like approach of "Screw it, let's do it" seems to have more success in my experience than years and years of fine tuning, and not executing, a plan.

The creation and communication of a pragmatic and fluid project plan which is then followed up diligently will keep a change initiative moving forwards. There are now numerous online tools that can be used to help virtual project management teams to communicate and progress.

Having the necessary Resources to fund and man any project is vital, as without them the project stalls and frustration levels skyrocket. We have all walked past half-finished building sites in cities all over the world where the work has stopped due to a lack of resources – finance usually. Provided the finance is available, resource provision within the IT sector falls into three main areas: the IT project team, the vendor that is providing the solution, and the business that will be using it.

All three must select the right people with the requisite Skills to enable the project to proceed. Any real or imagined lack of resources (time, money, people, tools, etc.) will magnify frustration levels; tensions will flare, and the level of misery will rise.

But not only do they need the Resources, they need to have the right ones. If the people tasked with leading, managing and executing the project do not have the ability or the skill set to do so, they become very anxious. This fear spreads, people leave, and the project gets delayed. Simply put, unhappy frightened people do not perform as well as happy confident ones.

The final factor in securing the "emotional buy in" to the Vision is the expected outcome that will eventually be derived from a

successful transition. If there is a clear and tangible benefit to both the organization and the individuals within it, then all of those who are affected by the change are more likely to want it to succeed. This provides the Incentive. If this benefit is not clear and relevant, or has been exaggerated in an "overpromise and under-deliver" way, then motivation is eroded and apathy takes over. If there is no motivation – why bother?

Leadership is the key
Getting the above five factors right will go a long way to enhancing the likelihood of success. The real "difference that makes the difference" lies with leadership. Even if every box is ticked and an organization is undertaking a global change initiative, different business units have differing levels of success.

In the hospitality industry, with a typical global structure consisting of head office, regional teams and individual business units, each hotel takes its lead from the GM. The GM in turn takes his or her lead from the head of the region, who takes direction from head office. If the regional people are not "on board", then the GM and the hotel team are also likely to be disengaged, leading to "adoption challenges".

Even with lots of internal marketing and global and regional project "ownership", not every GM is going to be equally committed. Hotel General Managers who really "own" their projects are much more likely to achieve a positive outcome than those who are more skeptical.

Getting as many GMs as possible on board is key to success. The next step is for them to appoint and support a dedicated, committed, and fully empowered project leader within their hotel to drive the project to a success conclusion.

Managing the human side of change is really about managing the emotions of those who have to lead it. As Dr Wayne Dyer so eloquently put it: "Change the way you look at things, and the things you look at change".

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Innovation Hub @ EAHM: Bringing research and educational benefits to hospitality stakeholders

by **Sanjay Nadkarni** in

An exciting project is underway at the Dubai-based Emirates Academy of Hospitality Management, as a digital innovation hub is set up on campus to give technology vendors an opportunity to showcase new concepts and test ideas and applications. Sanjay Nadkarni, the school's Director of Research & Innovation, walks us through the project.

Traditionally, the hospitality industry is not known to be at the forefront of adopting cutting edge technologies. IT in this industry is typically characterized by legacy platforms and a fragmented landscape. In an increasingly digitized world, this zeitgeist is unsustainable in the long run. Major hospitality chains, albeit slowly, are beginning to acknowledge this zeitgeist and are leveraging their corporate muscles to mitigate this situation. The recent launch of Marriott's innovation incubator the MBeta, touted to be the world's first hotel in "live beta", is a case in point. The Emirates Academy of Hospitality Management (EAHM), as a strategic business unit of the Jumeirah Group, has also been taking steps in this direction, albeit with a different focus, by engaging with hospitality tech vendors to set up a digital innovation hub on campus.

The primary goal of this exercise is to benefit all stakeholders, namely the Academy's students, Jumeirah, and the wider hospitality industry, including vendors, by showcasing trending innovations in an integrated environment. In our industry, it is not uncommon for practitioners to view academic institutions as ivory towers far displaced from the reality and rough and tumble of the operations. Thus, academic output, including research, tends to exist in isolated silos largely disconnected from developments and trends that the industry as a whole experiences. The unique position of EAHM as an academic entity embedded within a luxury hospitality chain provides an opportunity to reduce this chasm between academe and industry through seamless cross-pollination of knowledge,

ideas and concepts between the two. Indeed, this attribute differentiates EAHM from its peer academic institutions.

In its quest for contributing to digital innovation in line with the overall direction the UAE economy is taking, EAHM, with active support from Jumeirah's IT Group, has reached out to technology vendors to be a part of this story. The expressions of interest on the part of the vendors has been overwhelming as the benefits of such an exercise for the stakeholders are all too obvious.

Without having to leave the campus, the students at EAHM get a peek at cutting edge technology in action to complement classroom lectures and workshops conducted by faculty and domain specialists. They also have the opportunity to engage in user experience (Ux) testing of the platforms and devices as part of EAHM's research activities, and provide feedback to the vendors.

The IT specialists and decision makers from Jumeirah and the wider hotel industry are able to preview in action and test these latest innovative offerings from vendors over prolonged periods in an integrated "live ecosystem", in contrast to isolated demonstrations on premises or at industry exhibition booths that otherwise is the norm.

The technology vendors have a two pronged benefit in that (i) they are able to conduct showarounds for potential clients

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on an "on-demand" basis practically throughout the year, instead of being confined to static displays and demonstrations during exhibitions and trade shows, and (ii) they are able to get valuable user experience feedback through research conducted by faculty and students.

The protocols for engagement in the Innovation Hub project stipulate that the platforms or gadgets to be "exhibited" should have a demonstrable innovation value. Towards this end, the technology should be in beta phase or at the very least, be novel to the GCC region, if not globally. The typical turnaround time or lifecycle of the platform in the Innovation Hub is expected to be around 6 months, or till such time the product comes "on stream" in the market. The ownership of the asset rests solely with the vendor at all times. No two platforms in direct competition will be simultaneously displayed, though substitutes will be allowed.

The entire campus serves as the venue for this "live" laboratory. The devices and platforms are deployed at appropriate locations to optimize usage, data capture and visibility. At the time of writing, the implementation roadmap for this project is approaching its final stage and some vendors have already commenced deployment on the campus premises, including the library and the recreation area. A dedicated studio is now in the works to simulate a hotel room environment that will play home to guest-facing in-room technologies. Another positive spin-off of this engagement with the vendors is

the active contribution and participation in the design and delivery of Digital and Information Technology related courses offered to students in the final year of the Bachelor of Business Administration (BBA) program at EAHM.

Once fully operational, the Innovation Hub is expected to play a catalyst to a virtuous cycle of exchange of actionable ideas and insights between the industry stakeholders and thus contributing to the overall innovation quotient of the Dubai economy.

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THE EMIRATES ACADEMY
OF HOSPITALITY MANAGEMENT
In academic association with Ecole hôtelière de Lausanne

How to deal with consultants effectively: A view from the other side

*by **Ted Horner*** in

Ted Horner has almost 30 year's experience as an IT consultant in the hotel industry. We asked him for advice on how a company can get the most out of working with a consultant. Here are his eminently reasonable guidelines.

I know that everyone out there sees these articles written by consultants and says to him or herself, "That's nice – but how does that apply to me?"

All hotels/resorts reach a point at some time when they are aware that they could be doing things better or differently. One or several areas of the operation are not achieving their goals or are not functioning as efficiently as they might, and are unable to offer or formulate an effective remedy. This is where the timely employment of a consultant can reap measurable returns.

Another example is when a new hotel is being built and the owner or operator wishes to explore what technology options are out there in the market. Experienced hotel IT consultants are perfect for these types of assignments and can also assist their clients in determining best-of-breed solutions depending on size and type of hotel.

The list of potential problem areas, or areas where research is required, is relatively endless and can include any number of operational, technical and customer service areas. A consultant allows you to hire a level of expertise that you might otherwise not be able to afford.

But lest you think that this is self-serving – allow me to provide the view from the other side; what makes a "consultant-client"

*In 1989 **Ted Horner** established E Horner & Associates Pty Ltd, a consulting practice specializing in technology consulting to the hospitality industry, and he is now widely respected as Australia's leading consultant in this area. In 2002, he was a founding member of HTNG (Hotel Technology Next Generation), a not for profit body which was established in the US to promote open systems integrations between vendors in the industry. Today he is an Executive Advisor to HTNG. In 2004, Ted was the first non-US person to be elected to the HITEC Technology Hall of Fame for his contribution to the advancement of technology in the hospitality industry. In 2014, he was elected to the International Board of Directors of Hotel Technology Financial Professionals (HFTP), who run the largest hotel technology exhibition/conference in the world (HITEC). He has completed consulting assignments in the following countries over the last 25 years in Singapore, Indonesia, Sri Lanka, USA, Malaysia, Dubai, Papua New Guinea, and many others.*

relationship work for the benefit of both. A good consultant-client relationship is a professional marriage. A consultant wants to provide value to the client but recognizes that it requires a bit of work on both sides. Let me share with you how to maximize a consulting relationship:

The chemistry thing. Once you have identified one or more consultants who may be qualified to assist you in your problem area, have a telephone conversation with each. As in any relationship, chemistry is an issue. You know if this is person has a style that will complement and mesh with yours and that of the people in your organization. Not every client and consultant has the chemistry required to get the job done, no matter how qualified the consultant. Ask for references and examples of how they successfully assisted other clients in similar situations.

Analyze the issue. Most consultants are willing to do this for expenses or a minimal fee. A good consultant is set of "fresh eyes" – someone who can give you an objective opinion of the elements of the situation and recommendations for a resolution. However, resist the urge to "shoot the messenger" if their analysis does not exactly agree with your perception. Some clients simply want an echo of the conclusion they have already drawn, to validate their own opinion. This is fine as long as you are willing to pay for it.

Define the objectives. What are the goals and the benchmarks? All too often a client is ambivalent about what the objectives are in terms of observable outcomes.

Define the parameters of the consultation. Define the fee structure, billable expenses and the duration of the consultation with renewal options, if applicable. Discuss the reporting arrangement and agree upon when the bill is to be paid. In many cases, the consultant is a small business operator and invoices left unpaid for over thirty days puts him or her in a bind and gets your account poorly served.

Commit to implementation of the recommendations. The single most frustrating thing to a consultant is a client with whom the chemistry is right, the terms of contract are clear but the client does not implement or support the agreed upon action plans and recommendations. The consultant has no authority to enforce the performance of the action plans except the authority and express support that you give them. In those situations where everyone loves the recommendations and action plans but there is no support for their implementation, the consultant invariably gets the blame for poor results. It's your money – use it wisely.

Agree to disagree on occasion. A good consultant is there to stimulate you and provide another opinion. Commit to having discussions. If everything you were doing in the past was so good, how did you get into this situation in the first place? If you keep on doing what you are doing you will keep on getting what you've gotten. A disagreement on an issue doesn't mean that you are wrong. Back your ego out of it and be willing to listen to a dissenting opinion. At least agree to think about it.

Commit to the agenda. A good consultant will furnish you with an itinerary prior to the visit and it is up to you to ensure that the staff involved has cleared their calendars to give the consultant their focus and attention. A consultant's time is very expensive to waste. A staff member who is feeling threatened or defensive will often avoid spending the required time with the consultant. While a good consultant will try to put their fears to rest (unless they are the problem), it is up to you to make it clear to the staff that the consultant is there to identify and support solutions, not to threaten or find fault. However, as the saying goes, if you are not part of the solution, you are part of the problem.

Communicate, communicate, and communicate. As in any good relationship, success depends upon the level of communication between the parties involved. Make sure that the staff provides the reports the consultant requests. A good consultant will begin their itinerary with a meeting with the key contact(s) and conclude with the same. Read and share with the staff the report that the consultant furnishes after each visit and discuss on the phone.

A good consultant is not someone who is "between jobs" or unemployable. Most have held positions of responsibility and produced results for their employers. That is how they developed their expertise. They are doing what they do for various reasons and not looking for a job. A good consultant has usually been offered numerous jobs by clients but prefers to do consulting for the challenge, variety and flexibility that it affords.

Good consultants are consummate "hole pluggers" and problem fixers that can generate many times their fees in additional revenue, provided that you, the client, know how to use them effectively.

In conclusion, please let me pass on some rules that have served me well for the last 27 years as an IT consultant to hotels:

Ted's consulting rules
1. UFI UFI (You f*** it, you fix it.)
2. Pioneers get the arrows; settlers get the land. If you are going to be first, make sure you have contractual guarantees in place to cover you in the event of failure.
3. If it is not in writing, it does not exist.
4. The devil is in the details, so make sure you read your fee proposals, contracts etc. And more importantly, understand it all, and if you do not, ask questions or seek advice.
5. Just because you have it in writing, do not assume it will happen automatically.
6. No one vendor can do everything, despite what they may say.
7. Your power as a buyer is at its greatest prior to signing the contract.
8. Before signing off on anything, do ensure you analyze total cost of ownership (TCO), not just the up-front cost costs, over the life of the contract.
9. Don't underestimate the power of referencing/checking with your peers to validate vendor claims – and take your time to do this properly
10. Good luck.
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All around the room

*by **Fraser Hickox*** in

In the hotel room, guests face a dizzying number of different touch points where they come into contact with technology. And in terms of how easy these human-tech interfaces are to find, then understand, and ultimately use, nearly all of them can be said to have room for improvement. Hong Kong-based Fraser Hickox takes us on a tour of the guest room, sharing his observations and insights.

True technology is much more subtle and impacts the guest in many discreet ways. It is no longer just the light switch but rather the way the guest addresses this function, the tactility, and the anticipated response to meet a current need.

We are today surrounded by all manner of technology and no longer amazed by the obvious, however if it performs a complimentary function that aids the integration of a number of functions, it is appreciated. We need to consider the total impact.

We need to turn away from specific functions, but consider all as a choreographed activity, subconsciously undertaken by the guest and delivered by a discreet guest centric control.

A lady entering the guest room does not admire the light switch, but rather seeks a means to appreciate the texture and aesthetics which often represent calm and well-being, the light switch providing access to the source of calm light which can affect the way she feels and the stay.

The room is more than a place to stay, but rather an experience, which if unique or at least interesting is taken away by the guest in memory when they leave.

Orthodox or traditional sophistication is bland, however a small simple and unexpected surprise is better rewarded particularly when it has a story. We are creating a fantasy for many, not measured by raw technology but the sum of the contributions of all disciplines.

When madam awakes and moves to the bathroom, she looks at herself in the vanity mirror, where a warm, even reflection is rewarded with acceptance, harsh downlights highlighting blemishes and wrinkles is a negative start for the day often with dire consequences for her companion.

Guest room lighting need not be complex, but rather complimentary providing for various spirit changes throughout the day, with warm lighting in the morning, to subdued lighting in the evening and while this is a guest moderated feature, it should be a simple function selected by a toggled scene switch.

We need to recognize the needs of all sectors of the community and all technology should remain within their understanding. The detection of the guest waking in a darkened room to travel to the bathroom should be discreetly detected and a low level light path provided to the bathroom, particularly for those suffering from depth perception issues but only when the room is darkened.

Providing for guests who are unable to relax is a need to reduce their brain wave frequency from an active 16 hz to a near Theta condition of 10 hz using defined slow linear dimming lights over four seconds to facilitate them reaching the rested state. The use of down lights above the pillow often required by an interior designer should be eliminated in all situations.

Bathroom lighting requires a selected condition suitable for applying make up but also to provide for low level lighting that would be more appropriate for relaxation while bathing.

In some instances lighting may wish to be adjusted automatically as a TV is switched, or the provision of a single light condition to enable an activity or reading without disturbing a sleeping spouse.

In all circumstances "Off" should be off when switched from the bed, there should never be a condition where after switching the lights off a single fitting remains on requiring the guest to switch it off and subsequently heightening their brain activity. The same applies to all TV LED's, smoke detectors (on a managed network) and back lighting

The use of tablet based controls has been employed by some hotels, which initially were popular with guests but with their common daily use in business, they are no longer perceived a novelty but rather a tool which in many cases is carried by the guest. In general, controls should be simple and minimal and clearly signed. All backlighting should extinguish in darkness but illuminate if the guest moves their hand in close proximity and extinguish if no function is selected.

The bedside panel could contain an alarm clock suitable for the guest use, but centrally locked so the time is always correct and globally adjusted for daylight saving time when appropriate. A discreet clock could be considered for the bathroom to be backlit only in the highest lighting level or otherwise extinguished.

Other switches should be located where the guest would seek them, for example the curtain controls, apart from being made available at the bedside, should also be located behind the drape where the guest would normally seek a draw cord.

Above all, controls and their operation should remain simple and elegant in execution.

The RCU controlling all these features would have the ability to also control a number of features including the signaling of a guest room condition to the Housekeeping scheduler, including if the guest is in the room, a DND or a make Up Room request, signal room service if a tray or service trolley has been left outside of the room and engineering air conditioning parameters as well performing BMS functions.

Telephones although no longer used by guests are required in the guest rooms and in some location bathrooms (for code requirements). These should be inexpensive and compact.

Telephone charging provisions are appreciated by the guest, who often forget to carry the appropriate cables, The use of a charging panel will enable any IOS or Android phone to be charged using in built cables and connectors and provides up to 1.5 amps suitable for tablets.

Television for hospitality is undergoing radical change away from the traditional Video On Demand services removing the need for all the accompanying plant and equipment, to various On Line Service (transmitted in different languages) in addition to the traditional service providers. This is further facilitated through the use of the latest hospitality televisions that now also provide for the pairing of guest carried devices and audio delivered via Bluetooth. In time this will grow further providing for different language and ethnic genres.

The next generation of servers will enable the hotel to remotely control the channel map and create landing pages for one day promotions but eliminating the need for the previous embraced service providers. It will also enable specific groups of rooms to be addressed for conference delegates, a tour group or even a wedding partner with a ticker being addressed to specific rooms. This will become much more dynamic but also provide for other services including YouTube which will be selected by
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language and genre popular among the Chinese particularly. These will also provide for digital signage to be displayed in both horizontal and vertical perspectives.

We are encouraging the manufacturers to consider a number of issues associated with the televisions but have also addressed these in the event the manufacturers are slow in meeting this need. These include:

• Constant audio levels particularly for YouTube to maintain a consistent audio level;
• USB signaling so we are able to detect when the TV is in active standby to operate a screen, a curtain, to switch a light or operate a curtain;
• Bathroom speaker controls so the audio level in the bathroom will reset when the TV is switched to active standby;
• Better audio quality, the downfiring speakers on most televisions are lacking particularly when encased in a frame and need to be improved.

External of the room, savings are being realized through the use of fiber optics to carry the television, telephony, WiFi, room controls, CCTV, security, public area AV, and other services substantially reducing the containment costs and installation but also giving back areas normally required for the IDF installation on each floor.

Public area audio is generally fairly flat but the use of resonation will provide a warmer sound that can almost be felt. The value of this is that if a full frequency response is provided the audio levels can be set lower.

Stating all this, a clean and comfortable room and enthusiastic staff mitigate all deficiencies.

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Fraser Hickox *emerged from a career in broadcast engineering and aviation into the hospitality industry 37 years ago, a transition he has never regretted. His hospitality career in the main has been with the famed Peninsula Hotel Group for whom he established a research lab made up of bright young Chinese engineers with whom he created many new concepts which were located in Peninsula Hotels around the world and often measured as benchmarks by others. Seeking to broaden his interests, he is now working with a number of companies wanting to enhance their guest facing experience. Fraser holds degrees in Electronics Science and Radio Physics and was awarded the HFTP Hall of Fame recognition in 2008 and the Personalité de l'Annee – Internationale Hotellerie in Paris.*

Upcoming Technology Events

2017

JANUARY

JAN C 5 — **International Consumer Electronics Show (CES)**
January 5- 8, 2017 - Las Vegas - NV, United States

JAN 23 — **Agilysys Inspire 2017**
January 23-25, 2017 - Las Vegas - NV, United States

JAN 24 — **2017 HTNG Middle East Conference**
January 24-26, 2017 - Dubai, United Arab Emirates

FEBRUARY

FEB 22 — **Travel Technology Europe 2017**
February 22-23, 2017 - London, United Kingdom

FEB 22 — **Smart Travel Data Summit N.America 2017**
February 22 - January 23, 2017 - Atlanta - GA, United States

FEB 28 — **Phocuswright India 2017**
February 28 - March 2, 2017 - Gurgaon, India.

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MAR 8 — **ITB Berlin 2017**
March 8-12, 2017 - Berlin, Germany

MAR 28 — **HITEC AMSTERDAM**
March 28-30, 2017 - Amsterdam, The Netherlands

MAR 28 — **HTNG Insight Summit Europe**
March 28-30, 2017 - Amsterdam, The Netherlands

APRIL

APR 5 — **International Hotel Technology Forum (IHTF) 2017**
April 5- 7, 2017 - Paris, France

APR 10 — **HT-NEXT**
April 10-13, 2017 - Orlando - FL, United States

APR 24 — **EyeforTravel San Francisco Summit**
April 24-25, 2017 - San Francisco - CA, United States

MAY

MAY 8 — **Digital Travel Summit**
May 8-10, 2017 - Lake Las Vegas - NV, United States

MAY 16 — **Phocuswright Europe 2017**
May 16-18, 2017 - Amsterdam, The Netherlands

JUN

JUN 26 — **HITEC Toronto**
June 26-29, 2017 - Toronto, Canada

JULY

JUL 25 — **HTNG Asia-Pacific Conference 2017**
July 25-27, 2017 - Singapore

OCTOBER

OCT 25 — **HFTP Annual Convention 2017**
October 25-27, 2017 - Orlando - FL, United States

NOVEMBER

NOV 6 — **World Travel Market 2016 (WTM)**
November 6- 8, 2017 - London, United Kingdom

NOV 7 — **HITEC Dubai**
November 7- 9, 2017 - Dubai, United Arab Emirates

NOV TBA — **HOSPACE 2016**
November 2017, London, United Kingdom

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As the bartender buzzed and whirred, the martini was shaken, not stirred.

*by **David Sjolander*** in

Robots taking over certain roles in the hospitality industry is not a question of "if", writes David Sjolander of HTNG, but of "how" and "when". But they will interfere with the human interaction we foster with guests, many hoteliers argue. Then the logical entry point will be in back-of-house functions – but they won't stop there.

Robots are nothing new. The term was coined in the 1920s, and the first functional robots appeared shortly thereafter. Widely deployed to perform functions previously carried out by humans in industries from manufacturing to aerospace and law enforcement, they are now commonplace. Robots can be less expensive and more accurate than humans, and they are often used to perform functions that are dirty, dangerous, or repetitive.

New use cases emerge daily. Case in point, currently in development is a robotic co-pilot for commercial aircraft. As pervasive as robots are in many industries, the question remains whether there is a place for them in hospitality, an industry that prides itself on human interaction. Perhaps it is not so much a question of whether robots will find a home in hospitality, but more a matter of how and when.

A common objection from hoteliers is that we can't let technology get in the way of human interaction with our guests. Tell that to the delighted guest who opens her door to greet Relay, the delivery robot from Savioke. Guests were so enthralled by it that the company's engineers had to re-program Relay to stay at the room longer. When was the last time you wanted your room service waiter to stay longer?

Clever engineering at Savioke makes you feel like you have made a new friend after being served by Relay. And then there's Makr Shakr, a robotic bartender from Italy. Watching Makr Shakr mixing drinks (and occasionally dancing) behind the bar is always a good time, but guests can also create their

Makr Shakr

own recipes, order on their phone, and watch their drink being shaken, not stirred through the wonders of technology. For many guests, this will be more engaging than explaining their special request to a busy bartender in a noisy room. And Makr Shakr will never over-pour, give out free drinks, or try to date your guests.

Not all hotel robots will be seen or interact with guests. Maidbot's first robot is designed to clean the guestroom floor while the housekeeper is cleaning the bathroom. The back of the house seems ripe for automation because there will be no argument about reducing guest contact. The other complaint often heard is about taking away jobs; however, these jobs are often difficult to fill, have high turnover rates, and are prone to injuries. Regardless, if there is a better, faster, and/or cheaper way to get the work done, it will happen.

Another recent introduction is Connie, the robotic concierge at Hilton from IBM and Wayblazer. Connie sits on the front desk, responding to natural speech from guests to answer questions, provide sightseeing recommendations and make dining suggestions. But is Connie a robot? She (it?) automates a task typically done by humans, but so does a sheet folding machine and a dishwasher. Are they robots? Connie might be more of

a personal assistant à la Siri or Alexa than a robot. No matter what you call her, Connie is still an interesting new product to watch.

As an industry, we are just now engaging with robots. There are many challenges ahead for robotic pioneers in the hospitality industry. As a labor intensive industry with many staff performing repetitive, physical work, it will take time to figure out where in hotels robots belong and where they don't. However, don't be surprised if, before long, your soup is cooked by a robotic chef, your room is cleaned by a robotic room cleaner, and your triple half-caf vanilla no whip mocha is brewed by a robotic barista…in a green apron, of course.
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*As Chief Operating Officer of HTNG, **David Sjolander** is responsible for driving the operational execution of HTNG's mission. David is a lifelong hotelier with deep background in hotel technology, distribution and operations. He has held senior executive positions with several industry suppliers, such as Pegasus, TravelClick and Fidelio, as well as leading hotel chains Carlson Hospitality and Hyatt. David holds a bachelor's degree in Hotel and Restaurant Management from the University of Denver and a MBA from Golden Gate University in San Francisco. He also serves on the Executive Advisory Board of the Fritz Knobel School of Hospitality Management at the University of Denver.*

Hospitality industry expansion is being fueled by alternatives

*by **Prakash Shukla*** 🔗

The hospitality industry is undergoing seismic changes with consolidation and disruption. Prakash Shukla believes the industry is at a crossroads of significant disruptive changes, being driven by new business models and technology. He outlines the macro environment driving the industry, some recent transactions and then possible opportunities particularly in hospitality space. Clearly, before asset allocation, one needs to have deep domain expertise, he believes. It is only then that one can identify opportunities where new processes, models, technologies can be used to access new markets, inculcate efficiencies, or create a complete new paradigm shifts.

The travel and tourism industry represents roughly $8 trillion (10%) in global GDP. This segment of the global economy incorporates a variety of companies that specialize in specific industry segments, but just five sectors – food service, cruise lines, lodging, gaming, and airlines – account for the majority of this activity, and represent more than $850 billion in annual revenues in the US alone. It is also a significant employer, accounting for roughly 277 million jobs.   Looking in the rearview mirror, it is apparent that there is a direct correlation between innovations in technology and the growth of hospitality industry.

The role of venture capital in hospitality, travel and tourism

Market expansion has been fueled by alternative investment vehicles that fall into following catagories:

- Angel investments: Team and an idea
- Early stage seed capital: Team, idea and maybe an MVP
- Venture capital: Team, idea, am MVP, traction and huge scalable market
- Growth PE: Post revenue valuation based on multiples
- Traditional PE: Post revenue, valuation based on multiples exit usually a listing or to another strategic

There are various entities funding travel start-ups, including prominent angel investors, accelerators such as Y Combinator, public company funds such as Amadeus Ventures, private equity firms such as Blackstone. Venture capital firms active in travel include Sequoia, Battery, Kleiner Perkins Accel Partners, etc. Most however are horizontal players and are looking for innovative products across industries.

Recent exits in the travel space include:

- Concur Technologies (SAP, $8.3 billion)
- Micros Systems (Oracle, $4.6 billion),
- OpenTable (Priceline Group, $2.6 billion),
- TravelClick (Thoma Bravo, $930 million)
- Kayak (Priceline Group, $2.1 billion)
- Trivago (Expedia, $632 million for a majority stake)
- ITA Software (Google, $700 million) in 2011.

TripAdvisor is among the most acquisitive companies in travel, having acquired 29 brands since 2006. In 2014, TripAdvisor acquired four companies, including Viator for $200 million, as well as European restaurant reservations site Lafourchette, VacationHomeRentals and Tripbod for another $152 million in cash.

That comes on top of six acquisitions – TinyPost, Jetsetter, CruiseWise, Niumba, GateGuru, and Oyster.com – the cash portion of which was a mere $31 million when the transactions occurred in 2013. That cash portion, though, which was disclosed by TripAdvisor in financial filings, doesn't necessarily reflect the total cost of the acquisitions.

Vacation rental leader HomeAway is another avid acquirer, and it has tacked on approximately 22 businesses since its founding in 2005. In 2013, HomeAway acquired Travelmob of Singapore, Bookabach in New Zealand, and, by far the most expensive of the trio, the Stayz Group of Australia, for $198 million. HomeAway also acquired Glad to Have You, a property management app, for $16.8 million in 2014, according to a financial filing.

Conclusion
Overall the industry has seen significant advancement due to innovations in technology. Broadly two types of "new" opportunities have emerged:

- Support and services for the industry by making existing processes more efficient. This includes all of the systems that make hotel operations work more efficiently: everything from discovery, reservations, fullfillment, billing etc.
- Completely new models that disrupt the industry. These are typically at an intersection of business model innovation and technology. Classic examples are airBNB, Priceline ec.

Certainly most startups fall into the first category, and many have created an interesting profitable niche. However, it is the latter category where maximum value is created. The challenge in opportunity identification requires deep domain expertise and the ability to identify new constructs, which may not exist.

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Prakash Shukla is a seasoned professional with over 25 years of general management, finance, technology and entrepreneurial experience. Prakash is a managing partner with Solarex LLC (family office). Before that he was a partner with HGM Asset Management (PE fund) and was a 2013 Advanced Leadership Fellow at Harvard University. He served as Senior Vice President and CIO of TAJ Group of Hotels from 1999-2012. With a background in some of the industry's most venerable corporations – Unisys/Sperry and IBM Research Labs – Prakash has innovated and provided solutions for numerous corporations and financial institutions such as Morgan Stanley, Goldman Sachs, Citigroup, Paine Webber and Solomon Smith Barney. In addition, he was an early investor and/or board member of Speech&Software Technologies (a Tata promoted company), TravelGuru, a Sequoia funded India centric travel portal sold to Travelocity. Early investor in Transerv, base of the pyramid payment solution provider. Prakash also formulated and launched base of pyramid hotel chain Ginger Hotels (100% subsidiary of the Taj) in consultation with CK Prahalad. Launched MangoTree PE fund seeded by the Tata Group. Served on HTNG board and is now Advisory Board Member. Prakash was inducted into HFTP Technology Hall of Fame for his contributions to hospitality industry. He also served on Microsoft Hospitality Advisory Board.

Envisaging the hotel of the future

*by **James Law*** 🔗

If the 20th century was an era of conventional hotel design, the beginning of the 21st century has seen the arrival of new forms of hotel design. The growth in urban hotels, boutique hotels, resort hotels, and other permutations of the typical hotel model has yielded a great variety of hotel designs around the world. However, as architect James Law of the Hong Kong-based firm James Law Cybertecture writes, what may set the 21st Century era hotel design from its predecessors is the rapid innovation in everything. Raised design-consciousness and the rapid adoption of technology will yield a new generation of hotels that will be systemically different from before. "They will be different," he says, "because the people who stay in them will stay there for new reasons, with new personalities, and with new lifestyles that never even existed before."
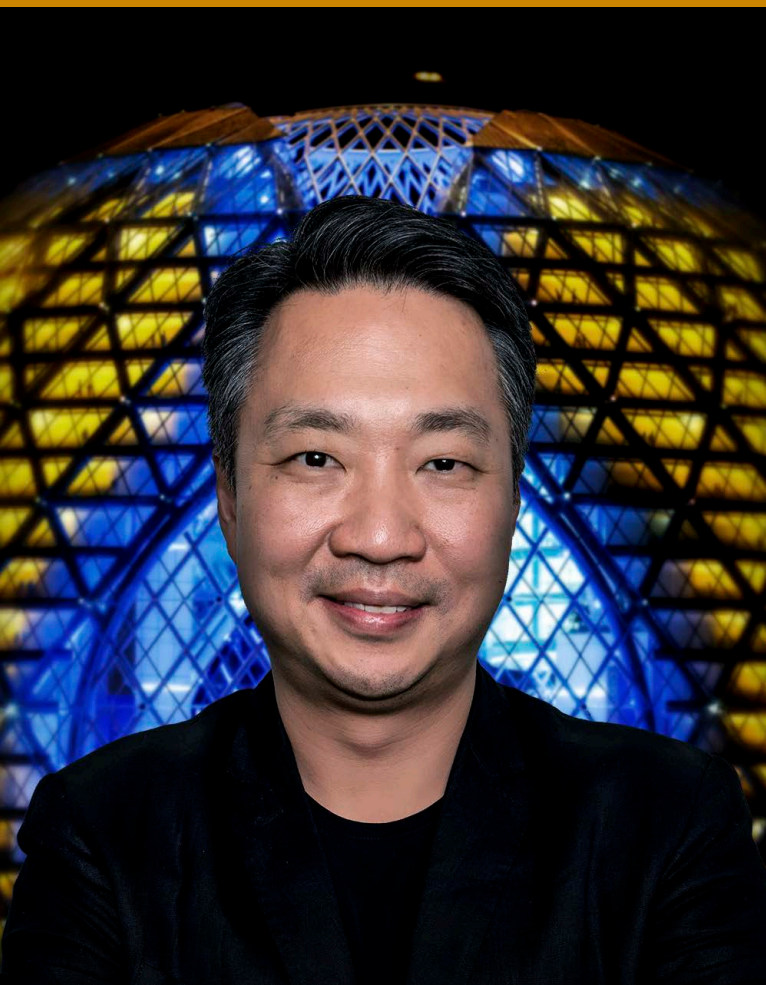
In this article I hope to identify several key drivers which may hugely affect how hotels of the future be designed, built and operated.

A new meaning of "hotel"

The meaning of hotel has always reflected the society that it existed in. From hotels for vacations to hotels for business, hotels have been there to be the rentable and temporary locations for people to stay or to host activities. However, we know the fundamental ways people live, work and play are changing. No longer tied to traditional entities, new age people work dynamically as nomads via the Internet; new age people live on the go in a life that is like a journey; and they all play to relax with games and activities such as online communities that no longer are predicated on physical locations alone.

And in a world of increasing costs, the price for the permanent home for each person is reaching a level where much of the urbanized middle and lower class is being pushed to rent rather than to own property. If they are to rent, then their homes are very much like hotels in themselves due to the non-permanence of ownership. Given the pace of change, and the availability of new online platforms for finding accommodation such as

Airbnb, any property can be a hotel room. The hotel may no longer be just a collection of fixed hotel room spaces linked together in a physical structure, but instead a virtual network of rentable spaces. It may not be too far-fetched to extrapolate this trend to one where many of the world's population may literally be living in hotel rooms or apartments in order to balance their transient lives as well as the difficult affordability issues. The transient form of using space – the mobility of people's lives – leads to new meanings for hotels. Perhaps hotels become nomadic residences, where the stay is longer than a few days but shorter than the average rental periods of 2-3 years. If this is the case, hotels may need to be designed differently to cater to this kind of transience. They need to be both permanent yet impermanent, fixed yet flexible, scalable both to grow and to downsize. These attributes are necessary to make hotels able to adapt to the needs of the new society.

Hardware merge software
More than ever, the hotel experience is recognized as the synthesis of hardware and software: the hardware being the location and hotel built structure, and the software being the service and events that happen within the hotel. I believe that this hardware and software will continue to merge, unleashing new possibilities. For example, it may soon be possible for the theme of a hotel to change with the seasons, and yet be reflected directly in the architecture of the building. Large LED walls are already beginning to be smart walls able to change color, content and impression affecting any space. Perhaps entire hotel lobbies will be able to adapt with the seasons, time and needs of the hotel by changing their look digitally, able to be upgraded to the needs of new spatial impressions.

Imagine that the view from any hotel room can be tuned to the whim of the visitor. Using virtual reality or augmented reality, a room in Dubai can see a live view of London, or any other location on earth that has a live feed via the internet.

Not only will the visual spectrum be unleashed by the merging of hardware and software, but physical space may also break its permanence. Soon, hotel rooms will be able to change configurations and size with animatronic systems that can move walls and furniture to the specific needs of the user. This is a whole new level of customization that allows every customer to have his ideal space when he stays in a hotel room of the future. ↓

Mobility and portability

Hotels have mainly been built in conventional ways, where large super structures contain hundreds of rooms and associated facilities. This form of construction has proven to be wasteful, inflexible and outdated. Pouring concrete, floor to floor, takes time and uses an immense amount of resources, time and energy. In fact the whole of the building industry uses more energy than any other sector in the world. However, another form of construction can be interpreted as "manufacturing" and there is a beginning of a major shift to "manufacture" buildings rather than to build them from scratch. This affords high quality, lower costs and shorter amounts of time to achieve the construction of hotels.
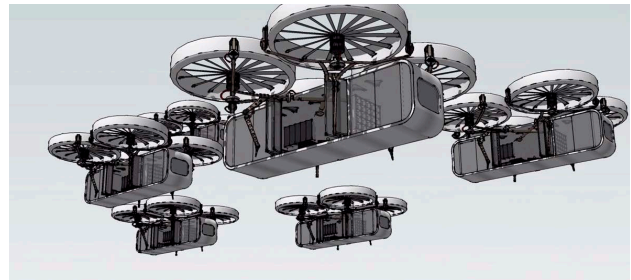
An interesting offshoot of this move to manufactured architecture is the potential for hotels to become portable. Imagine that hotels in the future may not have to stay in the same place until they become obsolete, or if their business runs out. A hotel may be able to deploy its infrastructure if it is portable, moving it from location to location in order to best modulate the success of the business in ever-changing customer needs and economic situations. The mobile population that is linked through telecommunication, Internet and a transient lifestyle will not feel alien to such an idea. Imagine a hotel that can spring up at a place of great natural beauty, yet move on, after a designated time, in order not to destroy the environment. Image a hotel able to grow bigger as it operates because there is demand, because it is built out of mobile "pods" that can be plugged in to add more capacity.

The mobility and portability of hotels will yield opportunities to customize hotels to be extremely iconic and unique pieces of architecture. They can reflect the unique needs of the place, as well as the whim of the user. No longer confined to permanence, the future hotel will be adaptable and changing.

Land, sea, air… space?"

I believe the new century will see human civilization take massive steps forward. For centuries, humans have predominantly lived on land, travelled on the oceans, flown in the skies. Now, it is the time for us to take the next leap, and go into space. The technology is available, and the trends are pointing to the possibility that this will be affordable for the masses in the not too distant future. So why do hotels only have to be on land? Massive ocean liners are already hotels on the seas. I postulate that there will soon be hotels in the sky, made of hotel rooms that can fly. They will move you from place to place, an airborne living experience just like a bird, affording a freedom above the clouds, and not bound by terrestrial obstacles and geographies. Literally you can live in "heaven", experiencing our world on a level not yet achieved. And then, beyond this, hotels will certainly head into space, an infinite realm of possibilities beyond our rather small planet. Perhaps hotels will first be in orbit around our planet, then they will be built on the moon, then on Mars and beyond. Driven by man's innate sense of inquisitiveness, his urge to experience beyond himself will continue, and this will be reflected certainly in the most ambitious hotels of the future.

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James Law is the founder of international architecture and technology design firm James Law Cybertecture; smart cities company Cybertecture X; smart health company Cybertecture H; design education institution Cybertecture Academy, and NGO Cybertecture For Humanity.
James is a Young Global Leader of the World Economic Forum; a Council Member of World Economic Forum Global Agenda Council on Design & Innovation; Board Member of the Hong Kong Design Centre, Board Adviser of the Hong Kong Designers Association, and Member of Hong Kong Trade Development Council Real Estate Advisory Board, and frequent TED speaker.
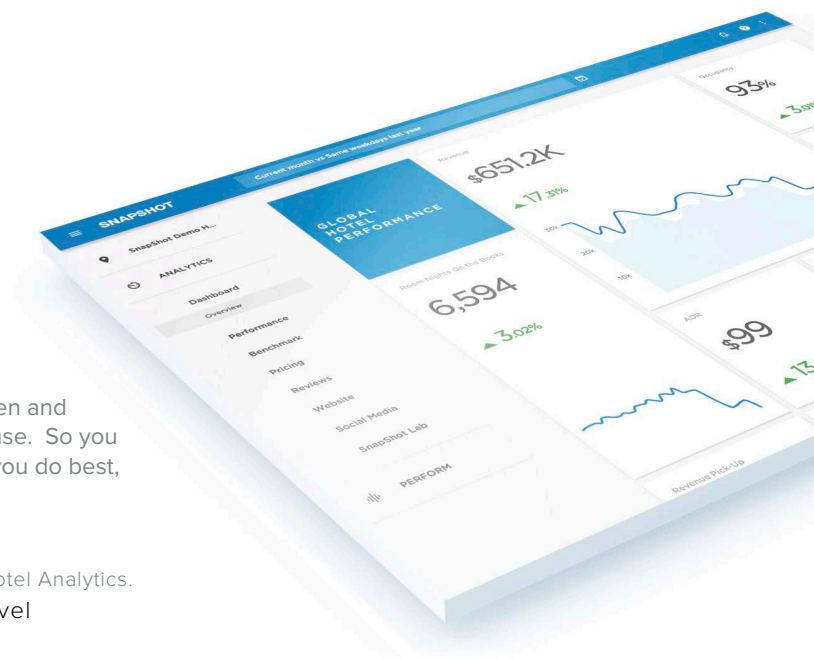
It can be simple.

Peace of mind is hard to achieve, when you are busy running a hotel. That is why we built SnapShot Analytics. A new kind of dashboard, built by hoteliers for hoteliers.

SNAPSHOT

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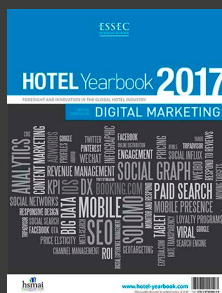www.snapshot.travel

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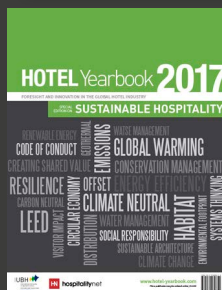
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