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Special Report

Special Feature:
**The Women of
Hospitality Technology**

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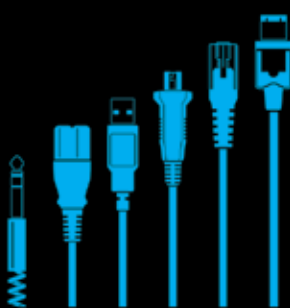


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Table of Contents



Special Feature: The Women of Hospitality Technology

A profile of the industry's notable and influential female IT executives

8	Introduction						
10	Carol Beggs, CHTP	15	Flo Lugli	20	Vanessa Ogle	25	Kris Singleton
11	Christina Cornwell	16	Sherry Marek	21	Valyn Perini	26	Naomi Stark
12	Cindy Estis Green	17	Kirsten Mollé	22	Sophie Pommois	27	Menka Uttamchandani
13	Diane Estner	18	Allison Morris, CHTP	23	Connie Rheams	28	Yvette Vincent, CHTP
14	Kristin Ingress	19	Monika Nerger	24	Ursula Rhode	29	Jing Zhu

5 Filter Out the Buzz Noise, Focus on Strategic Goals

An introduction from the HITEC 2014 Advisory Council Chair
By *Kris Singleton*

30 Pitching Your Project

Gain project buy-in with a well thought out and researched presentation
By *Mark G. Haley, CHTP, ISHC*

32 Steps to System Selection

Careful evaluation of needs and available options leads to systems that serve optimally for the long-term
By *Cihan Cobanoglu, Ph.D., CHTP*

35 Cloud Services Come to Wi-Fi Access

A shift in perspective takes HSIA from hardware to software, making options more flexible and reliable
By *Daniel Lister*

38 Cloud PBXs Are Now Viable. Manage Differently.

Cloud PBX technology moves attention to SLAs, cloud middleware and normative total cost models
By *Ron Tarro*

40 Delivering Connectivity to One of the Largest U.S. Convention Centers

How Cox Business outfitted the Las Vegas Convention Center with a robust, technology infrastructure
By *Monica Compton*

43 Advanced HD Solution Brings Guest Room Entertainment Options

New solution offers digital quality and sound, as well as channel flexibility for individual hotel locations
By *Monica Compton*

45 Unencrypted Data: A Security Plague

Availability of unprotected payment data can be reduced with card discovery tools and a concentrated effort
By *Gary Glover, CISSP, CISA, QSA, PA-QSA*

49 Big Questions Around Big Data

How hotels can manage big data effectively, and ultimately use it to improve the customer experience
By *Lisa Apolinski*

51 The Business Intelligence Boom

A much higher degree of technology integration is needed to ensure revenue management teams do not miss opportunities to manage demand optimally
By *Bonnie Buckhiester*

54 Digital Content: A Hotel Marketer's Dream?

Digital outlets provide inexpensive, broad reach, but is it to the detriment of your overall marketing efforts?
By *Lori Fitzgerald*

56 Four Google Trends that Reveal the Future of SEO

Google focuses on local, mobile and social in 2014 — you should, too
By *Andrew Garberson*

58 The Internet of Things

New devices such as tech eyeware and fitness bands create a new avenue for reaching guests
By *Tamara Gaffney*

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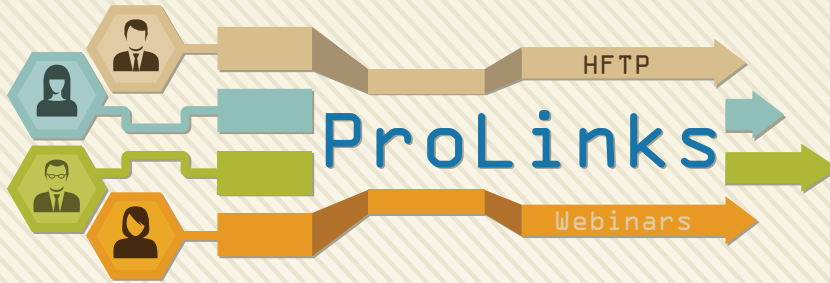
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Filter Out the Buzz Noise, Focus on Strategic Goals



Kris Singleton
HITEC 2014 Advisory Council Chair

The **HITEC Special Report** highlights the direction industry trends are moving toward

On a daily basis we are inundated with news of the latest technology upgrades and flashy new media gadget, both in our professional and personal lives. As IT professionals it is our responsibility to filter through the buzz noise — just like the streams of data we collect — and know what makes the most sense for our businesses. It is important that we understand what will help support our companies' strategic goals, boost guest services and keep our operations running efficiently.

And that's where HITEC comes in. Every fall the HITEC Advisory Council gathers to set the HITEC program for the following June with the goal to build a framework that offers a candid look at hospitality technology. To set the agenda, our group, with diverse experiences, has a thorough discussion on what issues are important to our industry. This includes for the education program, as well as in this Report. While the topics might be familiar, the difference is that there is always progress, the details of which you will read in the pages that follow. We hope you will find this useful and thought-provoking; helping you get a picture of where hospitality technology is headed.

Included in this publication is a very special feature highlighting influential and notable female IT executives working in the hospitality technology field. This section highlights technologists who have made significant contributions to our industry, and I am proud to count myself among them.

I'd like to thank the authors who have volunteered to share their knowledge within these pages, as well as the members of the Advisory Council for their assistance with this project. While HITEC has planted itself as an established event in its four decades, what is delivered every year still remains fresh due to the ever-evolving technology discussion, bringing us back year after year.

Kris Singleton is chief information officer for The Cosmopolitan of Las Vegas.



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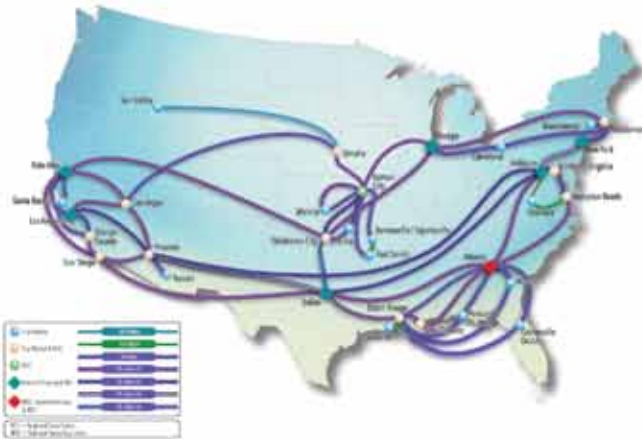
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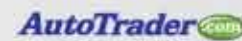
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The

Women

of Hospitality Technology

A profile of the industry's notable and influential female IT executives



Carol Beggs, CHTP



Christina Cornwell



Cindy Estis Green



Diane Estner



Kristin Ingress



Flo Lugli



Sherry Marek



Kirsten Mollé



Allison Morris, CHTP



Monika Nerger

To celebrate Hospitality Financial and Technology Professionals' (HFTP) strategic goal of elevating our members' professional stature, we decided to publish a special feature on some of the most influential women in hospitality technology from around the globe. The list was generated by polling the industry, press and the HITEC 2014 Advisory Council. This list might not be complete, but it is certainly an excellent representation of the industry's best and brightest.

In our interviews with these women, there was an overall consensus that while females were few and far between in their immediate workplace, gender did not act as a prominent deterrent to their professional growth. They came to IT because of their passion and interest in the confluence of hospitality and technology, and concentrated on working with their teams to integrate the practice.

"I honestly didn't really see myself as 'female' in the business, but rather someone who was very qualified to do what I was doing," wrote Christina Cornwell. "I always approached each issue that needed to be handled in a way that was really about asking myself: What is the best business solution? Not what would a women do in this situation to get things done?"

What follows is a cross section of the women — working on-property, as vendors and consultants, with a variety of specialties — who are guiding the path of hospitality technology.



Vanessa Ogle



Valyn Perini



Sophie Pommois



Connie Rheams



Ursula Rhode



Kris Singleton



Naomi Stark



Menka Uttamchandani



Yvette Vincent



Jing Zhu

Carol Beggs, CHTP

Director of Technology
Chatham Bars Inn ★ Chatham, Mass.



At age 17, Carol Beggs took her first hospitality job as a waitress at the Sheraton. “It was so different and so much more fun than the after school office jobs I had had, that I knew I would never go back to a pure corporate employment.”

She went on to study at Colgate University, but unfortunately a recession coincided with her graduation, making jobs scarce for new graduates. So she took a “temporary” technology job with Sonesta International Hotels Corp. This was definitely not in her life plan since she scored her lowest college grade in Computer Science 101. Fortunately she found a “tremendous” mentor at Sonesta: Jules Sieburgh, CHTP. Sieburgh “most memorably taught me to have my facts straight and to ask questions or present challenges in an organized, succinct way.”

In the early days of Beggs’ career, her challenge came in educating all levels of ownership and management on the value of technology in hospitality, constantly competing for budget dollars against more visible and more tradi-

“Installing a property management system is probably the ultimate hospitality technology exercise in leadership and teamwork. I can’t think of any other system that effects every single division/department/employee of a hotel the way the PMS does. It requires bringing together an entire hotel team and motivating them to do something that will disrupt their schedules, require long hours, make their jobs more difficult in the short term and change long ingrained ways of doing things. To do this successfully is truly an art.”

tional hospitality capital items. “I was fortunate to work for Stephanie Sonnabend, who saw the value of IT very early and very clearly, and was always an advocate for our team.”

For the next 20 plus years, Beggs continued at Sonesta, with increasing IT responsibilities for the company, including longest as its vice president of technology. In August 2013 she took the opportunity to move to the independent luxury property Chatham Bars Inn, a winner of the Forbes Four-Star Award, a big change from her years in the small chain environment. Regardless of the property style, Beggs knows the value to building the right team. “It is critical to choose the right vendor partners the first time around, as the capital investments made with these choices — both financial and human — mean that you will likely be in that relationship for multiple years.” She also emphasizes the

importance of industry involvement, especially for smaller organizations. Such involvement provides a bigger voice and broader knowledge of solutions and options beyond what an organization may have come in contact with directly.

Considering the challenges she continues to face, one thing has remained the same: the need for budget dollars. But also at the top of that list is data security and all its elements, and Beggs is now looking to technologies that help to lessen the broad storage of that data. “It makes no sense to me that this data is stored at tens of thousands of endpoints across all business that accepts cards, so that we have to try to harden all these myriad locations with widely varying levels of technology sophistication.”

She would also like to see the world of HDTV become much simpler and less expensive. She explains that the vast majority of hotels simply cannot afford to replace TVs in every room, every few years. The more that the innovation and change is driven to a centralized point, rather than in every guest room, the better.

Describing the role of an IT department, she says, “It is also always a balancing act between doing the things that will keep the systems running, and doing things that will have a more visible impact for either employees or guests.” ★

Written by Lou Cook

Christina Cornwell

Senior Director Technology Asia Pacific
Hilton Worldwide ✨ Singapore



Working at the Mandarin Oriental, Manila in the early '90s was a career-changer for Christina Cornwell. She originally enrolled in hospitality management at the University of the Philippines because her mother felt the hospitality industry would be a good fit for her.

“I fell in love with the diversity of what the industry could offer. Each day brings something new. And it is all about the people: traveling to new places and interacting with different cultures is especially fulfilling for me.”

But at that job at the Mandarin Oriental, Cornwell helmed a special project to upgrade the point-of-sale system, and it was then that she learned that she liked working with computers. “I enjoyed setting up the system with the hotel operations in mind, and how it could support the leadership team to better manage the business,” she remembers.

From that early entry into the technology field, she was challenged by the need to translate the “tech-speak” into something users in the field could understand. At the same time, she also worked to demonstrate how the process or

“There is probably no function or industry that deals with change as often as IT. So you must lead people to understand that change is an opportunity to improve yourself and your function. I believe that it is important to be an early adopter when it comes to technology. Being behind the curve on technological innovations can potentially put the success of your overall organization at risk.”

procedural changes that could be difficult at the implementation phase would be beneficial in the end. “My challenge was to explain it in a way that lowered their anxiety and allowed them to use the systems effectively.”

Cornwell’s calm approach, has helped her adapt as technology has evolved, as well as deal with those inevitable day-to-day hiccups. For example, during one conversion project, her team was days away from going live, when she received an early-morning call that said that the training couldn’t continue. All the servers were offline and had been moved out of the team’s meeting room. While the initial report said the servers were stored in the kitchen, which gave her pause, Cornwell remained calm. In the end, the servers were found in the hallway, unplugged as the meeting room was being prepared for an event.

“This experience, as with many others, taught me that you should expect the unexpected and plan for the worst,” she remembers.

Current challenges she faces include prioritizing IT projects and allocating and managing the costs of IT (from developing and retaining IT team members to ensuring compliance). To address this, she’s found that establishing a governance process to review all aspects of a project and encouraging a focus on business engagement has helped.

She’s particularly interested in anything relating to digital and mobile technology, and what it means when social media makes a hotel guest knowledgeable about the hotel’s amenities and services before arrival. “We always have to look for ways to ‘know’ what they want when they need it, while at the same time protect their privacy,” she says.

A collaborative leader who learned from a number of mentors, including a general manager with whom she worked with in Singapore, Cornwell has a guiding principle she uses as a manager: “I catch people doing their best and let them know about it.” But more than that, she says, she focuses on hiring the right staff to execute a well-designed plan.

“You must consistently lead in a way that keep team leaders and the people who report to them comfortable with change,” she adds. After all, “there is no function or industry that deals with change as often as IT.” ✨

Written by Margaret Littman

Cindy Estis Green

Co-founder and CEO
Kalibri Labs ★ Potomac, Md.

Cindy Estis Green, may not have known it at the time, but enrolling as an undergrad at Cornell University would inadvertently change her career trajectory. You see, Estis Green didn't go to Cornell with the intention to work in the hospitality industry post-graduation, she went to Cornell to study human development. That soon changed. "Having grown up in a children's summer camp 24/7 operation ('a hotel for kids,' she calls it), I realized I knew more about the hotel business than I thought and it sounded fun and exciting. So I transferred into the hotel administration program and haven't looked back."

An expert in distribution issues, Estis Green's Kalibri Labs, launched in 2012, is helping the hotel industry figure out how to evaluate revenue performance net of customer acquisition costs. By developing an important new set of revenue efficiency metrics and a cutting-edge technology platform, Estis Green enables hotels to target the vexing problem of fast rising costs and expose the insights to dramatically improve profit.

"I have a recurring pattern of creating new technology and introducing it when most users don't understand its application. In each case, I gathered a team of smart and motivated managers to participate in developing these tools and harness their enthusiasm to spread the word. My visions, no matter how innovative and compelling, would never come to life without the power of the team to carry it into the marketplace and help the hotels learn to use it."

Her first taste of working in the technology field of hospitality came with what was then Hilton International. She was tossed into the fire right away, she recalls. "First day on the job I was expected to build marketing information systems," she says. Only problem was she had no inkling of what that really was or how to do it. "Other than one programming class in college and learning to use SPSS in grad school, I had no technology experience," she says. But she figured it out, working closely with the head of IT. "We became pioneers together in building out revenue management, sales automation and marketing databases; it was a time when few were venturing into sales and marketing technology," she says. That head of IT, not hard to believe, became Estis Green's co-founder and now partner at Kalibri Labs.

Estis Green found herself in the middle of hotel technology when, well, there wasn't too much hotel technology around — not like there is today. "I re-



call the comptroller of Hilton International telling me that automating sales would only be a waste of time for the sales teams and keep them off the road from meeting customers," she says.

In earlier times, the biggest challenge before her was power — lack of it, to be precise. "The early systems were underpowered for our aspirations and could not handle the data volumes we wanted to process," she says. "We would wait hours or sometimes overnight for large batches to process before we could get answers to marketing questions from our data."

Much has changed since then. Today, big data is a big interest, particularly for Estis Green. "How will that be harnessed by the travel industry?" she asks. "We have been operating for many years with very limited intelligence driving many business decisions and this may allow the industry to make great strides very quickly in customer service, marketing and operational efficiencies."

Even with her peerless acumen, Estis Green still often faced challenges as a woman in a male-dominated industry, but it never really bothered her. What does concern her is the overall lack of women working in hospitality technology, something she tries to address. "I try and mentor other women whenever possible," she says. ★

Written by David Eisen

Diane Estner

Principal

Danni Enterprises ★ Atlanta, Ga.



The hospitality industry is an archetype of a work-your-way up business. There are countless tales of C-level executives who started as busboys or other general factotums. Then there are others who made their mark in other industries before making the jump into hospitality. That describes Diane Estner, who has just recently moved from her position as vice president of global account sales at Systems Design and Development (SDD). At SDD she managed global strategic business relationships with hotel brands, hotel management companies and technology solution integrators.

Telecommunications is where Estner made her initial foray into technology, cutting her teeth at such companies as Motorola and ConQuest Operator Services. “It was a great time, too,” she says, referring to the era when Six Sigma and TQM were established.

She discovered hospitality in the early '90s, finding it to be a dynamic, challenging and diverse industry. “I enjoy the adventures of travel, working with interesting people and creatively solving problems,” she says.

“My priority and early challenge was learning how to establish and assert myself as a credible peer within the technology environment. I wanted to be recognized and valued for my ideas and contributions to making things happen. Now, for me it’s more about trying to do everything possible to keep up with the ever changing technology landscape, and staying tapped in to the ‘who, what, when and where’s.”

And adventures she has had. On one occasion, her first work trip to Bangkok, to be specific, she was flying in a jumbo jet from Hong Kong with about 25 people total on board. “Something wasn’t right,” she says. She came to learn that the prime minister had just been overthrown. On another occasion she lost her luggage twice during the same business trip, traveling to multiple countries. “I’ve learned to expect the unexpected, be prepared for anything and appreciate the adventure of world travel,” she bravely says.

Shifting from one facet of technology to another did have its challenges for Estner. She particularly had to adjust to understanding the back-end processes of how a hotel runs. “While I had all the product knowledge, I needed to deep dive into learning how a hotel operated,” she says. “It was a

great experience as I worked closely with many casino hotel groups, and I spent a fair amount of time learning the life and trials of hotel IT and communications.”

Beyond the technical aspects, she also had to prove her worth to those around her — those who had been working in hospitality for years. I’m a business person,” she says. “I’ve never been too heavy on the geeky side,” she jokingly says, though maybe half-jokingly: she was once a rock ‘n’ roll singer.

Like many in the technology side of the hospitality business, Estner is charting the movements and tastes of the new generation of technology users, namely the millennial generation, who she believes will drive the way hotels manage their overall technology deployment and systems.

“Our industry technology is at a tipping point,” she says. “It’s very exciting to see and be a part of the change. I see millennials driving our hotel technology standards and creating new accelerated levels of technology innovation and adoption. When you combine this with the significance and growing dependency on social media, BYOD supportability, content delivery, brand loyalty, cost efficiency, and that ever-important unique hotel guest experience, it’s both exciting and encourages vendor collaboration.” ★

Written by David Eisen

Kristin Intress

Managing Director/CEO
Worldhotels ★ Frankfurt, Germany



In a world where technology continues to play an ubiquitous role, pervading over all aspects of daily life, Kristin Intress, has not forgotten what technology is truly there for: as an aid, not an authority.

“One of today’s main challenges is to prevent technology from taking over our logical thinking,” says the former CEO of CRS provider InnLink. “In our fast-moving and technology-driven times, we often get overly dependent on technology and forget that it is designed to help us, and not control us.”

Not unlike many who have made their careers in the hospitality industry, Intress’ indoctrination began at a young age, 15, while supporting the opening of a new hotel. “Each team, from room service, to kitchen and front desk, was working as one to get the hotel ready for the opening,” she says. “What I like most about the industry? Its essence of people caring about other people’s needs and wishes, and doing their utmost to fulfill them.”

Intress’ introduction to technology, however, did not come via the hospitality industry, but rather the medical field. At first, admittedly, she was a tech

“Overcoming other people’s negativity and holding on to my vision was one of the biggest challenges I faced, but it also taught me one thing: To take the first step, it is sometimes better not to know how difficult a journey will be and trust your instincts. Of course, ultimately success is only measured by those who cross the finish line.”

novice, but she was intrigued by the possibilities technology could provide. “Technology has the power to unlock our potential, helping us to reach our targets in a faster and more efficient way,” she says.

She was a fast learner, ultimately buying InnLink, though discovering right away that she may have bought a flatlining company, where the technology, Intress says, was “duct-taped together.” So instead of fixing it, she decided to develop a whole new advanced CRS platform. Doing so was one of her biggest challenges, but she persevered even when others told her she’d fail. “To take the first step,” she says, “it is sometimes better not to know how difficult a journey will be and trust your instincts.”

Of course, other issues tested her resolve, but also helped to galvanize the company. Consider the time when InnLink was switching CRS systems and

came upon an unexpected glitch — at midnight! What to do? “Solving the problem required calling in the entire team, and they all came, in their pajamas and with their kids and partners,” Intress recalls. “Together, we managed to get the system running, and I learned once again that technology is worth nothing without the people behind it.”

People, not hardware or software, are the key to a successful company. That’s something Intress makes plainly clear. In fact, it’s part of her hiring process. While IT can be a highly specific niche needing a high-level of experience and proficiency, Intress doesn’t just hire people who necessarily have the requisite skills. She’s taken a more maverick tack. “I have blended the hiring process, hiring people from the outside with little to no hospitality IT experience to bring in new ideas. It requires dedication and commitment to training, but helps a company overcome organizational blindness and generate new ideas.”

One thing most of Intress’ peers don’t know is that she is a decorated athlete — having played rugby in the Scottish national women’s league. Many of the lessons she learned in sports, she uses in business. “Working as a team on a common objective: this is the approach I’ve cultivated at each of the companies I’ve worked,” she says. ★

Written by David Eisen

Flo Lugli

Principal

Navesink Advisory Group, LLC ★ Holmdel, N.J.

It was the mid '90s and Flo Lugli was president of the Hotel Electronic Distribution Network Association (HEDNA). Erik Blachford, then a young exec from Microsoft, approached Lugli, asking to discuss a new initiative with the HEDNA board, hoping to get input. At the next board meeting he described how Microsoft planned to sell hotel rooms on the Internet, how the concept would work with content, rates and inventory.

Without exception, Lugli remembers, every member of the board indicated that this was unlikely to work. "Fortunately for Expedia," she quips, "Microsoft didn't listen to us." Not only is that a funny tale Lugli likes to tell, she says it was a big lesson that bears repeating. "When I come across people who don't believe that certain change might happen, or can't imagine how their current business model might be impacted by new technology or emerging business models, I tell this story."

Lugli retired as Wyndham Hotel Group executive vice president of marketing last year, having worked over the course of a storied career at Travelport,

" Today, the biggest challenges are simply keeping up with the pace of change, and the plethora of distribution and e-commerce channels that are out there. There are many new entrants and third party solutions that have entered the field to help hotels manage this complex environment. But creating a sound distribution strategy with specific priorities is critical to success today."

Cendant, Galileo and Wizcom. She started her career almost 30 years ago at People Express Airlines, which was acquired by Continental in 1987. From there she moved on to Howard Johnson, the launching pad to her hospitality career.

"It was early days for the hotel industry within the GDS, and since there wasn't anyone else to do it, I became responsible for managing our relationships and working with our IT team to ensure we had our content and rates available for distribution. As the GDS continued to improve their hotel systems, I was fortunate to be able to participate in initiatives like the Sabre Hotel Advisory Committee and the Apollo RoomMaster product, as well as other forums to discuss ways to improve distribution," she says.



While Lugli believes the hotel industry still lags behind the airline and car rental industries in technology to some extent, she sees her peers being challenged to keep up with the pace of change. "While we used to complain about having to manage content and rates/inventory across five GDS, we never imagined what is required today to keep the product on the shelves."

To have a team that can adapt to those changing demands, Lugli believes IT managers should hire carefully, looking for folks from a cross-section of disciplines who are able to accept risk and failure. But just as important, she says, is to continue to invest in employees after hiring them. "Constant personal and professional development with ongoing training and education is critical."

What's critical to Lugli, now that she has re-wired her career with her own consulting firm, is a better effort to enjoy the fun things in life, such as golf, travel, spending more time with friends and family, and drinking good wine, since she admits she never really mastered that elusive work/life balance in the past. "I took ballroom dancing lessons for a few years with my husband, but I'd have to say we could likely be classified as remedial students. But we had a great time." ★

Written by Margaret Littman

Sherry Marek

Vice President/Owner
Datavision Technologies ★ Pembroke Pines, Fla.



Sherry Marek graduated from the University of Iowa. In 1985, she came to Washington, D.C. for grad school and took a job in the hotel industry where the flexible hours allowed her to combine work and studies. Initially she was hired as a front office clerk at Hilton International. After a year, the property asked her to work the night audit process, which required manually running computer procedures and talking to vendors about their computer applications, or working with IT in the corporate office. She accepted the job.

It was a lucky move. "We were the test site for some new programs from Hilton International corporate, and this was great exposure, learning from the corporate team as we customized programs for our PMS. I was encouraged to help the company understand their guest segments and booking channels, and to create custom reports for my fellow managers and my general manager."

Working so closely with the developing programs only increased her interest in understanding the system's background. She built her technical know-how, as she had great support from corporate and a sister property, where

" At InterContinental Hotels, I led the technical development of an inhouse CRM in the late '90s. We created business rules to extract key data, build a corporate database and import the data from each property around the world. The challenge was to convince our properties to use standard codes and getting the properties to understand the value of this consolidated data to the company as a whole. It took time, but was very useful and provided great insight on our customers."

James Araki, IT manager, became her 'goto' person for her queries. The EAM at the property, Cindy Estis Green, encouraged her to build analytical views of the data, using an early version of Harvard Graphics to produce 2D and 3D graphical presentations of financial and marketing data.

Marek grew as a manager at Hilton under the mentorship of Wibecke Vinke, and in 1991 she moved to InterContinental Hotels as director of front of house systems. In both companies she used outside vendors for primary systems and custom development to enhance them. Working with different vendors enabled her to create a mental check lists of desirable and not so desirable vendor qualities, "That would serve me well down the road as a vendor."

She learned that flexibility is a good thing when it comes to systems. "It is never a good idea to force customers to change their operations to fit the ven-

dors' needs." Also a no-no is not listening to how a hotel company wants to run their business, and instead dictating that the company needs a certain piece of functionality. On the positive side, "I saw the success of 'customer-centric' vendors: always thinking like a customer, understanding their operational needs and how they vary from one to another."

In 1996, Marek and a partner, Sudharshan Chary, started Datavision Technologies. "Our vision was to create a business intelligence system for the hotel industry — a system that could bring together data from other systems (PMS, POS, payroll, spa/golf, etc.), and present it in such a way that users could easily build reports and queries based on their business needs. In other words, self-service business intelligence."

To keep team members knowledgeable on the business issues their customers face, one of Marek's best practices is to encourage her staff to attend industry-focused continuing education, either via webinars or conferences.

And now with close to 20 years as a vendor, Marek has her own Top 10 David Letterman-style list of reasons why becoming a vendor was the right career choice for her. Number one on that list is: "Customers write checks. Vendors cash' em. Nuf said." ★

Written by Lou Cook

Kirsten Mollé

Director

ProTempIT Ltd. ★ Walgrave, Northamptonshire U.K.



Had Kirsten Mollé only been a tad taller, she may today not be prescribing IT solutions for the hospitality industry, but flying the friendly skies. No, travel was her first love, but sadly at the time, her short stature held her back. “At 5’ 3”, I did not qualify for the minimum height requirements for airline hostesses,” she says. A loss for the airlines; a gain for hotels.

Mollé is now the managing director for ProTempIT, which specializes in applying technology into the hospitality business, from strategy and defining standards, to system evaluation and project management. It’s a position she attained via a journey not unlike many other success stories in the hospitality industry.

The German-born Mollé sidestepped university, instead accepting an apprenticeship at the InterContinental Hotel Hamburg, a position that immersed her in all facets of the hotel industry. “After I passed my exams, they offered me a position in front office that set me on my path in the industry,” she says.

And what a path it has been. Her induction into technology was not so unlike the rather bizarre circumstances that prevented her from becoming an airline

“IT is often taken for granted and considered a techie/maintenance type domain, so I had to develop strategies to get my colleagues and managers to understand what considerable role IT can and should play in the business: as part of the product(s) we sell, in generating revenue, or in supporting business decisions with comprehensive and focused data analysis.”

hostess. “I stood in the wrong door at the right time,” she says. Specifically, while working as duty manager at the then InterContinental Portman Hotel London, she was seconded to a sister hotel for a PMS replacement project. “When I got back to my hotel, I found that our IT manager had resigned and I had been promoted in absentia due to the PMS knowledge I had gained,” she says.

Her career in technology began there and as IT manager at the Forum Hotel London, after which she joined IHG’s corporate office to set up the telecoms department, defining and implementing a coherent telecommunication strategy for their hotels in EMEA. Project work in this area offered the opportunity to travel, and often offering an element of the unexpected — from disappearing telephone lines in Kinshasa to being stopped at gunpoint at Beirut airport. Mollé continued her career with IHG as director of applied technology, EMEA, managing the IT project teams and working with the region’s hotels to ensure

business process alignment with the newly implemented technologies.

In 2005, Mollé left IHG for ProTempIT, where her percipient vision drives her consultancy work for a range of international hotel clients. Asked about the key issues facing the industry she says: “The next couple of years will be less about the next big technology, and more about creating the enablers in our industry to maximize the value we can derive from the systems available.”

Her push up the corporate ranks, however, did not come without difficulty — due in large part, she says, because of gender. “Top of the list is probably the challenge of being taken seriously and making myself heard amongst the high-flying male executives on the management teams I have been part of over the years,” she says. “From conversations I’ve had with other woman making their way up in the industry, the challenges are the same — we all just get better at managing them,” she says.

Mollé still has a passion for the industry and the role technology can play in the business. And while she never did become an airline hostess, she was able to find a career doing what she loves: travel. “The travel bug that got me started in the hotel industry is still with me,” she says. “And it continues to take me to amazing places.” ★

Written by David Eisen

HITEC 2014 Special Report

Allison Morris, CHTP

Corporate Director of IT
American Casino & Entertainment Properties, LLC ✦ Las Vegas



Allison Morris' goal after high school graduation was to earn a business degree. Searching for the academic version of horse racing's trifecta, she decided "Studying business with a focus on hospitality and people seemed like an interesting approach." Thus her analysis led towards Cornell University's School of Hotel Administration. Her required freshman courses included an introduction to basic computers. She did well and enjoyed the class which led to more elective computer classes and increasing responsibility as a teaching assistant. "It was a great way to use my hospitality and human resources skills (her other major) as well." She was hooked.

Upon graduation from Cornell, she accepted a position as the marketing manager for the Pioneer Hotel & Casino, Sahara Resorts. Computers were becoming more widespread and in particular, slot machines were becoming more automated. They didn't have IT positions, but technology was involved in many aspects of marketing, including managing the marketing database, creating offers, etc. "There were few people that understood computers or were

IT for American Casino & Entertainment Properties, she oversees the 40+ person team that handles all technology for their four properties.

As for the future, she is constantly interested and amazed in the ongoing developments with social, mobile and the ever blurring lines between work and home. Cutting-edge technology is not only happening in the workplace. "Often, I'm as fascinated with the technology developments in my personal life, especially since 'playing' with that technology is truly play time. Further, it is often those developments that help manage the balance between my work and personal life."

When asked about today's biggest technology challenges, she imagines many people would put network and data security at the top of their list. However, beyond that, she adds adoption and implementation of new technology. Unlike the workforce of 20 years ago, today's employees are more comfortable with technology, but still they are often wary of change — and depending on the system, change can be much more complicated. "Back when I was implementing PMS systems, we might have had to deal with five or six interfaces. In today's environment, my major systems are pushing 15+ interfaces." ✦

"After years of working on complex projects, both on the user and vendor side, flexibility and adaptability are two of my guiding principles — with both my end-user customers and employee team members. It's important to constantly lead by example and if I can't be flexible and adapt to changing business needs and changing technology solutions, I can't easily ask my business partners nor my employees to be flexible either."

comfortable with them, and I'm certain my technology and analytical background was a major part of helping me land that job. I moved on from there to work for a vendor and manage PMS implementations."

Working for Springer-Miller Systems, she traveled the country completing major installation projects and growing their installation team. Later, she continued traveling while managing technology implementations for Starwood Hotels and Resorts. These early experiences combined to provide her with the breadth of hospitality knowledge she has today.

To support her changing family needs and her husband's frequent relocation, she left Starwood Hotels and started her own company, ForEm Consultants. Her last move was to Las Vegas where she landed back in gaming as a project manager at Caesars Entertainment. Today, as the corporate director of

Written by Lou Cook

Monika Nerger

Global Chief Information Officer
Mandarin Oriental Hotel Group ✦ Hong Kong / San Francisco



Monika Nerger, counts *The Huffington Post's* Arianna Huffington and Facebook's Sheryl Sandberg as great role models for anyone looking to pursue a career in technology. As head of technology, at one of the most globally recognized luxury hotel companies, it's no stretch to include Nerger in that same company.

And like those luminaries, Nerger, too, displays keen sagacity when it comes to the future of technology — particularly its place within hotels, both front and back of house. “Wearable technology and robotics,” she says are the future. For example, presently, engineers and housekeepers carry smartphones to receive service requests. “A wristband could communicate the same information more conveniently and more subtly,” she says. As for robotics? She refers to Manhattan's Yotel, which has a robotic arm in the lobby to handle luggage. “This is an area of technology I'm watching closely,” she says.

Having an understanding of what's around her has helped Nerger, who joined Mandarin Oriental in 2006, achieve the position she holds today (she calls her

"It seems that there is always a flood in the data center, a system interface that doesn't work, some strange bug in a program that never was there before; but when you look at these issues in retrospect it's just another puzzle to solve, which is why I believe many of us choose technology as a profession."

promotion to CIO as something that “literally changed my life”). The marriage of technology and hotels always made perfect sense. “I think I was born with wanderlust in my DNA,” she says. “I have always had a need to travel and experience the world.” Couple that with her affinity for technology. “The intersection of technology and hospitality was the perfect combination of two passions,” she says.

And while leading Mandarin Oriental's technological pursuits can be taxing, luckily for Nerger, she has a talented team to rely on. “People and teamwork trump all,” she says. “The skill set is to a large degree secondary, because no one is an expert in all facets of technology, and we are all learning new things continually.”

Mandarin Oriental's IT team is as proficient as it is diverse, spread out in 25 countries throughout Europe, the Middle East, North Africa and Asia. This

diversity requires a group that can effectively communicate across cultures, languages and time zones. “I am proud to say my team does this quite well,” Nerger says.

And with Mandarin Oriental continuing to open new hotels, Nerger and her team are constantly tasked with making sure the technology is right and it works — lest draw the ire of customers and owners alike.

“Every new hotel opening is a major undertaking requiring exceptional teamwork, and inevitably there will be elements that don't go quite as planned. This is particularly true for technology, which seems to be at the intersection of Murphy's Law and Moore's Law,” Nerger says. “But when you look at these issues in retrospect, it's just another puzzle to solve, which is why I believe many of us choose technology as a profession.”

When Nerger isn't on the clock, she is quite the musical enthusiast — and, yes, being married to a professional musician has something to do with that. Her husband is Joe Bithorn, who plays the role of George Harrison in *Rain*, one of the most popular and well-known Beatles tribute bands in the country. “Our home is filled with books, music, instruments and a lot of laughter,” she says. “That makes everything worthwhile.” ✦

Written by David Eisen

Vanessa Ogle

Chief Executive Officer
Enseo, Inc. ✦ Richardson, Texas



Technology and innovation have been constants in Vanessa Ogle's life. Her father began working in technology during the mid-'70s, and both her parents were entrepreneurial. During vacations, Vanessa worked in the family business and some of her first bosses later became employees in her own company Enseo, Inc.

As a 29-year old business, marketing and Spanish graduate from the University of Texas at Austin, Ogle was a vice president and general manager of STB systems. In 2000, she founded Enseo, a provider of in-room entertainment and digital signage for hospitality, retail, healthcare, government, and stadiums and arenas. And, she started the technology company one year before a major market meltdown.

Despite this inauspicious beginning, Enseo has thrived, and now powers more than 1.7 million hotel rooms. Their initial consumer product was the first electronic program guide, the TV Guide Channel. "We were also selling product to both On Command Video and Lodgenet to power their video on de-

" My favorite part of hospitality is the way hoteliers collaborate with vendor partners to bring the best product and experience to the guest. Hotel companies and vendors get in the same room and all brainstorm what kinds of innovation would bring value to their organizations and their guests. It is a unique level of sharing that brings the best products to market."

mand systems to hotels and JetBlue, and Frontier Airline for Airline Seatback Entertainment." Then the events of 9/11 struck hard and Enseo lost ALL their business. Ogle says, "We quickly re-purposed our technology into a solution to fit the digital signage and cinema business and would not have survived if not for a partnership with AMC theaters."

Today Enseo faces the "fantastic" challenge of new growth. "Our corporate culture is what makes us successful, and I am determined to grow carefully and to make sure new members of the Enseo team will keep our core values of integrity, innovation and inspiration." Ogle says her job is pretty simple. Listen to what technologies are available, listen to what the customer wants, then execute and deliver. "The trick is to keep doing this over and over again."

At the moment Ogle is particularly enthusiastic about Coax cable. Enseo will take what appears to be "a boring piece of black cable" found in every hotel room and enable guests to stream their own content from the cloud directly to their guestroom. "It will revolutionize the guest experience."

Ogle's favorite part of hospitality is the collaboration between various hotel companies and their partner vendors. "It is a unique level of sharing and partnership that brings the best products to market."

While she has faced many challenges, she believes that not being a man is not one of them. Once during a business coaching session, a male coach criticized not the content of her presentation, but her hair "too curly" and her smile "too much." Present at the time was a female bank president, who drawled "Bullsh**!! Vanessa, you are here because of who you are...don't listen to those men, just be yourself!" Now she watches with awe the industry's leading ladies. "They handle themselves with such poise, professionalism and remain authentic to who they are while they lead." ✦

Written by Lou Cook

Valyn Perini

Consultant
Acton, Mass.

Valyn Perini's entry into the technology field came when she was working as a function space diary clerk for a hotel with 35,000 sq. ft. of meeting space. When the diary was about to be automated, she became the project manager, overseeing the implementation and training of the application at the pilot hotel, then at all of the group's hotels in North America.

Of course the technologies she sees today within the travel and hospitality technology space are different than those early automation days. But she says the challenges themselves haven't changed much. "What I faced then is the same as today: keeping up with and managing the speed of change, being open to new ideas and unafraid of new technologies. A curious mind and a solid network of smart colleagues and peers are the most effective methods I know to overcome IT challenges," she advises.

Perini, who was at OpenTravel Alliance, and worked at PriceWaterhouseCoopers and Swissôtel, takes the "curious mind" mandate seriously. When asked about best practices for running an IT department in a field that is constantly

"The challenges haven't changed much; what I faced then are the same as today — keeping up with and managing the speed of change, being open to new ideas and unafraid of new technologies. A curious mind and a solid network of smart colleagues and peers are the most effective methods I know to overcome IT challenges."

evolving, she invokes that same quest for knowledge: "Hire people smarter than you, then learn all you can from them. Read, read, read and listen, listen, listen. I love to attend conferences and events because I always learn something that changes the way I look at a commercial or technology challenge. Cloaking ourselves in our offices and never raising our eyes to the horizon leads to technological and professional myopia," she says.

While she doesn't like fixating on the role of gender in her work life, she does think that attending a women's liberal arts college (Agnes Scott College in Decatur, Ga.), where the emphasis was on critical thinking and written and verbal communication skills, was helpful. "Those skills have allowed me to interact successfully with almost anyone — male or female, junior or senior, American or Swiss, Silicon Valley or Omaha, hotel executive or airline executive — at all points in my career."



While she's a hard worker with decades of experience, Perini hasn't let the fun aspects of the hospitality industry pass her by. "My favorite part of this industry is the travel, hands down. I couldn't believe my luck when I started traveling internationally for Swissôtel. To be able to see the world and make friends with the locals who were my colleagues and do it on someone else's dime. What could possibly be better than that?"

She cites those strong friendships and mentors she's made among her best memories during her career. "Once I made a home for myself in the travel industry, I discovered how generous my peers and seniors were, and still are."

Her mental photo album includes some vantage points that would have been hard to see if she had chosen another career, including "riding the trains in Switzerland between hotel implementations in Zurich, Basel and Montreux to drinking champagne in a limo at the New York Hotel Show to hiking the Great Wall with an international coterie of co-workers."

In her off hours, she cheers for two baseball teams — the Red Sox and the Braves — takes photos with cameras with actual film, skis, bicycles and even enjoys shoveling snow. ✨

Written by Margaret Littman

Sophie Pommois

Project Director Global Distribution
GHA — Global Hotel Alliance ★ Geneva, Switzerland



It is hard not to get lost in a sea, mountain or information highway of information. Sophie Pommois knows. “We have so much information available. It is easy however to get lost in too much and unstructured data.” But Pommois, who speaks five languages (French, English, German, Spanish and Italian), and thus juggles more information in more tongues than most people, has one secret word to help IT professionals deal with all that data overload: document.

“Keep control of what you do: document,” she urges. “Documenting your actions is extremely important from the configuration and change tracking point of view. When you work with multiple systems — with thousands of settings — you can’t just change a configuration without documenting it.” And, she adds, the process must be clear for everyone on your team. “Any change in system settings can have consequences, some of which appear days or months later. If you don’t document, you can’t go back.”

In one previous job, Pommois says she was called a “control freak” for her tendency to encourage her team to update documentation immediately. But she

“I think managing big data is a new science in our hospitality profession and future performance of brands/companies will be defined by their level of expertise in this domain. We have so much information available, but may not be able to use it properly... We need to simplify the consolidation and the display of it, and integration between different systems, platforms and external sources of data is the defining key element.”

had her reasons. “Documentation done wrong means that you will encounter a day when errors boomerang back to you, resulting in lost time and interrupted business processes.”

Documentation also helps what Pommois sees as the top challenge for hospitality IT professionals today: the wide cross-section of different systems and, therefore, systems integration. “We are all speaking about industry standards, but it is very difficult to have the vendors implementing those standards. That’s why the prominence of the company for which you are working is important: You have to push, push, push those vendors to go ahead,” she says. “Otherwise, it will never happen.”

Pommois made her way into hospitality IT when searching for an internship while studying at the Ecole Hôtelière de Lausanne and there were some

new (at that time) opportunities within technology. Upon graduation, the founder of Fidelio, Dietmar Mueller-Elmau offered her a job based in Munich. That was in 1989, during the early days of Fidelio, and was a life-changing experience. During that time she acted as a first-time-ambassador for Fidelio in many countries around the world. “At the early stages I felt a bit insecure, being a young woman with no operational hotel background coming out of the hotel school,” she remembers. “After you prove what you can do, there is no issue.”

A hobbyist sailor on Switzerland’s Lake Geneva in her free time, Pommois likes the sport because of its purity: “You cannot hide anything on a boat; there is no space for insincerity.”

And she is equally pragmatic as a leader when it comes to helping her teams to resolve issues. As is the case in any industry, she says, there are constantly problems to be solved. She makes sure her team takes all sides of a solution into consideration before it is implemented, thanks to pro and con lists, and encourages her staff to stick with their decisions.

You do not want to abandon too fast, if you don’t see any resolution right away, she cautions. “Most of the time, there is a way.” ★

Written by Margaret Littman

Connie Rheams

Senior Vice President and GM North America
Indra Company ✦ Miami, Fla.



Working as an executive for Indra, the third largest IT company in Europe, certainly is a great and responsible job, but is not what Rheams planned. At age 19, she yearned to work on a cruise ship and had secretly applied for a position. She wanted to explore the world. Rheams confided in her sister who suggested a career with the airlines, but she couldn't see herself in that role. At that time Rheams was attending college and working part-time in her brother-in-law's hardware store. One day destiny arrived in the form of a vacuum-cleaner.

A customer came in, bought the vacuum and paid by a check with an American Airlines logo. The purchaser was responsible for American's reservations center in the Dallas/Fort Worth area. Rheams requested a job application. The company hired her, and she spent her next 14 years with American Airlines. "I didn't know I wanted to be in hospitality until I got a taste of the travel industry."

Tom Boorman, a former managing director for American, became her mentor. "He helped shape the business woman I am today. He taught me how to

" Whether working in IT for a hotel company or developing IT for a hotel company, continuous improvement and delivering innovation quicker must drive us. The market is moving quickly, and we have to figure out a way to stay on pace. I would challenge all companies to spend more time on innovation versus maintenance, and have an open vision for alternatives."

lead a team, always stressing the importance of treating members with respect, giving them the courage to share their ideas, creating ownership, providing a setting to encourage creativity, and making the workplace fun and stimulating."

After 10 years, American asked Rheams to run the hospitality division of TeleService Resources, a division of Sabre. "My team of 500+ provided GDS/channel connectivity and call center services, as well as central reservation system to hotel groups." Since Rheams would inherit the new system, she became actively involved in design and function. She says, "Before long hotel technology became a passion of mine, and I quickly became an advocate of pushing technology forward to deliver end-to-end processes with a slant of supporting sales and marketing efforts."

"The Wild-Wild-West nature of hotel technology also amazes me, and it's this niche that I found myself drawn to. As an industry, we have only scratched

the surface when it comes to automation." She sees endless opportunities to drive the guest experience with technology, streamline operations with automation, to use all sources of data to manage offers and personalization, and interact with personal media brought by guests.

One of the biggest challenges she faces is getting people to think differently in terms of their approach to technology. After spending decades juggling disparate systems and trying to establish industry standards for multiple vendors, she's become a proponent of taking a more holistic approach. This involves adopting a platform strategy and building multiple applications on top of that platform. "There is bona fide research showing that hotel groups which have adopted this approach are experiencing big wins in efficiency, customer experience, costs reductions and the ability to be far more agile."

Looking at today's technology developments, Rheams has an eye toward the convergence of big data and business intelligence interests. "I am curious to see how the technology-driven information will enable our industry to have a more complete picture of each guest from structured and unstructured data and create personalized experiences along with new revenue opportunities." ✦

Written by Lou Cook

HITEC 2014 Special Report

Ursula Rhode

Chief Operating Officer
Genares Worldwide Reservation Services ✦ Irving, Texas



Ursula Rhode describes herself as a highly driven and a seasoned operational professional with detailed hotel, electronic distribution, sales and travel management on a global basis. She came to Genares as an executive vice president in 2006 and has become a well-respected and proven industry leader, and an expert in strategic and tactical planning and implementation. Rhode is the decision maker for all facets of operations, including business development, IT, account management, marketing, vendor negotiations, and developing partnerships with suppliers and OTAs. Her responsibilities cover electronic distribution through the Global Distribution Systems and the Internet.

Born in Bad Nauheim, Germany, she looked to her brother when deciding where to direct her career path after earning a bachelor's degree with a business focus. Her brother worked for TWA, and Rhode envied the exotic places he visited. Emulating him, she began working for United Airlines, training travel agents to use computers for selling hotels, a completely new concept for the agents. "They barely knew how to use computers for booking air."

"As we look forward to what's coming down the pipeline, I am interested in how we'll overcome localization constraints. A huge amount of quality content will be created throughout the world at high speeds. It will need to be converted to local language, adopted to local cultural expressions and meet regulatory norms."

Her favorite part of the industry is the constant change, never a dull moment. "You have to embrace the changes and move forward."

She had always been fascinated by computers. Wanting to learn more, she began working for THISCO (now Pegasus) since they were known for their unique switch in communication with the various GDS and were early pioneers of using the Web for booking travel.

As a female looking to advance in a predominately male environment filled with good ole Texas boy mentality, she established a work ethic that helped her rise to the COO position. Rhode says it was the ultimate test of her patience, and she learned the importance of having a solution in mind before addressing an issue, in never giving up, staying positive and treating

others as she liked to be treated. "In one of my first management jobs, my best advice came from a boss who told me that I should never expect people to work with the same drive I had, but to set the example and to understand that everyone was not going to be a super achiever."

Leadership and teamwork are important, and Rhode operates with an open door policy. "I told each one of my team members. If you make a mistake, don't try and hide it, but let's try to fix it together. We had a situation where we had to migrate 900 hotels in one day. We had established a core group that met every week, did the gap analysis, had a project plan, assigned different responsibilities and followed them up every week. We had a successful migration without a hitch."

Rhode's challenges as a top female professional have changed in the course of her career. She says that being a minority means having to go an extra mile to find your place in the broader culture. Taking time to explain yourself and to listen more carefully. Provide positive feedback and help people understand that women add a different perspective, which needs to be considered. She notes, "Don't tell me how the clock was built. How do we keep it running?" ✦

Written by Lou Cook

Kris Singleton

Chief Information Officer
The Cosmopolitan of Las Vegas ★ Las Vegas



Kris Singleton did not start her tech career in hotels and casinos, but in an altogether different feel-good industry: greeting cards. Post-graduation from Central Missouri State University, where she earned a bachelor's of science in CIS and Management, she established her IT background with Hallmark Cards in a variety of positions including client-server development, IT staff and end-user training and application support. But with the tragic terrorist attacks of September 11, Singleton's husband, an ex-secret service agent, was called upon to help with the expansion of the Federal Air Marshal Service. A change that moved them from their home in the Midwest to Las Vegas.

While Singleton continued to work with Hallmark remotely, a company that provided great support to their employees and where she had been for 13 years, she missed interacting with people and the camaraderie of working onsite. Looking for her next move, it was only natural to step into gaming and hospitality — no doubt a specialty of Vegas. She was introduced to Scot Campbell, who was the vice president of IT at the MGM Mirage at the time, and was hired.

"Too many times, executives just want to install some technology and think it will be the silver bullet that solves all the issues. It is my responsibility to help them understand that we must start with the goal and focus on the people and process first. Then we can select the right technology that can enable us to meet that goal."

"I think the best thing I gained from Scot was the importance of building a strong relationship with the operations teams. Understanding the core of what we do and communicating how technology enables them to achieve their business goals."

Since then she has gained her footing in the industry with positions at the MGM Mirage, Kimpton Hotels and Resorts and, since 2011, at The Cosmopolitan of Las Vegas.

Her time in the industry has brought on one of her most rewarding and challenging projects, where she had to consolidate 23 properties with different PMS to a single enterprise solution. It took a year of research, investigation and crafting information into meaningful business ROI to reach a unanimous decision. She says, "I learned a great deal from several intelligent executives

about ROI, negotiations and persuasive presentations; along with key technology development and future product strategy that are critical to these important and long standing decisions."

With all the bells and whistles that come in a constantly changing field, Singleton is strong in her conviction to not get lost in the new stuff and be too quick to adopt a technology just for the sake of technology. "Too many times, executives just want to install some technology and think it will be the silver bullet that solves all the issues," she says. "It is my responsibility to help them understand that we must start with the goal and focus on the people and process first. Then we can select the right technology that can enable us to meet that goal."

She also sees the potential to lose focus on data governance with the growing popularity of big data, predictive analysis and cloud technologies. The risk to the influx of these tools is losing sight of the process around data governance to maintain data integrity. "Once you lose the confidence in the accuracy of your data, it becomes worthless. These are huge investments and we need to be smart about data and moving that to information, then to knowledge and finally to wisdom." ★

Written by Eliza Selig

Naomi Stark

President

Stark Service Solutions, LLC ✦ Orlando, Fla.



Growing up in a small New Hampshire town, Naomi Stark dreamed big. As early as high school, she knew she wanted to work in the travel industry. After she vacationed in Hawaii, and experienced real resort hospitality, she narrowed her career goals to hotels and resorts. “What appeals to me the most about hospitality are the ‘serendipitous moments’ that occur all the time. I’ve had the opportunity to meet people from all over the world that I would have never met otherwise,” she explains.

Now president and CEO of Stark Service Solutions, LLC, an Orlando-based consultancy and firm that develops Web-based programs for the industry, which started in 2001. Stark still has her sense of wanderlust, loving to take to the Florida roads with the wind in her hair on a motorcycle. “Both relaxing and exhilarating,” she says, “there is nothing like a ride along the coast.”

Even when faced with the kinds of travel adventures that make some decide to stay home, Stark has prevailed and continued to embrace it all. At HITEC in Austin, Texas in 2011, Stark was a first-time speaker, as well as the incoming

" Hospitality is one of the most far reaching industries on the planet. As a global industry, with global employees and customers, I firmly believe we have a unique opportunity to have a significant impact on our valuable resources — water, power, paper, etc. We have both the opportunity and the responsibility, which few other industries have."

chair of the AH&LA Technology and E-Business Committee. “It was a pretty big event for me professionally,” she remembers. She also remembers — it is hard to forget — that while at dinner with colleagues the night before, she had a severe allergic reaction to what turned out to be bed-bug bites.

“I was soon covered in enormous welts and hives from the neck down and ended up in the ER most of the night.” She took a quick nap in her hotel room before donning a pantsuit to cover the red blotches, and headed for the convention center. “What I learned from this experience is: Life is going to throw you curve balls no matter how prepared you are. There will simply be times you just have to deal with the challenges because failure is not an option.”

Failure certainly has not been the case at Stark Service Solutions. “Since the introduction of social media and online reviews, our Web-based tools have

become even more popular,” she says. “For example, one client has recently been recognized for all but eliminating their guest complaints, averaging just one complaint to every 7,500 reservations. We love how our technology has played a part in the advancement of guest satisfaction and hotelier success.”

Of course, it wasn’t always easy. “When we started out, mobile device and smartphones didn’t exist. With most hospitality employees not being computer-facing, it was a stretch for our clients to see how they could benefit from our software tools. Technology has since advanced significantly, yet even today there is still some hesitation to automate what have long been paper-based manual systems.”

Looking forward, Stark hopes to move more clients to paperless systems, with a particular interest in sustainable and green initiatives. “Seeing technology improve how we use our resources and reduce waste is of absolute interest to me. For example, I recently stayed at the Omni Dallas hotel, I was much more excited about having to use my key card to ‘power up’ the electricity in my room than I was about the type of TV that was in the room.” ✦

Written by Margaret Littman

Menka Uttamchandani

Vice President of Business Intelligence
Denihan Hospitality Group ✨ New York City



"Our industry has no shortage of data, leveraging data enables us to take smart, calculated risks. Not using data is blind risk, like flying a plane without cockpit controls," says Menka Uttamchandani. Uttamchandani isn't one to fly blind.

Managing the business intelligence (BI) practice at Denihan Hospitality Group, Uttamchandani works in tandem with the company's revenue management, sales, marketing and operations teams, using strategic and tactical analytics, reporting and dashboarding to help drive revenues, manage costs and guide strategic direction.

Denihan's BI practice was lauded in 2013 by IBM as a smarter analytics customer success story. The company's efforts were also featured as one of five companies with esteemed BI practices in *Profiles in Performance*, a book written by Howard Dresner (aka, "the father of BI").

She cites collaboration across functions and leveraging the strengths of her own talented team members as being vital to Denihan's BI success.

"One big challenge today is the huge volume and variety of data and another big challenge is data coming from disparate/new and legacy systems. Not only does this data need to talk to each other appropriately, but the big data explosion of the recent years necessitates a greater need for both better visualization to easily grasp the message/trend in large volumes of data and also to identify what data to focus on."

One of Uttamchandani's most memorable projects when she arrived at Denihan was the "Win Back" project she initiated to incent previous guests to stay again at Denihan hotels. By analyzing and then reaching out to repeat guests who had a lapse in return visits, Uttamchandani worked across multiple disciplines to lead the effort that resulted in a resounding 300 percent ROI and significant return visits among Denihan's most loyal customers.

Even after years in both hotels and at the corporate level, Uttamchandani finds analytics satisfying, and recognizes challenges that have been a constant throughout her career. Today, as was the case when Uttamchandani began her work in hospitality technology working in database marketing at Hyatt Interna-

tional in Hong Kong, she thinks about data integrity. "The data that goes into the systems determines the reliability and breadth of data; and hence value and potential of effective analysis. Establishing coding, mapping, data integrity awareness and insight into how business processes affect the data is key" she says.

According to Uttamchandani, today's analytics present their own hurdles. "Challenges today include the volume, variety and veracity of data, as well as data from disparate systems. Not only is it critical that these data sources connect suitably, but the 'big data' explosion of the recent years necessitates a greater need for identifying on which data to focus and for superior visualization to discern meaning in large volumes of data," she said.

Uttamchandani expertly weaves her way through the dynamic tech world thanks, in part, to a piece of advice she was given from Ananya Narayan, a mentor with whom she worked at Hyatt International earlier in her career. As they sliced and diced data, he advised her, "Always use the 'So What' check. Ask yourself: What will we do with this information? Is it going to change what we do?" According to Uttamchandani, the answer to that question helps set priorities and separates the need to know from the nice-to-know. ✨

Written by Margaret Littman

HITEC 2014 Special Report

Yvette Vincent, CHTP

Senior Director of Information Systems
Delaware North Companies, Inc. ✦ Buffalo, N.Y.



Yvette Vincent was vacationing in New Orleans with her husband and two small children in August 2005. After having a great time on a weeklong trip on the American Queen steamboat (which at the time was owned by Delaware North Companies, Vincent's employer), they had planned to spend the weekend in the Crescent City before flying out on August 29. That, of course was the day Hurricane Katrina made landfall and all plans changed.

Vincent's family learned that flights were cancelling as reports of the storm intensified. Rental cars quickly sold out. So, they made it back onto the American Queen, which got out just before the city closed down. While they were safe, local cell towers went out early that fateful Monday, so there was very little communication or information to provide to the ship's staff regarding the tragedies unfolding for their hometown and families on shore.

Looking back, Vincent is grateful for the skills and compassion of Captain John Duggar, his wife and crew, as well as the insight their professionalism and the whole experience provided her back at work.

"The mindset change in how new technology is developed and funded has my interest. Open Source has been around for some time, but the rise of crowd funding is producing or expanding some new game changers: Adapteva is working through low power, consumer priced supercomputing; Oculus Rift can change not only the gaming experience, but also associate training and consumer experiences; and 3D printing has unlimited possibilities."

"This experience taught me that people come first, and IT can be used to provide geographically disperse business continuity to support both customer and associate needs," says Vincent.

An open book to her friends, family and co-workers, Vincent is an adept networker and collaborator, as was made clear during one of her favorite projects, the selection of a reservation system, which required working with a variety of hospitality leaders.

"This involved obtaining requirements and buy-in across many departments, both vertically and horizontally: setting selection criteria, creating data standards and new system procedures, and developing sustainable processes and standards bodies to maintain them and drive system value," she says. The implementation was a collaborative effort.

Vincent got to her leadership role in the hospitality industry through technology. "I had worked in IT application developer positions for non-customer facing technology, so the move into a hospitality IT position where the technology would also benefit the customer directly sounded exciting," she remembers of her move 17 years ago. "This is still the best part of the industry to me. I get to impact technology to make the guest experience even better."

When Vincent graduated from college with a computer degree, she hadn't worked with personal computers or the Internet, as both those technologies were new at the time. A curious lifelong learner, she has adapted and stayed ahead of the curve, in part through activities with associations such as HFTP and HTNG. Looking forward, she's particularly interested in crowdfunding, Open Source and other ways that new technology is being funded.

Whether at work or off-the-clock, Vincent jumps in with both feet. Before becoming a mom, she competed in international style ballroom and Latin dancing with an amateur partner. Whether on vacation or at the office, she's clear in her focus: "The best piece of advice I ever got was to always stay true to my opinions, support them with objectivity and fact, and don't get discouraged if others don't agree." ✦

Jing Zhu

President and CEO
3D Networks China Co., Ltd. ★ Beijing, China



There's no questioning why Jing Zhu, has been such a success story in the mostly male-dominated business of technology. It's her parents, naturally. They reared her to believe that she was the same as everyone else, and could succeed in anything she put her mind to. Confidence was never an issue for her. "I was taught by my parents from a young age that females are no different from males," she says.

Zhu took it from there, excelling in the classroom among her predominantly male peers. "There were, indeed, very few girls in the classroom, but I was always in the top three every year with outstanding student awards," she says.

In fact, she thinks women have a leg up often in the workplace. "There is an advantage of being the female in a leadership position, in particular in hospitality," she says. "Females have better communication skills in many aspects."

Zhu always knew she wanted a career in technology; in fact, no other pursuit, she says, ever crossed her mind. In order to achieve her goal, Zhu studied computer science and telecommunications at Beijing University.

"I continue to address bringing advanced foreign hospitality technology and products into China and adapting them to be suitable for the Chinese hospitality industry environment. I try to lead our company in working out more creative and innovative IT end-to-end solutions through frequent international cooperation to illustrate to Chinese hoteliers what's available and gain their trust."

She joined 3D Networks China in 2005 and has been credited for her contributions and innovation within the hospitality segment. Her biggest challenge now is equipping China's hotels with the technology needed to compete on a global scale. "My challenge is bringing advanced foreign hospitality technology and products into China and making them suitable for the Chinese hospitality industry environment," she says. It's also about educating Chinese hoteliers, "helping them understand the significance of technology for the industry," Zhu says.

Like her American counterparts, she keeps abreast of the latest technology, paying special attention to that which is applicable to the hotel industry. "I have kept pace in exploring the best technologies for the industry, including the cloud, mobility, wearable technologies and cross-over platforms," she says.

She adds that these are the areas where her company has made the biggest investments.

Beyond her own merit, Zhu had help along the way through a cast of mentors and role models. Today, she looks to give back. As the chairperson of the non-profit China Hospitality Technology Alliance, one of her goals is to help and cultivate the young generation of technological talent in China.

One of Zhu's biggest leadership moments came when working on the opening of The Venetian Macao, a project the company won in 2010. Problem was 3D Networks' Macao office wasn't set up and there were almost no local resources that could be used. "As company and sales team leader, I mobilized resources and technical backup from 3D Networks' Hong Kong, Shenzhen, Guangzhou and Beijing offices to build up a specialized project team for The Venetian Macao." The team included members for sales, technology consulting, customer service, project management, purchasing and supply chain departments. She says: "Everyone's task and responsibility were defined very clearly to guarantee every question and requirement from the customer could be responded to and met the first time. Excellent teamwork made the impossible, possible." ★

Written by David Eisen

Pitching Your Project

By Mark G. Haley, CHTP, ISHC

Gain project buy-in with a well thought out and researched presentation



Unless you are the hotel owner, pretty much every project in a hotel, IT or otherwise, requires someone to approve the investment. Some projects get approved by the general manager (GM), but substantial efforts typically have to go through several layers of approval in some corporate hierarchy, and often by an asset manager or other owner's representative as well. All of these people need to be convinced that the project is the right thing to do for the business and a good investment.

So how do you go about convincing them? Let's start with the easy stuff.

Know the Rules of Your Game

Your company should have documented processes for handling the approval of various sized projects. The GM and controller might be able to approve projects under \$100,000 with further approval required for greater amounts. You need to know what that process is in your company and follow it.

Most hotel companies have an "approved vendor list" that hotel IT projects may buy products from. Many hotel companies have sole-source agreements for strategic systems, typically the property management system (PMS). They negotiate these agreements so as to ensure consistency of service delivery, simplify decision-making and enable greater mobility of personnel (if the same systems are in use from hotel to hotel, then your people

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can go from one to another without re-training). Whether a sole-source or a selection from a list, these kinds of projects will typically have negotiated prices and terms already established, except for an independent property.

If you propose the corporate-approved systems, your project has a much better chance of being approved. At that point, make sure that your capital project proposal package is complete and put together in a business-like manner. This means business-formatted typing, with proper sentences and free of typographical errors. If still done on paper, then you want to have it in a folder or binder that is attractive and organized, with an appropriate cover memorandum. More on that later.

Do Your Homework

But what if your hotel is an independent, with no corporate structure making decisions and negotiating most-favored pricing deals? Or the particular project doesn't have a deal in place? Then you need to do some work, and your capital project package needs to reflect that work.

The work part entails doing your shopping in a professional manner. The flow of needs analysis, request for proposal and negotiation has all been documented elsewhere and really outside the scope of this article. Your proposal package needs to include a summary of the shopping process you went through and a comparison of the proposals you received. This comparison should illustrate the differences between the proposals on feature/function, proper configuration, vendor stability and other relevant dimensions, as well as price. In most organizations, price is a factor, not *the* factor. A comparison like the following will be convincing:

"We recommend Proposal A because it was the low-cost proposal,

the configuration will cover our needs for the present plus 10 percent growth, it has all of the features required in the RFP except a couple minor, low-weighted items and the vendor has been in business for 18 years and is profitable.

We discounted Proposal B because it was 14 percent more expensive than A, the configuration will barely cover the property today and will require a new server to accommodate our expected growth and it lacks several major elements of functionality we consider important. The vendor started business earlier this year and is a re-seller of Company X's products. Company X is currently going through bankruptcy reorganization. The proposal was carelessly written and sloppy in presentation, suggesting their execution may be as well."

Again, packaging your request for funds attractively and in a business-like manner will go a long way to make the sale. Just as Proposal B was discounted for being sloppy, your request for capital funds will be discounted if not done professionally.

Justification

At some point, someone is probably going to say "What is the ROI (return on investment)?" Notice they never ask for an ROI on ballroom carpets or bathroom fixtures, but almost always for IT expenses. In the hotel business, successful requests for capital funding typically revolve around two or more of the following three crucial dimensions:

Improve Guest Service and Enhance the Guest Experience. "Our guests expect good, stable Wi-Fi service in the rooms and public spaces or they will go stay elsewhere."

Reduce Costs. "Our existing Wi-Fi access points are failing at the rate of five per month and it requires six to eight man hours to troubleshoot and replace a failed device."

Increase Revenue. "By upgrading and improving our Wi-Fi infrastructure we can resume charging for HSIA like our competitive set does."

Sometimes you will need to calculate a formal ROI estimate. A simple way to express ROI as a percentage is:

$$\frac{\text{All Profit Improvements}^1}{\text{Total Investment}} \times 100$$

Payback period is another means to illustrate the ROI. If a \$100,000 investment will increase profitability by \$10,000 a month (through increased revenues, decreased costs or both), then the payback period is 10 months.

However, calculating the increases in revenue or decreases in cost over the period you measure can be challenging, and will usually call for making some assumptions. If it is a long period of time, then one needs to account for the time value of money by using a present value calculation. The present value formula in Excel is: (rate, nper, pmt, fv, type). Rate is the factor you are using to estimate the cost of capital: if you borrowed the money at 7 percent, the rate would be .07 for an annual calculation or .07/12 for a monthly value. Nper is the number of periods, so it might be three years for an annual estimate or 36 for months. PMT is the payment amount or in this case, the change in profitability. FV is future value, normally ignored in this use case, as is the Type value.

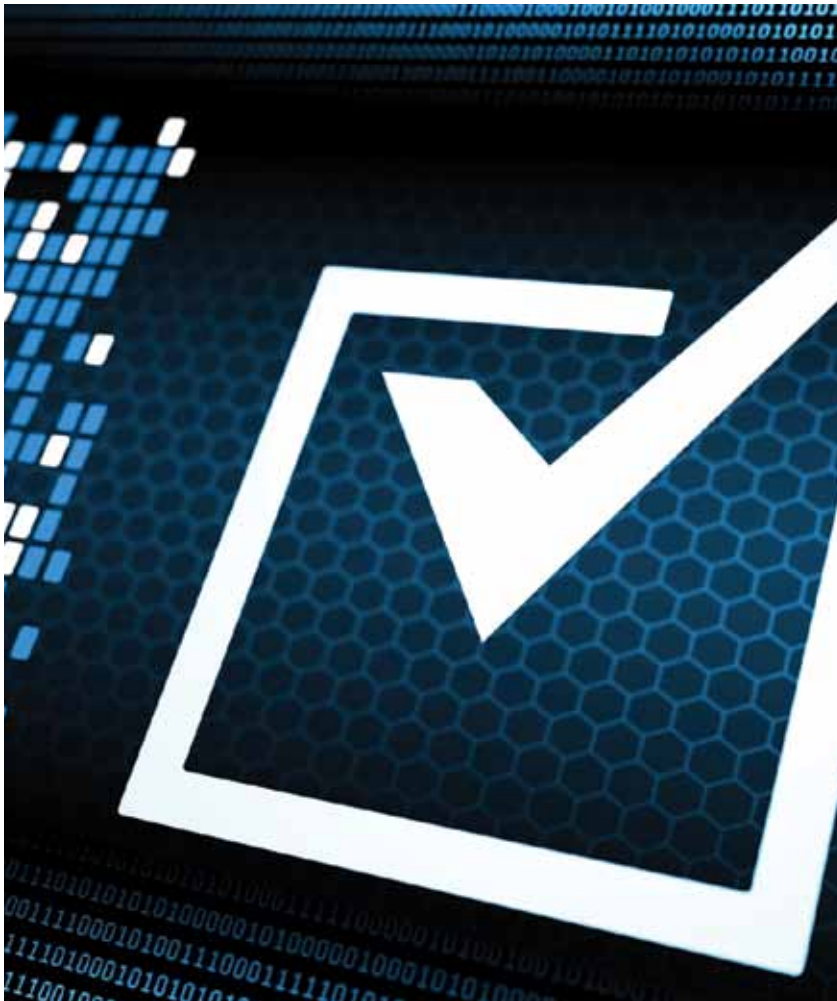
You can learn about these techniques and more at HITEC 2014! Be sure to attend the System Selection and the Pitch Your Project Boot Camps on Monday, June 23. It will be time well spent! ★

1. Generally, owners care about profit improvements. Sometimes a management company can be convinced by revenue increases alone, if the management contract incentivizes revenue over profit.

Steps to System Selection

By Cihan Cobanoglu, Ph.D., CHTP

Careful evaluation of needs and available options leads to systems that serve optimally for the long-term



Over the last decade, property management systems (PMS) became mission-critical systems for the hotel industry. A vast majority of the hotels use PMS and there are many different types of PMS systems used in the market. For many hotel owners and managers, PMS system investment is a major investment. PMS systems come in many different shapes and include different functions. Therefore, the selection process for a PMS system for a hotel often becomes complicated. In some cases hoteliers are not familiar with all the different functions of a PMS system. Hence, sometimes PMS systems purchased may have functions that will never be used or may lack important and vital functions needed to optimize the sales process. The purpose of this article is to identify best practices when it comes to selecting a technology system for a hospitality company.

Steps to System Selection

1 Reviewing Organizational Needs: This step should include the answers to these questions: What is the mission or purpose of an organization? What are the organizational goals or objectives? What is the organizational structure? What is the role of technology in service improvement? Asking and answering questions will definitely help in selecting the best system for a particular hospitality company because each of the answers

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may require a different type of system. For example, if you are part of a large chain or franchise system, then a server-client based with cloud support model may be the best choice. If you are a single operation with an option to grow multi-unit in the future, then a fully cloud based system may be robust enough for you.

In this step, the buyer should also create a selection committee. This committee shall be composed of people who are direct or indirect users of the system from all levels of management. For example, for a PMS system, the selection committee may include the front office manager, a front desk supervisor, a front desk clerk, a reservation agent or operator, a server (because the PMS integrates to the point-of-sale system) and hotel engineer.

2 Evaluating Current Systems: This step is a summary of how information is processed, organized and distributed throughout the organization. The existing systems may be computer-based, manual or a combination of both. Before selecting or enhancing a system, a good grasp of work and information flows is necessary. This can be depicted in a flowchart. The second purpose of a systems evaluation is to identify problematic areas, such as inaccurate data (e.g., poor forecasting); duplicated work efforts (e.g. reservation system not connected to a multichannel distribution system); inadequate equipment (e.g., clerks must wait in line to check-in/out guests since there is only one front desk computer); inefficiencies in information flow (e.g., late charges);

poor customer interaction (e.g., front desk clerk spends too much time looking at computer monitor); outdated equipment (e.g., in-room TV system does not allow guests to stream movies from their Netflix accounts); procedural bottlenecks (e.g., check-out process is too long); discontented workers (e.g. computer program not “user friendly”).

The third purpose of a systems evaluation is to determine whether current systems address an organization’s most vital areas. For example, should an international hotel use key resources updating reservation distribution channels manually or invest in new technology where room pricing decisions are largely automated and free up these resources to focus on strategic performance issues? The hospitality industry is constantly

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Developed by Interactive Sites (Booth #259), the HITEC 2014 Experience is also powered by Cisco Systems (Booth #1126) to provide a unique approach to mobility that will help attendees and exhibitors connect and engage like never before. Come visit the Digital Den, sponsored by Cisco, outside of the HITEC exhibit hall for free Wi-Fi and to experience this app first hand.



An RFP is a document that serves as a communication tool between the buyer and the vendors (potential seller). The primary benefit of the RFP is that a vendor must respond to a standardized format. This eases the evaluation process when comparing the suitability of different property management systems.

changing and existing systems may not be able to accommodate new and unique situations.

Finally, after a thorough systems evaluation, information system objectives are formulated, which may include adding new computer applications, upgrading or refining current systems, integrating systems, and/or re-engineering information and work flows.

3. Defining Budget Requirements: Many organizations want to spend the smallest possible amount and reap the most benefits. This short-sighted philosophy often paralyzes organizations. Determining whether an information system purchase is worthwhile requires the identification of investment costs and annual savings. Typically, investment costs include hardware, software, training and installation. Annual savings typically include reduced operating expenses, increased revenues and improved cash flow, less annual operating expenses (supplies, system maintenance, customer support, personnel, administrative, etc.).

While there are various investment evaluation techniques, a popular and easy to understand method is payback. Payback determines the length of time required for a new system to generate enough savings to recoup the investment outlay. Generally, if the payback is five years or less, the organization should proceed with

the investment. Alternative methods of financing such as leasing hardware or purchasing cloud-based software (Application Service Provider model) should be also considered.

4. Develop a Request for Proposal: This is probably the most important step of a system selection. An RFP is a document that serves as a communication tool between the buyer and the vendors (potential seller). The primary benefit of the RFP is that a vendor must respond to a standardized format. This eases the evaluation process when comparing the suitability of different property management systems. See the list below for what is typically contained in an RFP.

Property Profile. A description of the property and its computing needs.

Solicitation Instructions and Conditions. A guideline for submission of vendor proposals and a description of how vendor responses will be evaluated.

System Specifications. A detailed description of desired features and requirements for each of the following areas: software and hardware performance, customer support, vendor reputation, and training and installation.

It is mandatory that the RFP include guidelines for submission. To protect the property's interest, all bids must be in writing. For promises relating to the price and perfor-

mance of the system to be legally binding, they must be included in a written contract. Vendor's responses to RFP questions shall be included in and incorporated into any sales contract which may result. Vendor statements and claims within or appended to the RFP regarding product performance and capabilities shall be considered part of the proposal and therefore part of any sales contract which may result. The proposed prices, terms and conditions shall remain valid for a certain number of days following submission. The RFP should specify how the proposal will be evaluated. The RFP should also include a "no offer" clause which will release the buyer of any claims in the event that there is no system selected as a result of the RFP process. The RFP should then be communicated to potential vendors.

5. System Evaluation and Selection: A systematic approach should be used to evaluate the responses to the RFP process. One common evaluation method is the balanced scorecard approach in which the proposals are evaluated against important criteria (i.e. software performance, reputation, support and training, price). Then each of these criteria is weighted by selection committee based on their perceived level of importance. The scores in each category is then multiplied with the weight for that category to achieve a score. These scores are totaled and the top three vendors are usually invited to on-site demonstrations. It is critical for the buyer to provide a scripted demonstration request to vendors so that they all present the same features. A scripted demonstration is a real life based scenario in which the vendor will demonstrate in front of the selection committee. The same evaluation must be conducted after the on-site demonstrations and a finalist should be selected. ★

Cloud Services Come to Wi-Fi Access

By Daniel Lister

A shift in perspective takes HSIA from hardware to software, making options more flexible and reliable



The use of Wi-Fi remains a top three amenity for hotel guests, but poor Wi-Fi service was the single largest complaint in most hotels during 2013. Wi-Fi is a complex area for hotels to manage and organize, especially with the speeds required and the sheer number of devices and types of devices in the market today. In the meantime Wi-Fi is growing faster than ever before. With the entrance of smartphones, tablets and other devices that travel with guests to be used for entertainment and social media, this trend will continue to grow for the foreseeable future.

Over the last decade, network infrastructures have seen strong developments with the cabling infrastructure moving from Ethernet, coax and towards fiber — with strong development in speed, capacity and bandwidth starting with 802.11n and now moving forward to 802.11ac/ad. Network switches are easily capable of handling and managing a multitude of users and bandwidth on a site.

The trouble is that the gateways and the service providers that control the devices have seen very little development or change, either from a technology or attitude perspective. The reality is that there is a need for greater improvement of the guest IP network and guest access to the Internet. This also provides the opportunity for the hotel to add additional services to match with their branding, marketing and communication policies.

Daniel Lister is CEO for Danmagi, a company that offers Internet access solutions for the hospitality industries with three divisions based in Denmark, Brazil and India. He can be reached at dlister@danmagi.com.

With the use of a cloud-based service, tailored to support guest needs and multiple devices, connection is freed from the limitations of the previous box solutions or licensing programs. More importantly the cloud environment offers guests and hotels quick solutions should they experience difficulties — without the need for expensive or time delayed site visits.

A Blow to the HSIA Gateway

The most critical aspect has been the lack of much needed development by the hardware vendors and service providers. Access server vendors are still stuck with local access thinking, which limits the number of devices able to get online, or basic or non-existent bandwidth shaping, and a system that requires constant clearing of memory to continue the service. Effectively the gateway is the only part of the HSIA infrastructure that has not moved on and modernized.

One reason for this is that the main providers really believed HSIA was dead and switched all their investment into buying and owning IPTV. The idea to have HSIA and IPTV to run over one IP network seemed a logical step. However the hardware required for this new service was expensive and the technology side was not running smoothly — but most soldiered on. In the desperation to cover the investment, an extraordinary shift took place as HSIA became just a “bolt-on” service that was included more often than not for free as part of a bundle. As we all know there is no such thing as a free lunch, and service levels continued to deteriorate. This in itself was not enough to bring focus back to HSIA. Apple deserves the credit for this change in direction — turning everything on its head with the launch of the iPhone followed by the iPad.

Within a few years of the iPhone and iPad being on the market, HSIA had become a major service requirement to meet the needs of guest to connect their personal mobile devices. Now that guests were bringing their movies, news and social media with them, the biggest requirement was for good HSIA to meet their data hungry needs. These devices also communicate in much smarter ways, so the traditional gateway products started to struggle with the sheer volume and variety of media devices, neither of which they were designed to handle. Now the future of IPTV was in reverse and becoming a white elephant.

The large providers who had invested so much were now caught out by this shift and the onslaught of the recession. At the same time the revenue for both HSIA and IPTV have been slipping away. The hotels themselves found that they were now stuck with higher costs for their IPTV networks, loss of control of the services, an inability to react quickly to changing guest demands, difficulties solving technical problems quickly and loss of revenue as guests watched their own media. There was no foreseeable payback on the investments made.

Think Service, Not Hardware

In other areas of the IT/telecom within hotels there has been a lateral move towards cloud services, however this is not currently being used

in the HSIA market, but should be an obvious one.

Many hotel groups are still thinking in “access provisioning” instead of “service provisioning.” They are still thinking in “hardware” instead of “service.” Probably the main reason for this is that many service providers want to sell hardware, licenses and hardware services to be combined with HSIA and, if possible, even with IPTV or other services to make it more complicated.

The telcos' offering is only aimed towards their users using the hotels' footprint. They generally do not cater for guest and hotel services, but when they do, it is usually poor or unworkable. For them it is about “off loading” the expensive networks such as 3G and 4G.

However the hotels know that defining a proper working guest IP network is not that difficult — the problem lies in having control and visibility of the HSIA service.

HSIA is a perfect environment to be managed through a cloud-based service whereby the hotels have both a local appliance in the guest IP network and all of the data within the cloud.

Everybody involved within the HSIA service (local, regional and central IT / marketing managers, local general managers, support centers, service providers and executive teams) should be able to control and manage part or all of the HSIA service in real-time.

In real-time, HSIA can be used as a fully flexible service where local activities can be implemented and where the central organization can take care of company information such as branding, loyalty programs, servicing and support, and pricing (free, paid or any combination to be changed at any time if required). In addition the hotel can oversee trends and new requirements, giving the hotel group the opportunity to imme-

diately add content instead of having to re-define the networks.

With the use of a cloud-based service, tailored to support guest needs and multiple devices, the connection is freed from the limitations of the previous box solutions or licensing programs. More importantly the cloud environment offers guests and hotels quick solutions should they experienced difficulties — without the need for expensive or time delayed site visits.

So is Cloud HSIA the Next Step?

The advantages for hoteliers, and especially hotel groups, are potentially enormous. True cloud HSIA provides the ability to have real time visibility of statistics and data, from network usage to guest support and much more. The data is especially useful for individual hotels as

well as when reviewing by group, region, brand or country. This means management has access to data in real-time, with no more waiting for outdated monthly reports or feed back on performance.

Cloud HSIA reduces both capital and operating costs as there is no expensive hardware required onsite, no need for maintenance agreements, nor potentially limiting licenses.

The system is more reliable with better SLAs, meaning faults are dealt with in real-time and actions are taken centrally without the need to make an onsite visit. This gives a greater guest experience.

The solution is easy to deploy and requires no onsite maintenance. All settings and services are easy to control and changed in the cloud.

The very fact a data center controls the guest experience means

that the provider can offer service flexibility. Gone are radius, memory and bandwidth issues.

However some of the nicest features of a true cloud-based HSIA are the marketing opportunities and potential to build on brand loyalty. It is an incredible opportunity to provide an enhanced guest experience of tailored suggestions or offers direct to the guest's device. This is regardless of the media, without loss of content or message and with no need to download an app.

This is a new, potential “game changer” technology. The number of truly cloud HSIA companies can still be counted on one hand. However with guest complaints in traditional HSIA hitting an all time high in 2013, and the proven result of cloud HSIA, hotels are now considering their options. *



Come Learn About the Updated CHTP Designation

As we all know, technology is evolving rapidly these days. The evolution and innovation of technology has impacted the hospitality industry, as well as the CHTP certification program. In January 2014, a CHTP Task Force took a deep dive and discussed the industry's concerns, the history of the program, the issues we are faced with today and the future of the program. As a result, the group came up with several recommendations for a revamped CHTP program:

- Revised application life period,
- Revised conditional credit option/ period,
- Revised exam section structure,
- Revised sub-section exam structure,
- Revised source material and studying process,
- Revised number of questions asked on the exam,
- New list of competency areas to bring the exam to current times, and
- Maintenance plan to keep it relevant going forward.

This is just a short list and was a good starting point for the work that has been done since this meeting. **Come learn more about the expected changes to the CHTP designation at HFTP Booth #455.**

Visit HFTP booth #455 or Room 519 on Wednesday and Thursday for details.

A service of Hospitality Financial and Technology Professionals (HFTP)

Cloud PBXs Are Now Viable. Manage Differently.

By Ron Tarro

Cloud PBX technology moves attention to SLAs, cloud middleware and normative total cost models



Phones durably remain in the guest room. But it's less likely that there will be a PBX on the hotel property. Emerging cloud-based PBXs are now carrier grade. Their deployment is being enabled by new, cloud-based hospitality integrations middleware. Most importantly, cloud price points are challenging premise technology. The result is that deployments have accelerated across the hospitality industry.

The emergence of cloud PBX technology architectures changes how you assess hotel voice service decisions. The following is what early adopters have learned.

Stop Making Technology Decisions, Make Service Provider Decisions

You're increasingly going to buy cloud services from a service provider, not a technology provider. You will purchase voice services from organizations that manage all aspects of voice. You need an organization that builds voice infrastructure both at the premise and in the cloud. This is a fundamental change. For the last 30 years, the foundation of a hotel voice technology decision was the PBX. That decision weighted decisions about supporting systems like voice mail, auto-attendant, IVR, call accounting and phone devices. Then you purchased professional services that could manage that PBX technology. With cloud PBXs, the PBX technology is no longer the fundamental decision you need to make. You need to assess the cloud service

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itself. You already operate this way. With your mobility decisions, whose technologies are routing your call or delivering your cell phone's voice message? Did those technology choices affect your cell phone service decision? No they did not.

Shift Your Attention to Service Level Measurements

If you don't care about technology choices, then where should you focus? First, your decision-making shifts away from confirming interoperability of best-of-breed technologies. No longer your problem. Instead it must shift toward the development of features operating under a robust set of service level measurements. Strong service level agreements (SLA) are evidence of a strong underlying technology architecture. Pay particular attention to open source platform SLAs where matters of security, high availability and operational support features may have been home grown. Get the SLA right and it will drive changes to architecture that you cannot see. A service provider's commitment to 99.999 percent up time on the call path says much about the service provider's architecture. A service provider's ability to manage quality of service (QOS) all the way to the guest room endpoint also illuminates the architecture. Does a service failover drop all phone calls or is it just a click as you talk? Architecture expresses itself as SLA.

Pay Strategic Attention to Hospitality Cloud-based Middleware

If you step back from traditional premise-based voice architectures, you will notice that advancement in voice platforms has been happening in 8+ year cycles. Each cycle requires shared vendor product development priorities, coordinated vendor product development and cross-certifications, CapEx events, and then deployment and re-integration of distributed systems. New entrants and innovators are infrequent. Meanwhile, guest expectations for voice services are driven by

their cell phones. Those expectations change almost daily in both features and price points. This difference in innovation tempo is a guest services problem for your hotels. How do you leverage a cloud PBX solution's inherent software advantages to provide inexpensive accelerated innovation? The answer is found in some (not all) new cloud PBX architectures. Look for cloud-based hospitality middleware that is distinct from the voice call path technologies. The cloud middleware connects a carrier's cross industry voice platforms to your hotel systems (and provides the guest features). Your ability to maintain a middleware vendor relationship provides a direct link to innovation by linking guest service strategies to cloud voice.

Establish Normative Total Costs of Ownership

Voice services are increasingly an operating expense and less a capital expenditure event. Cloud PBXs operate under software service (SaaS) pricing models. Recurring occupancy-based fees and recurring flat per-room fees structures have emerged. However, these models are only different ways of timing dollars. They are not fundamentally different in their total cost over time. You need to shift analysis away from capital investment and toward comparative long term total costs of ownerships normalized to the scope of the service. Here are a few ways to move in this direction.

Bandwidth. Does your cloud PBX solution include bandwidth and carried voice minutes for the premise? Some services can run over the top of your existing bandwidth while maintaining quality of service. Others require purchase of bundled bandwidth. Other providers are also bundling bandwidth and local long distance carried minutes. How many minutes and to what calling jurisdictions?

Cloud Software Upgrades. Does your cloud-PBX solution provide all software related upgrades as part of the subscription? Some solutions provide all future software releases

within a subscription. Some provide only bug fixes for the current release. Who pays for installation, test, and cutover of bug and feature upgrades?

Redundancy and Failover. Not all failovers are the same. Some solutions don't provide failover. Others drop all calls and restart. The gold standard is that a component fails and you don't even know it. How will your solution failover when a technology component or network connection is lost? Service redundancy is either solved by premise and cloud hardware redundancy, or by network redundancy. Or both. How this is solved is a material driver of cost for solutions.

Premise Hardware. Who owns the premise hardware, who refreshes the firmware (and how frequently), and who replaces (and pays for) a failed device? If premise hardware is present, require that vendors warrant that the hardware installed on premise is not end of life and is fully capable of supporting feature upgrades, quality of service, security, features and general SLA requirements. Unexpected premise updates can be a hidden cost.

Open Source PBX. Open source software is less expensive than proprietary alternatives when creating an initial solution, yet conversely it can be more expensive over time to enhance, secure and operate. This is because changes to proprietary systems can be amortized across a larger base of customers while an open source is customized to your individual service provider. Open source providers in niche industries must be big enough to drive innovation without passing the cost onto you. Here's how you equalize this problem: compare solutions over a long-term for their incremental costs from software features updates and ongoing compliance to SLA changes (are such advancements included in the service subscription?).

Cloud PBX architectures are changing what you manage in voice services. Your attention must shift to SLAs, cloud middleware for sustainable innovation and normative total cost models for voice services. *

Delivering Connectivity to One of the Largest U.S. Convention Centers

By Monica Compton

How Cox Business outfitted the Las Vegas Convention Center with a robust, technology infrastructure



Photo courtesy of the Las Vegas News Bureau.

When your venue hosts one of the largest technology trade shows in the country, the bandwidth of your telecommunications services needs to be strong. The International Consumer Electronics Show (CES) brings more than 3,200 exhibitors and over 150,000 technology professionals to the Las Vegas Convention Center (LVCC) every January. The need for speed and flawless connectivity for these participants is paramount.

Thus began the challenge of finding a telecommunications company who could handle the high demand of the third largest convention center in the U.S. The LVCC's 2 million sq. ft. of exhibit space allows it to accommodate three of the Top 10 trade shows in the U.S., more Top 10 shows than any other single convention center. The larger the shows, the more bandwidth required to keep attendees online with their businesses. Not to mention that the back of house infrastructure — what the attendees don't see — has to be just as capable of handling the connectivity of thousands of smartphones, tablets, laptops and every wireless and wired device on the show floor.

When Cox Business received the LVCC's request for proposal (RFP) two years ago, the company knew the stakes were high. And although Cox Business was experienced at providing telecommunications to over 30 major hotel and resort properties in Las Vegas and other areas of

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the U.S., the sheer size of the building and breadth of services required could have seemed daunting.

“When we received the RFP we had a wide range of experience in service delivery within the convention space,” explains Derrick Hill, vice president of Cox Business/Hospitality Network (HN) in Las Vegas. “The opportunity to provide the Las Vegas Convention and Visitors Authority with analogous telecom services was a challenge we knew we could meet.”

After all, Cox Business already had a strong telecommunications foothold in Las Vegas on its own, but also through its entertainment arm HN. Since 1999, Cox Business has been providing wired and wireless data solutions as well HN’s on-demand and interactive television services to the hotel/resort business vertical since 1999. The company currently serves over 110,000 predominantly Las Vegas hotel/resort guest rooms in gaming districts around the country.

And this is how Cox Advanced

Convention Services (ACS) came to life. ACS was conceived in 2007 as a startup business under the Hospitality Network brand. With 22,000 meetings and conventions in Las Vegas annually, ACS saw rapid growth by offering wired and wireless services to the convention trade in Southern Nevada.

“We’d already been providing Cox services to about 1.2 million sq. ft. of exhibit space in Las Vegas and some other areas,” says Christy Raivio, ACS manager for Cox Business in Las Vegas. “One of the main reasons we were able to move forward so confidently with the Las Vegas Convention Center business opportunity was the technical, customer-facing and back office know-how we gained through ACS,” she said.

The technology infrastructure currently being worked on at the Las Vegas Convention Center will provide major improvements for all visitors to the venue, from better cellular connections and an industry leading Wi-Fi canopy, to the fastest

wired Internet speeds in the convention industry. For the next seven and possibly 10 years, it will be Cox Business/Hospitality Network providing technology to about 60 of the world’s largest 250 conventions/trade shows that take up temporary residence at the convention center in Las Vegas each year.

“The Las Vegas Convention and Visitors Authority (LVCVA) is committed to staying ahead of our competition and maintaining Las Vegas’ status as the number one trade show destination in North America,” said Terry Jicinsky, senior vice president of operations for the LVCVA. “We’re excited to be working with Cox Business to offer our trade show partners and their exhibitors and delegates the latest technology and exceptional customer service that helps them improve their business and tradeshow experience.”

Moving forward

In late-September last year, Cox Business/Hospitality Network rolled out a thick technology carpet at the

HITEC 2014
GUEST
BLOGGERS

Read multiple perspectives on this year’s show:

IT consultant **James Lingle** works with both vendors and hoteliers alike, and is a frequent expert speaker at HITEC, including this year on the topic of hotel renovations.

Solutions provider **Randy Craven, CHTP** helps hospitality companies build an IT infrastructure through the Greensborough, N.C. firm Stella Solutions Group.

Analytics professional **Samuel Ayisi** assists hospitality organizations optimize their hospitality data to enhance the total guest experience.

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LVCC that included wired high-speed Internet networking services and equipment, wired voice services, private network options, advanced Wi-Fi based wireless Internet services and TV, as well as a 10-gigabit, diverse redundant fiber backbone. Under the contract, Cox Business is also providing its technology services to the LVCC's back of house and public areas, as well as the Cashman Center meeting facility. The total investment is expected to top \$9 million.

Since work began, Cox Business engineers have already more than doubled the number of routers and switches at the convention center and increased Wi-Fi access points. This allowed for some extremely heavy lifting during CES in January where Cox saw simultaneous usage peak at 11,500 users and a total unique user

count reach 73,000 during the show. Using its newly built Wi-Fi infrastructure, Cox Business delivered cellular offload of data onto the Wi-Fi network of 155 Mbps of data at CES.

"At some point later this year, we'll have over 2,000 Wi-Fi access points in place based on the 802.11AC standard and these could potentially allow Wi-Fi at multiples of today's speeds," said John Fountain, director of network technology for Cox Business/Hospitality Network in Las Vegas. Fountain is leading the design team responsible for mapping and installing the convention center space with the upgraded Cox technologies.

When Cox Business/Hospitality Network completes its build-out of the Las Vegas Convention Center,

it will also include a state-of-the-art interior 3G/4G cellular Distributed Antenna System (DAS) designed to improve cellular telephone capabilities from deep within the cement and steel superstructure of the convention center facility. Work on that system is scheduled to be completed around mid-2014.

"We are extremely proud to help Las Vegas shine as one of the world's preeminent destinations for the meetings and conventions industry," says Mike Bolognini, market vice president for Cox Las Vegas. "Cox engineers, designers and customer service representatives who are engaged with the Las Vegas Convention Center are equally as proud to be associated with such an important brand." *

BY THE NUMBERS

2 million sq. ft.

Amount of exhibit space at the Las Vegas Convention Center

3

National ranking of the Las Vegas Convention Center by size

60

Number of conventions/trade shows during 2013 at the Las Vegas Convention Center

1.2 million sq. ft.

Amount of total exhibit space served by Cox Business at hotels/resorts

3.2 million sq. ft.

Amount of total space served by Cox at the Las Vegas Convention Center

16

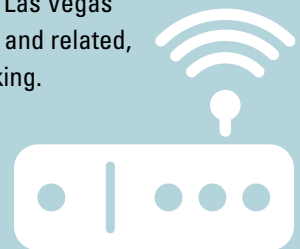
Number of trade shows with Cox Business-provided technology at the Las Vegas Convention Center during 2013

\$9 million

Investment Cox Business will make at the Las Vegas Convention Center

During the RFP process two items that were of the greatest import and ended up being the reasons Cox was chosen were: Firstly, the financial strength and investment Cox was willing to make to ensure the Las Vegas Convention Center maintained a leadership position in the convention industry. Secondly, and related, was the a cutting edge technology plan that was holistic in its approach and forward looking.

The technology infrastructure currently being worked on at the Las Vegas Convention Center will provide major improvements for all visitors to the venue, from better cellular connections, an industry leading Wi-Fi canopy and the fastest wired Internet speeds in the convention industry.



Advanced HD Solution Brings an Array of Guest Room Entertainment Options

By Monica Compton

New solution offers digital quality and sound, as well as channel flexibility for individual hotel locations



Whether your guests are traveling alone or with family, creating an in-room telecommunications experience that models the comfort and ease of their home can be a challenge. Gone are the days when guests are satisfied with network channels and a standard cable package. Replicating the multitude of entertainment selections and the digital HD quality of their home televisions can be a daunting proposition in and of itself, but the hotel environment has some unique challenges of video delivery.

Cox Business saw this need to bring a significantly better TV viewing experience into the hotel guest room and is responding with the next generation of HD service designed with hotelier needs in mind.

“Hoteliers have a wide variety of in-room video options today. Ultimately, all decisions are made with reliability, features, overhead and cost in mind,” says Eric Roberts, senior product manager for Cox Business. “We think the new advanced HD product hits the sweet spot for hoteliers.”

Scheduled to start trialing next month, Cox Business’ advanced HD solution will bring 100 percent digital quality and sound to each guest room TV. The channel package is flexible as well and can be changed for each hotel’s location, regardless if they are the same brand.

“If Property X wants ESPN on channel 11 and Property Y in the same city wants it on channel 25, we

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“If Property X wants ESPN on channel 11 and Property Y in the same city wants it on channel 25, we can do that,” says Eric Roberts, senior product manager for Cox Business. “If you want to remove some channels that are shown in the lobby, we can create a custom lineup for that for use within your hotel.”

can do that,” Roberts says. “If you want to remove some channels that are shown in the lobby, we can create a custom lineup for that for use within your hotel.”

Where before Cox Business’ HD Free-to-Guest service provided a couple dozen channels, the new product offers package options to deliver hundreds of channels and full access to the multiplex channels associated with premium movie channel subscriptions.

“Instead of delivering ‘bulk TV service’ with a sprinkling of HD channels, we are bringing an elegant solution offering a host of linear TV options with a sophisticated user interface,” says Jennifer Richardson, senior product manager, business TV and hospitality services for Cox Business. “The solution also brings

options for hotel employees to assist guests with their in-room TV preferences.”

The HD equipment is concealed behind the TV and out of the guest’s view. Other than the in-room box, no additional equipment is needed at the hotel. There is also an online portal tool which enables the front desk to immediately assess the status of the equipment and make adjustments to the guest’s experience as necessary.

Other product features include a customizable interactive program guide with the hotel’s logo and chosen background integrated into the interface to promote the brand of the hotel.

Another unique aspect of the product is the remote control. Although technology has improved television viewing, the remote

control for some units has become so confusing, it’s difficult to know how to turn on the TV. Cox Business will leverage a simplified remote control so that users can quickly find the program they want to watch. And, the remote even has an anti-microbial coating.

The initial launch will showcase the robust HD channel options and user experience customization elements. The infrastructure leaves room for feature enhancements down the road such as the ability to pause live TV and on-demand content.

“The hotel industry is an important part of our customer base,” Richardson says. “In revisiting our hospitality HD portfolio and launching this new generation solution, we are accommodating the ever-evolving needs of the industry; we are offering solutions specifically built for hotels.”

And it’s not just TV service that Cox Business offers. Their Internet, managed Wi-Fi and voice services offer a complete solution for the hotel guest room and other areas of the property.

“We understand the needs of the hotel and the needs of their guests,” Roberts says. “We act as the hotel’s partner in bringing all the telecommunications comforts of home into the guest room.” ✨

Unencrypted Data: A Security Plague

By Gary Glover, CISSP, CISA, QSA, PA-QSA

Availability of unprotected payment data can be reduced with card discovery tools and a concentrated effort



I have a few major concerns for payment security at the hospitality level, such as remote access vulnerabilities and wireless insecurity, but nothing compares to the anxiety I feel about the widespread storage of unencrypted payment card data.

Unencrypted payment card data is the information on a credit/debit card (16-digit account number, service code, cardholder expiration date, etc.) that criminals use to fraudulently duplicate customer payment cards.

According to 2014 PANscan® data, 63 percent of businesses store unencrypted payment card data, which is 100 percent against the Payment Card Industry Data Security Standard (PCI DSS). In addition to finance and retail, hospitality is one of the top three industries hackers target for unencrypted card data.

If hackers manage to compromise a network, they look for something easy to steal. Because it exists in an unprotected state, unencrypted payment card data is relatively simple for a hacker to detect, scoop up and steal.

Even With its Short History, Card Discovery Has Come a Long Way

Whether because of recent PCI DSS emphasis, or because of recent high-profile compromises, more organizations are concerned with payment security. The current trend, and most effective way to identify this dangerous unencrypted information is to use a card discovery tool. Depending on the vendor, these inexpensive (some-

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Once businesses begin implementing Point-to-Point Encryption (P2PE) card processing solutions, we should see a dramatic reduction in unencrypted card data. P2PE encrypts card information immediately upon a customer's swipe or dip, so there is no chance of stored, unencrypted data. Unfortunately, P2PE does nothing for storage of unencrypted data outside of the payment environment.

times free) software tools alert users on the location of discovered card data so it can be securely deleted. Many tools are advanced enough to look through improperly deleted files and restored computer backups.

The life of payment card discovery software began with command-line interface, only accessible by those who knew regular expression search notation (like a search formula). Used by forensic investigators and security hobbyists, it wasn't until recently that this type of data search software got a user-friendly face-lift and really took off.

Over the past few years, this software has evolved to scan quicker, find cards easier and diminish system overload. For example, some card tools use delimiter scanning to exclude 16-digit strings with special or alpha characters, which enables scans to run faster.

One limitation of card data software is that its reach does not extend to physical card data storage. I know many hotels that scan, print and keep customer credit cards in big binders in the office for easy and recurring room reservations. Even though it's not electronic, storing cards in this manner is still very much against the PCI DSS, if not properly secured or masked.

Storing Accidentally vs. On Purpose

If I could give a short-term goal to the hospitality industry, it would be to find and securely delete the im-

properly secured card data residing in back-office spreadsheets, property management and point-of-sale (POS) systems. Unlike encrypted data that is saved on purpose for charge reversals or recurring payments, some property management and POS systems accidentally store unencrypted data due to hardware/software misconfiguration.

I conducted a resort audit recently and found 1.2 million (that's right, million) records of unencrypted card data. The resort managers were shocked at the liability those 1.2 million cards represented. Usually, large amounts of stored numbers occur because of errors in hardware or software set up.

Spreadsheets filled with card numbers are also prohibited, but more easily addressable. While property management or POS software often requires complex configuration changes, purposeful storage of data in spreadsheets or text files merely requires a new process and employee training. I regularly find thousands of unencrypted credit cards in spreadsheets in the accounting and guest/owner services departments. Even though thousands of cards are at risk, all management has to do is securely delete the spreadsheet and conduct employee training to ensure it doesn't occur again.

Future Elimination of Stored, Unencrypted Card Data

The trend of unencrypted card data

is extremely similar to other security issues I see in hospitality. Whether it's default passwords, remote access vulnerabilities, wireless insecurity or unencrypted card data, people are simply unaware of simple security blunders that considerably increase business liability.

In most cases, owners and managers don't blatantly ignore security requirements. They just don't know about them, and their software or IT teams are so busy supporting normal business functions that they also fail to catch problems.

Ultimately, a lack of simple security understanding is a key reason unencrypted card data remains so pervasive. Down the road, I hope to see card data discovery tools used in everyday business security.

The upcoming EMV mandate required by Visa and MasterCard requires all businesses to implement EMV-enabled payment solutions. Although EMV will help reduce other security-related issues, it is not designed to alleviate unencrypted card storage issues. EMV systems still need access to the unencrypted credit card data during the dip or swipe process, which means there is an opportunity for misconfigured software to inadvertently capture and store unprotected data.

However, once businesses begin implementing Point-to-Point Encryption (P2PE) card processing solutions, we should see a dramatic reduction in unencrypted card data. P2PE encrypts card information immediately upon a customer's swipe or dip, so there is no chance of stored, unencrypted data. Unfortunately, P2PE does nothing for storage of unencrypted data outside of the payment environment (e.g., spreadsheets created in the back office).

I don't believe unencrypted card data will ever go away completely, but hope to find fewer instances in the future. ★

Dedicated Analytics Resources Protect Electronic Assets

By Shawn Clark

Shifting to a data driven culture maximizes asset protection and innovation



Let's face it, consumer technology is moving at light speed. In seconds, billions of consumers are making purchasing decisions based on loyalty, social influencer reviews, likes, dislikes or the newest hipster marketing campaign. Customers want easy access to products and services while expecting companies to know what they like — and the ability to buy any time anywhere, online, in an instant.

There's no doubt, what's hot today may be worthless tomorrow. Chief marketing, sales and information officers recognize that to survive, they must adapt and change. They invest heavily in advanced data warehouse technologies and infrastructure. Their dedicated analytics teams are deployed to uncover valuable business intelligence, gain a deeper understanding of product sales trends and provide a holistic view of customer behavior.

Deep analysis of customer behavior can yield actionable intelligence to enhance, refine and reinvent product offerings. Analytics tells us which of these offerings socially informed customers have a higher propensity to purchase, resulting in increased sales and marketing performance.

For this reason hospitality leaders rely on sales and marketing analytics. They race to refine and reinvent product offerings. Yet they fail to deploy dedicated analytics resources and strategies to protect electronic assets. In today's socially connected

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world, the mere perception of an inadequate security posture can violate consumer trust, dilute product value and irrevocably tarnish the corporate brand and image.

To enhance protection, hospitality leaders must adopt data driven solutions. Needed are analytics strategies to proactively detect fraud and often more costly, bad business exposures.

The Gap

Hospitality security programs focus heavily on traditional security disciplines such as facilities, employee and customer protection — and with good reason. Geopolitical, socio-economic and terrorism events test security programs daily. If customers don't feel safe, the property and potentially the brand could be doomed for failure.

To maximize protection, chief auditors and chief security officers — like their CIO and CMO counterparts — must change and proactively adapt to electronic threats. Adopting a data driven culture and deploying fraud analytics strategies will enhance protection, uncover valuable intelligence, discern trends and provide a holistic view of fraudulent and bad business behavior.

Overseeing global operations puts an incredible drain on resources and limits the ability for hospitality security and audit teams to focus on new technologies, let alone analytics and innovation. Many hospitality security and audit departments still rely on tips, complaints or the geopolitical event of the day to determine where to focus departmental resources. Certainly insights can be gained by this approach; however, without a dedicated, data-focused team, innovation and new discoveries are often overlooked.

The Foundation: A Data Driven Culture

I have been fortunate to lead and be a part of teams that deploy analytics

strategies. We experience phenomenal results, saving millions of dollars and achieving ROI up to 100 percent. With each deployment news exposures, such as a multi-million dollar e-commerce attack, are discovered.

The savings, ROI and new discoveries didn't happen because they had "a guy." Nor did they invest in a magical analytics tool that plugged in, turned on and produced a report. There is no one tool that tells them where to look and where the greatest exposures are. These results are achieved because the companies and teams were not afraid to change. They adopted a data driven culture.

In my experience a data driven culture consists of the following basic elements:

Executive buy in — not required, but it's certainly nice to have. It always helps when your CEO understands and is willing to invest in technology.

A robust technology team — don't sell yourself short here. Plan on your data landscape growing with new sales and marketing programs and technologies.

Easily accessible data — practice data governance up front. With sound architecture, secure and normalized data, analytical answers are efficiently realized.

A dedicated analytics team — create an analytics team focused on finding enterprise fraud and bad business practices. If you don't, you're relying on "the guy" or the already overburdened technology department.

The freedom to explore — If you think it has value, whether fraud or bad business, go for it. This freedom to test and develop theories and ideas gives birth to new innovation and uncovers fraud and bad business exposures.

The Strategy: Fraud Analytics

Fraud analytics is the proactive

detection of previously undetectable fraud and bad business practices through data analysis and profile development. Deploying a fraud analytics strategy using your company's existing data sources is a great place to start. If your security or audit department is still operating in the exception report, data dark ages without a team dedicated to enterprise fraud analytics, it's never too late to change.

To deploy a fraud analytics strategy, you must have a team — not just "a guy." The team is dedicated to finding global fraud and bad business exposures. That's right, you won't be one-dimensional anymore looking exclusively for fraud. Use analytics to find costly bad business practices too.

The analytics team will investigate, perform analysis to determine global exposure and work with stakeholders to mitigate the issue. They will work with technology to develop compliance solutions to ensure it doesn't happen again.

Innovation: Finding the Needle

What's your company's greatest exposure? You probably haven't found it yet. It starts as an idea, or something seen during analysis that doesn't make sense. It might be fraud or bad business. You won't be sure until you load a small subset of new data or join tables from five different data marts to test and prove your theory. This leave-no-holistic-stone-unturned philosophy is how innovation is driven and powers fraud analytics.

In my experience, companies that adopt a data driven culture and deploy a fraud analytics strategy gain new analytics insights. They identify previously undetectable fraud and bad business practices. These companies possess the ultimate analytics prize — identify unknown exposures and mitigate them. ★

Big Questions Around Big Data

By Lisa Apolinski

How hotels can manage big data effectively, and ultimately use it to improve the customer experience



You may have heard the term "big data" and wondered what that could mean, both the definition and the impact on the hotel industry. It may sound intimidating, but big data is something that can help you engage more fully with your customer base. Let's take a moment to understand big data, how hotels can manage data effectively, and ultimately use it to improve the customer experience.

Understanding the Buzz

Big data is a buzzword to describe a large quantity of non-structured or non-integrated data pieces. It can refer to the volume of data, and also the organization of the data and bringing the data together to be processed and analyzed. While systems, and companies, are getting more sophisticated with their analysis of this data (think Amazon, Target and Google), companies of any size can use data to help understand their customer base.

Getting Organized

The first order of business is to look at the data you have and how it is stored. If your data is not organized and *clean*, you will not be able to process it and have usable results. Look at a few key data points and make sure those fields are accurate, up-to-date and stored in a way that makes reporting easy. These data points can be the geo-location of a customer, week of year of travel, type of room requested, as examples. Starting with a few key data points

Lisa Apolinski is founder of 3 Dog Write Inc., a digital marketing strategy firm. She can be reached at lisa@3dogwrite.com.

An easy place to start is the point of entry for your prospect, which can be an e-mail, web page or even a Facebook ad. If the call to action is to visit a specific web page, review the traffic patterns to that page during that time frame. Did you see an increase and where did the traffic go after that page (did they move through the site or bounce out, and was that an expected behavior)?

can still give you some insight. As you process these points, see what questions come up and add in new points into your data set to find the answers. If there is a pattern around weeks of travel, for example, further review can show if it is associated with a holiday, conference, or life event such as a wedding or honeymoon, etc. As more patterns emerge, you will be seeing valuable insight into your clientele.

Housing Parameters

How you house your data will also be a factor in how accessible your data is to analyze. Systems need to be able to connect and share data, otherwise you will be trying to do analysis in silos, which can certainly affect the accuracy of your analysis. Also, think beyond just the customer database. Important data on customer behavior can be found in other

channels, such as social media, web site, event apps, blog posts, e-mail, etc. Are you reviewing the entire booking experience (pre, during and post) as pieces of digital data, and how are you linking those pieces of data to understand your customer? Again, you can begin with specific pieces of data, but it is important to track their path.

An easy place to start is the point of entry for your prospect, which can be an e-mail, web page or even a Facebook ad. If the call to action is to visit a specific web page, review the traffic patterns to that page during that time frame. Did you see an increase and where did the traffic go after that page (did they move through the site or bounce out, and was that an expected behavior)?

Make it Authentic

So you have some interesting insight

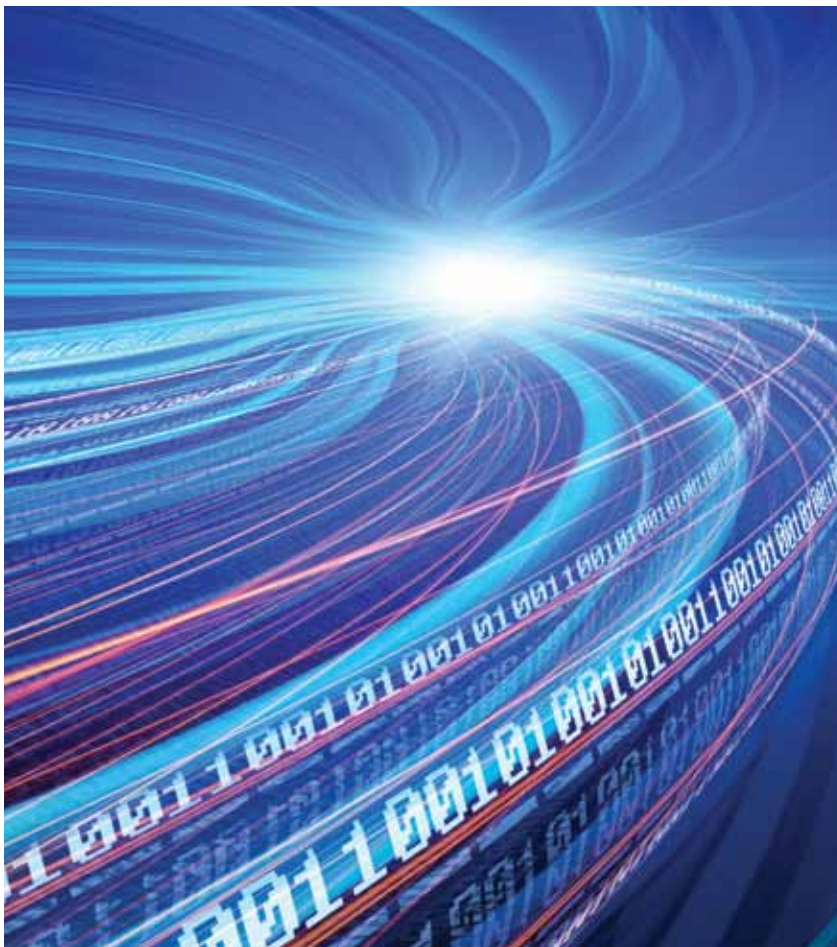
into your customer base, but now what? Once you have a better understanding of your customer, you can use the data to help create a better and more genuine experience. If the insight shows an uptick in room registration around a conference in town, perhaps an e-mail blast can be developed that highlights some restaurant choices within walking distance to the hotel (making the assumption that the people attending will be not only from out of town, but most likely without a car). If there is a high bounce rate for a form on a web page, the form can be checked to see if the fields are working and that it is mobile-optimized. If traffic is being directed to a video, and very few people are watching it all the way through, testing can be done to see if shortening the video engages the prospect more effectively. Data can also be as simple as tracking a housekeeping request with a regular visitor. If a customer always requests extra pillows during their stay, use that data point and have extra pillows already in the room upon arrival.

The hotel industry provides an interesting situation for the client: there is potential for something to go well, and wrong, with both their digital experience and their physical one. Your data is a powerful tool. It can make the difference between an average experience and one that stands out, and that is big. ✨

The Business Intelligence Boom

By Bonnie Buckhiester

A much higher degree of technology integration is necessary to ensure revenue management teams do not miss opportunities to manage demand optimally



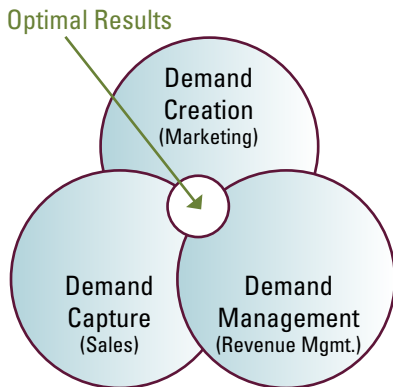
As a revenue management specialist I am constantly reevaluating data sources and data sets. Long gone are the days of relying solely on market share reports, competitive rate shopping tools, and internal metrics to gauge performance and guide decision-making. Today, strategic oversight of the revenue management effort involves complex data sets from a multitude of sources. And to make sense of this “big data,” end users must take a highly structured and efficient approach to data gathering with the aim of interpreting and presenting this data in a clear and concise manner.

A Higher Degree of Integration

To accomplish this, a much higher degree of technology integration is required; only in this manner can hotels ensure they do not miss opportunities to manage demand optimally. The lack of comprehensive technology integration is a key part of this challenge, a problem that is growing daily as new data sets come into play. Even today hotels operate without interfaces between property management and sales/catering systems because the interface costs are high. But the true cost of the inefficiency is never measured and the old adage of “what we don’t measure, we don’t manage” certainly applies in this case. Until such time as hotels fully identify and acknowledge lost revenue that is a direct result of misinterpreting the signs of

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Optimally Managing Demand



shifting market conditions, signs that might have been read with the help of big data, the industry is not likely to address these issues. The problem is there is a high cost to integration, and in a cost-obsessed industry this only exacerbates the situation.

The hospitality industry has long suffered from the negative affects of working in silos, but today the dangers are amplified. Traditionally, the revenue generation roles have been defined as marketing, sales and revenue management, but these terms are obsolete. More precise descriptions are demand creation, demand capture and demand management; and it's only when these roles fully converge that a hotel is in a position to optimally manage demand. The graphic above depicts the convergence of these disciplines.

For each of these disciplines there are a growing number of business intelligence data sets that must be taken into account to interpret the "demand continuum." Imagine if you will, several integrated dashboards that gather and organize key performance indicators (KPIs) in such a manner as to enable revenue teams to evaluate demand conditions from a number of converging perspectives. These KPIs can be divided into six broad categories:

1. Macro Demand Influencers.

These are broad-based, overriding factors that are largely outside the control of hotel operators, but dramatically influence the rise and fall of demand.

2. Leading Demand Indicators.

These KPIs are direct and conclusive indicators of demand

3. Competitive Impact Factors.

These factors relate directly to the competitive marketplace and include two perspectives: those from the competitive set and those from consumer reviews

4. Marketing and Public Relations Performance Indicators.

These data sets include results from a multitude of marketing and PR initiatives.

5. Social Media Performance Metrics. These metrics represent the newest indicators of consumer sentiment and engagement.

6. Internal Performance Metrics.

These measurements are the most familiar to hoteliers and now reach beyond traditional forms of metrics to include a "total revenue management" perspective, i.e. all revenue streams evaluated to the profit ratio level.

You'll notice that internal metrics are listed last. This is intentional. Too often hotels focus attention on the isolated performance of their own property rather than the forces and factors that impact that performance. This type of myopic attention makes it less likely to see the inevitable shifting of market conditions in time to make informed adjustments to strategies. However, if hoteliers will broaden the scope of key performance indicators and examine these metrics in tandem, the likelihood of deploying optimal demand strategies and tactics is far greater. Consider the examples of key impact factors listed in the table on page 53.

If these metrics could be gathered in such a manner as to make decision

making smooth, efficient and effective, imagine the impact. If a revenue team convenes and determines that call volumes and Web visits are down year-over-year, and sets about to identify just how many calls are required at current conversion ratios and lengths of stay to produce the desired room nights, then the marketing team has specific targets to reach. If competitive research indicates that a hotel's social media effort is losing share, then marketing and sales can make informed decisions to improve customer engagement.

In another example, if the revenue manager carefully tracks production statistics for each and every package and promotion, marketing can fully evaluate the return on investment (ROI) of that initiative. The key, of course, to all these assessments is the ability to make these decisions based on empirical data not anecdotal observations. However, at present a revenue team must awkwardly examine multiple systems and data sources to collect, organize and eventually interpret trends.

The Value of Integration

Technology professionals have worked endlessly to provide intelligent, highly efficient hardware and software to meet the needs of the hospitality industry. Yet hotel operators are often reluctant to invest in new technology. In the same manner that the traditional marketing, sales and revenue management disciplines must evolve and converge into a single demand continuum, so must operators evolve and accept the reality that big data is here to stay and growing exponentially. And the larger it grows the more disconnected our systems become.

So there are two distinct areas of responsibility here. The first is for the technology companies to make integration easy and affordable. Many have done this already

KEY PERFORMANCE INDICATORS

Internal Performance Metrics

- Occupancy, average rate, RevPAR, and total revenue (to budget, to forecast, to last year)
- Forecast accuracy
- Total guest spend per occupied room, per available room
- Call conversion ratios
- Forecast accuracy
- Total spend by market segment
- Up-sell revenue
- F&B outlet and catering revenues per occupied room; covers
- Guest capture ratios for golf, spa activities
- Length of stay
- Upgrade statistics (number and value of room nights consumed in room types for which the guest has not paid)

Data Sources:

Property management, golf, spa, point of sale, sales/catering and central reservation systems; forecasting tools

Demand Influencers

- Economic climate
- Airlift
- Currency exchange
- Air fares
- Air passenger arrivals
- Weather conditions (ex. snowfall for ski resorts)
- Tourist authority statistics

Data Sources:

Government, industry and tourism reports; central banks, airlines, weather services

Leading Indicators

- Call volumes
- Web visits (total, unique, etc.)
- Unconstrained demand forecast
- Regrets and denials
- Revenue forecast
- Booking pace by market segment
- Revenue per reservation
- Production statistics (packages, promotions, events, etc.)
- Call center abandon ratios

Data Sources:

Automated call distribution, property management, global distribution, central reservations, sales and catering, and revenue management systems; Google analytics; guest engagement software

Competitive Environment

- Market share
- Rate shopping
- Comparative offers (packages, promotions, etc.)
- Market share index balance
- Peer review scores and rankings
- Channel share
- Fair-share forecast

Data Sources:

Market share reports, rate shopping tools, reputation management software and online travel agency reports

Marketing & Public Relations

- Marketing ROIs
- PR ROIs
- Web referrals
- Web conversion ratios
- Paid search results
- Web engagement ratios
- E-mail acquisitions
- Results by e-mail initiative
- Customer retention
- Call tracking by 800 number
- Digital display media results

Data Sources:

Marketing automation tools and Google Analytics

Social Media

- Tripadvisor rating
- Value index ratio*
- New reviews and ranking
- Google+ rating
- Facebook likes
- Twitter followers and re-tweets
- YouTube subscribers and views
- Pinterest followers
- Instagram followers
- App.com metrics (proprietary apps)

Data Sources:

Tripadvisor dashboard and other social media dashboards; app statistics

* Value index = the value score in Tripadvisor reviews expressed as an index against the competitive set — much like a market share index.

with open APIs and open minds. But hoteliers must also have open minds. And the best way for a cost-obsessed industry to measure the value of integration is to start honestly calculating the money being left on the table. Comprehensive data sets that are fully integrated for use by

hotel general managers and revenue teams are the answer to optimizing demand, whatever that demand may be. There is a saying that “what goes up, must come down,” and surely up and down demand cycles are inevitable. But to answer the question “who must come to the rescue?,” the

answer is a fully collaborative effort from hotel operators and technology professionals, with the emphasis on the operators. If operators have the political and financial will to conduct business in a fully integrated environment, it will happen and they will come to their own rescue ★

Digital Content: A Hotel Marketer's Dream?

By Lori Fitzgerald

Digital outlets provide inexpensive, broad reach; but is it to the detriment of your overall marketing efforts?



Ah, the beauty of the digital world: So much more reach for your marketing dollar than traditional media and now your message is everywhere.

Technology provides marketers with tremendous opportunities. With consumer attention spans shorter than ever and media options and consumption more fragmented than ever, digital content allows us to spread our message to more places, to more people, with more precise targeting and at a lower cost than ever before.

But as with anything else, there is a tradeoff. The new technology has also resulted in a new web of work in order to maintain and monitor content. More importantly, how does today's marketer insure that their brands are consistently represented in all of the places that they appear? Is brand integrity intact?

Currently there are no tools that allow marketers to seamlessly update and monitor content across all of the multiple digital platforms that are used daily. We must update content we own — web sites, mobile sites, social media and e-marketing. We also need to monitor content that is beyond our control such as partner sites, online travel agents, review sites, etc., where users post content and photos that we might otherwise not choose to use.

Here are a few questions that marketers find themselves wondering on a daily basis.

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Why can't our mobile sites update simultaneously with our desktop site updates?

Responsive sites have begun to address that issue, but many of us don't have the budget to create new sites that keep pace with the available technology every year. So, in the meantime, we will need to update our desktop site and our mobile site independently, doubling our work.

How do you manage all of the online listings?

The more sites you list your business on, the better your SEO and the increased chance of being found by your customers. Great, but how do you track it all? What about sites that scrape content from other sources — how do you know when they do it, how do you manage where they scrape from, who do you ask to update or make changes? Often you are not aware that it's happened until there is a problem, in which case we are left scrambling to find the source and regain control of the brand message.

TripAdvisor is the market leader for hotel reviews and can't be ignored, but what about the dozens of others? Yes, shares and reviews on Google+ help with search, but if users aren't there, how much time and effort should be focused here? Do we need to be more vigilant about Yelp? FourSquare? Facebook? What's the right mix of monitoring and responding? And finally, how does all of this social media activity complement or create redundancy to our own post-departure guest surveys?

Time spent managing content is time not spent on other, more strategic issues which may have a long term impact on the direction of our marketing efforts and your brand. So, in the end, the inexpensive nature of digital content is offset by the resources necessary to manage and maintain it. And, this phenomenon will only continue to expand and grow as new channels are created.

How many social media channels should be used?

How do we monitor daily posts to those channels? Reputation management software has made monitoring somewhat simpler, but not all social channels are tracked by a single reputation management solution. Similarly, this software allows posting to multiple channels simultaneously (Facebook and Twitter, primarily), but not necessarily all of the ones you may be active on. The old fashioned Google alert is helpful, but lags, resulting in delays to posting until well after the fact when immediate responses would be more helpful. Where to focus?

Whew! With all of that said, marketers have to ask themselves, what platforms do I really have to be on and which can I ignore? What are the risks of not claiming your business and thus not concerning yourself with the content on that site? The risk is that someone else will determine your message for you — confusing consumers and potentially damaging your brand. But, can you be in all of these places and still be effective?

How far can we reach?

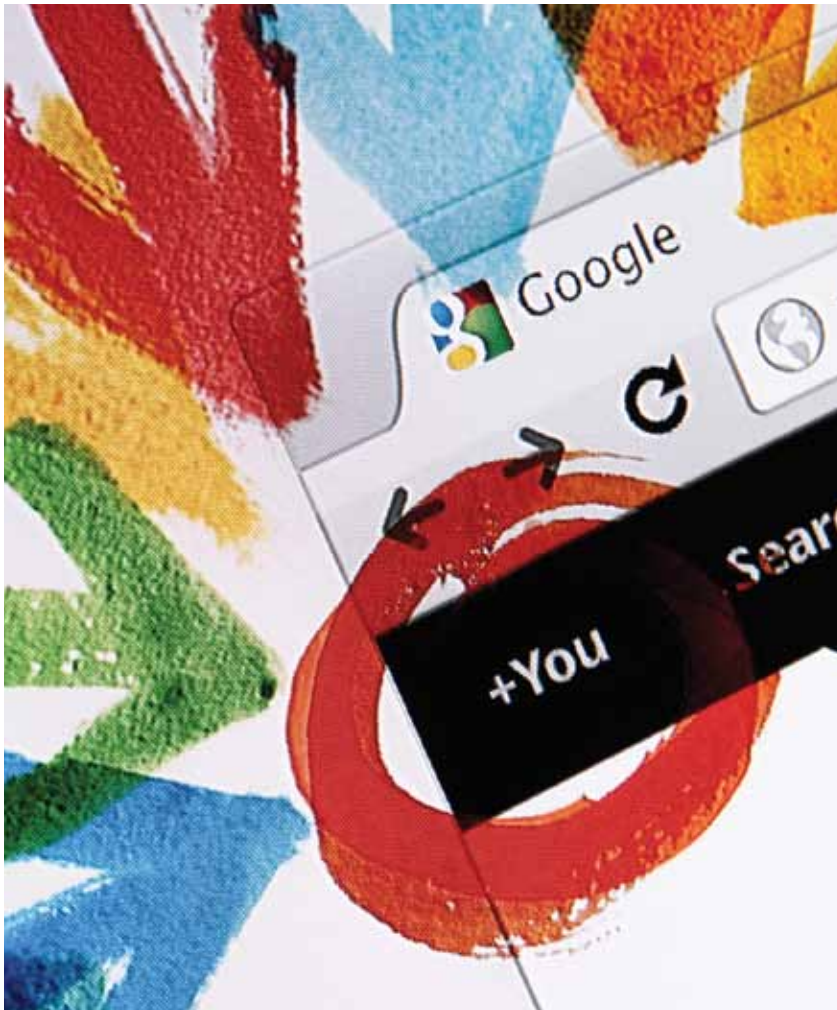
The reality is that we need to be in as many places as possible in order to get noticed and ultimately purchased. This means that marketers are forced to spend more time and resources tracking and managing content either with outside partners and consultants or by adding to their teams. Time spent managing content is time not spent on other, more strategic issues which may have a long term impact on the direction of our marketing efforts and your brand. So, in the end, the inexpensive nature of digital content is offset by the resources necessary to manage and maintain it. And, this phenomenon will only continue to expand and grow as new channels are created.

The upside to all of this is the increasing ability to directly track results from your digital marketing, allowing you to determine reach and ROI more effectively. This is tremendously helpful as we ask our bosses for ever-expanding budgets to keep pace with the gifts that digital content gives to us. We can dream, anyway. ✨

Four Google Trends that Reveal the Future of SEO

By Andrew Garberson

Google focuses on local, mobile and social in 2014 — you should, too



Google introduces a new animal and everybody panics. It has become the familiar, yet unfortunate, relationship that many have with search engine optimization (SEO). When the search leader introduced its new algorithm, Hummingbird, in September 2013, there was an industrial sigh from marketers who spent years optimizing web sites for the old one.

But Google does not wait for search marketers to catch up. The next day Google used its new algorithm to answer about 6 billion questions, roughly a billion more per day than it did two years prior. That undeniable opportunity is why SEO cannot be abandoned — even on the hard days. Instead, it must be embraced, especially by marketers in the hospitality industry.

To shorten that learning curve, and get the HITEC community thinking about where SEO will be tomorrow rather than where it is today, this article identifies several Google trends for 2014 that reveal the future of SEO.

Search Results Yield More Info

More information in the search results is already one of the big trends of 2014. It was not long ago that a Google search for “Pittsburgh Pirates” would generate a list of 10 baseball web sites. Now we see upcoming games, current rosters, club history and recent articles. It is all right there in the search results with no extra clicks necessary.

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Expect that trend to continue, and not just with professional sports. Through structured markup initiatives and incentives, Google has become more adept at understanding the content on a page. It sees topics rather than keywords and brands instead of websites.

Tip for 2014: Use the free tools that Google offers to present more information about your brand, including Google+ Local and Google Webmaster Tools.

The Evolution of Local Searches

Localized search has evolved dramatically over the past five years. It began with a focus on keywords, presenting different results for “lawn service Des Moines” than for “lawn service Ft. Myers.” The keyword became less important once Google could determine a region with IP addresses. Now, Google Maps can use a GPS location to cull Google Maps listings around the user for hyper-local results.

The familiar challenge is to appear in that localized group of results. In addition to optimizing a Google+ page, there has been a renewed conversation about directories, like Yelp. If you did a search for French restaurants you would notice how well Urbanspoon.com and Yelp.com rank in this query. Smart local marketers are using something called barnacle SEO, in which brands piggyback on strong directories to appear higher in the results and occupy a greater share of voice.

Tip for 2014: Use local tools (like Google+ Local) and national directories (like Yelp) to claim extra real estate in the search results.

The Rise of Mobile Search

Mobile search has been projected by Google to surpass desktop search this year, reaffirming the value (and blossoming necessity) of mobile-friendly web sites. Expect the grace

Search Results Yield More Information



It was not long ago that a Google search for “Pittsburgh Pirates” would generate a list of 10 baseball web sites. Now we see upcoming games, current rosters, club history and recent articles.

that users give non-mobile web sites to dwindle as responsive design becomes a standard instead of a luxury.

Responsive design is recommended by Google because it allows web sites to react and adapt to any screen size — no more pinching on the tablet screen to zoom in or out. Responsive design also eliminates the guess work for search engines. Instead of sorting through mobile subdirectories (like m.website.com) or separate mobile sites (like mobile-website.com), Google can send all traffic to one destination. Making the process easier and faster for Google and the search leader will promote you, or at least refrain from demoting you.

Tip for 2014: Assess current mobile traffic and design an experience that users and search engines will enjoy.

Social Search Equals Personalization

Social search allows greater personalization because search results can be tailored to the user. The results

that I see are different than yours. For example, I perform a search for “Central African Republic.”

A UNICEF result with the familiar blue local appears halfway down the page because I follow the organization’s Google+ page. UNICEF shared an article related to my search query so Google adds it to my search results. Consider the incredible power that offers to the hospitality industry, whether it be for product, service or location search queries.

Tip for 2014: Take advantage of personalized search results by expanding Google+ networks and sharing content.

Know Where Google is Headed

Google is not as scary when you understand where it is going and why. These 2014 trends will help you to position your company for search marketing success and avoid panic when Google announces Porcupine, Fox or Chameleon. ★

The Internet of Things

By Tamara Gaffney

New devices such as tech eyewear and fitness bands create a new avenue for reaching guests



If you haven't heard of the "internet of things" yet, you're about to get another shock. Keeping up with technology has hotel industry executives frazzled already. It's about to become exponentially more complicated as Bluetooth, Apple iBeacons, wearable tech and hundreds of millions of smartphones collide in what I believe will be the next big supernova to impact this industry. As usual, with any digital disruption there will be winners and losers, and those businesses that adapt most readily will pull away from the pack. The Internet of Things, which seems so nascent right now, will transform business models and provide entirely new categories of businesses within five years. Hotel industry strategists and marketers will be well served by examining and discussing the future impact to their businesses, in order to avoid the flat footed response that many had to with mobile and social shifts.

Fitness bands will become the "cookie" of the offline world.

According to *USA Today*, sales of wearable devices are up nearly 2,000 percent, largely driven by the fitness category. With just a quick glance around the Salt Lake City Airport boarding gate B3 this morning I found five FitBit™ fitness bands wrapped around the wrist of business travelers and they were all headed for one of your hotels. Perhaps you

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think that this is a little niche product with a narrow use case, so it really won't alter your marketing plans right? Wrong.

First consider how the rapid adoption of the fitness band demonstrates how quickly these sensor devices came out of nowhere to achieve mass adoption. Second, don't think of them as a fitness device. They are actually digital sensors that interact with a mobile application and data connection.

With a little imagination entrepreneurs will develop a method to use this class of device to identify an individual by interrogating its unique "code." Once attached to your mobile app and voluntarily authenticating, a traveler will eventually interact with sensors inside airports, hotels and within rental cars themselves.

Why not just interact with the mobile device? Because the fitness band is personal, always on, always worn and never dropped into the deep recesses of a laptop bag. Sensor devices will enable the hotel industry to essentially recognize and personalize on-location services. Consider the impact of your new ability to develop even greater customer data, blend online and offline behavioral patterns, and then use that information to optimize product experiences and generate marketing opportunities.

Digital eyewear will provide an unparalleled view with virtual reality.

So far, the pricey and dorky looking Google Glass eyewear is nowhere near as commonplace as the fitness band. In spite of the lack of conspicuous consumption, Google Glass visits to web sites have grown eight times in the past five months alone, making it the fastest growing new device to access the Web. At this stage Google Glass is most readily used to consume digital video, with sports video viewing the most common use.

Are you rolling your eyes thinking this sounds way too expensive and complicated to become a reality at your hotel? Yes it does involve a complex and integrated technology platform, but actually the expense and complication is a barrier to entry for your competitors as well. There will be a significant first mover advantage for the hotels that are planning for this now.

Since it has less than one percent penetration and only three percent of web visits to travel sites, Google glass is not even a blip on your hotel marketing team's radar screen. So you'll probably wait to deal with it until later. You still haven't even cracked the code on mobile devices yet, right? Well fair warning, eyewear tech is just one evolutionary step and a major price drop away from mass adoption. You will be scrambling if you haven't even thought about how you could alter your hotels to incorporate digital eyewear.

The hotel of the future is vastly more personal.

Travel mobile applications are already leading the pack in terms of total minutes of use. Hotel applications will be even more engaging once they interact with on-location sensors. Consider a future where your hotel's mobile application senses a fitness band or digital eyewear and asks the traveler if they want to register it. Once you build geo-fencing into the application, it will know when that traveler arrives at the destination. You will project a message containing their room number onto their device and ask them if they'd like to e-check in (or better yet, let them set their preferences to always e-check in). Then send your entry system their fitness band identification number, which will allow them to wave their wrist over the lock for entry.

Once they are in their room, they will receive a message to their eye-

wear asking if they would like room service, concierge services, to see a hotel map or what time they'd like to receive their pre-selected breakfast. You will offer the traveler the ability to scan their room in virtual mode and point out features contained in the room (like where the hair dryer or ironing board is located). But you won't stop at the room itself. You will enable VR mode within the fitness center, and restaurants and bars, and in the gift shops and lobbies. You will arm your concierge and front desk stations to read the fitness band id and provide the customer's name to the attendant along with their preset preferences so they can greet your customer with a name and know their loyalty status level.

Will the Internet of Things be too much to handle?

Are you rolling your eyes thinking this sounds way too expensive and complicated to become a reality at your hotel? Yes it does involve a complex and integrated technology platform, but actually the expense and complication is a barrier to entry for your competitors as well. There will be a significant first mover advantage for the hotels that are planning for this now. The investment and technological complexity will give larger chains an advantage over independent hotels, but entrepreneurs will rise up to support the independents and many new businesses will fill the gap. Forward-thinking industry executives will embrace these trends and take advantage of them. Go forth and conquer. ✨



ENHANCE YOUR GUEST EXPERIENCES

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