

# HOW TO DIVVY UP THE IT BUDGET

Survey report illustrates where hospitality organizations are directing technology implementation efforts and budget

By Tanya Venegas, MBA, MHM



In an effort to best assess the current technology standards in the lodging industry, the HFTP Asia Research Center and HFTP Americas Research Center developed an online survey which focused on important issues such as: IT budgets, technology installation decisions, current technology projects, in-room technology installation successes and failures, and mobile technology usage. Indubitably, today's information technology (IT) has a more strategic role than ever (*Nyheim & Connolly, 2012*), offering hotels unprecedented benefits such as global positioning, increased value for consumers and especially better control of the personalized consumer experiences (*Law, Buhalis, & Cobanoglu, 2014*). Such strategic benefits are making an increasing number of industry decision-makers consider and deploy advanced IT (*Beldona & Cobanoglu, 2007*), especially systems redefining the role of in-room technology.

This study aims to offer an institutional perspective on IT adoption. In addition, this study will provide a unique perspective on the pre-adoption decisions, which have not been studied extensively. Overall, this study presents a unique opportunity to investigate IT managers' processes of pre-adoption of in-room IT, and could lead to the development of firm-consumer interfaces aimed at increasing the overall value exchanged in hotels.

Tanya Venegas, MBA, MHM ([tanya.venegas@hftp.org](mailto:tanya.venegas@hftp.org)) is executive director and HFTP Fellow at the HFTP Americas Research Center. She is a regular contributor to *The Bottomline* and speaker at HFTP educational events.

In-room IT are important elements of the guest experience, having the potential to enhance the value of the overall stay (*Intelity, 2013*). However, in the context of the fragmented global hotel market, and despite today’s sophisticated assessment tools, evaluating the potential success of particular in-room IT systems remains inherently challenging (*Law et al., 2014*). To date, adoption of in-room technologies has been investigated only from a consumer perspective (*Zhu & Morosan, 2014*). Yet, having an accurate understanding of the processes leading to the successful in-room IT adoption and deployment by hotels could facilitate the development of a body of knowledge and industry best practices, which could be instrumental in guiding global organizational IT adoption. In this context, this study investigated how hotel managers are making decisions in the pre-adoption stage of in-room IT systems in hotels on three continents (*i.e., Asia, Europe and North America*).

### Survey Distribution

Founded on the thesis that in market economies hotel organizations are engaging in norms of behavior, this study examines the factors and processes that hotel managers consider when deciding which in-room IT systems to adopt. To this end, a survey instrument was developed and managed by the HFTP Asia Research Center and the HFTP Americas Research Center to examine the processes that comprise the basis of in-room IT adoption in hotels. The survey focused on the nature of current and future installations, relevance of various in-room IT to the guest experience, important factors influencing in-room IT investments, and IT budgeting and decision-making information. In addition, the survey was based on a combination of multiple choice and open-ended items, to offer the richest perspective on the decision-making processes.

The study uses a sample of hotel managers from Hong Kong, Europe and North America. The Hong Kong and North American groups are contacts associated with HFTP. These participants received an invitation e-mail directly from HFTP. The European participants consisted of individuals attending the 2015 International Hospitality Technology Forum (IHTF). The data was collected from March to April 2015, using the Survey Monkey environment.

### Respondent Demographics

The survey was sent out to HFTP members and released via social media to garner input from all facets of the industry. In total, 51 responses were collected for this survey primarily from those holding property or regional level IT positions such as: IT manager, director of IT and property systems technology manager. In addition, most responses came from respondents working at lodging properties or hotel management companies (88.8 percent). Nearly 96 percent of responses came from those involved in the management or implementation of IT at their property/company.



## Respondent Demographics

### Property Information

IT Staff	
Average number of full-time IT staff	4.2
Average number of part-time IT staff	1.5
Property Size	
Square feet of conference space	21,314
Number of hotel rooms	357
Management Structure	
Managed property	25.0%
Franchised property	16.7%
Independently owned	41.7%
Member-owned club	8.3%
Multiple management types	8.3%
Chain scale	
Luxury	80.0%
Upper upscale/upscale	46.7%
Upper midscale/midscale	53.3%
Economy	6.7%
Independent	6.7%

In addition to those responding to the formal online survey, a group of attendees from the IHTF also answered select questions via e-mail correspondence. These individuals are classified as top technology representatives from lodging companies throughout Europe. The questions asked of this group included the following:

- What are the top three technologies lodging properties should be investing in during 2015?
- What are the most important factors considered when deciding on technology investments?
- What in-room technologies are the most important to the guest experience? Please list the top three.
- Do you currently utilize mobile technologies at your property? If so, then how are you using them? If you do not currently utilize mobile technologies, do you plan on adding them in the near future? If so, than what would you use it for?

The above questions coincided with questions in the online survey and the results from these e-mails will be presented throughout the report.

Many of the responses came from individuals at the regional (17.6 percent) or corporate (52.9 percent) level where they supervised more than one property. For these individuals, on average, they supervised 27.4 properties. The remaining 29.4 percent worked at the property level and supervised individual properties or a cluster of properties in their area. The property types consisted of lodging properties (hotel, resort, etc.), conference/convention centers, hotel management companies, casinos/horse tracks and private clubs.

It is interesting to note the background of individuals working in the IT department to determine their career track since many have taken a nontraditional route to technology management. The majority of responses to this survey came from individuals with a bachelor's degree (43.8 percent), diploma/higher diploma (31.3 percent), master's degree (12.5 percent) or a doctoral degree (12.5 percent). For respondents with degrees from higher education, those with degrees in management, business administration or accounting made up the largest group accounting for 41.2 percent of responses. Other areas of study included computer science/information systems (35.3 percent), engineering (11.8 percent) and other (5.9 percent).

The table on page 23 outlines property-level data for those responding to this survey. On average, respondents indicated they had at least four full-time staff members and 1.5 part-time IT staff members. This number may seem high to those in the industry, but looking into the respondent property profiles provides an explanation. Given the fact that many of the properties were larger properties, averaging 357 rooms, and fell into the luxury (80 percent),

upper upscale/upscale (46.7 percent), and upper midscale/midscale categories (53.3 percent), it is easier to justify a larger IT staff.

### Technology Projects

Respondents to the 2015 HFTP Lodging Technology Survey were asked to provide information on the top IT projects for their organization. A number of technologies were listed and those responding to the survey were asked to rate them on a scale of importance from 1 being "Not Important" to 5 being "Very Important." Overwhelmingly, the top item listed was data security/storage. Other items of importance included payment technology upgrades, upgrading existing technologies and bandwidth enhancement.

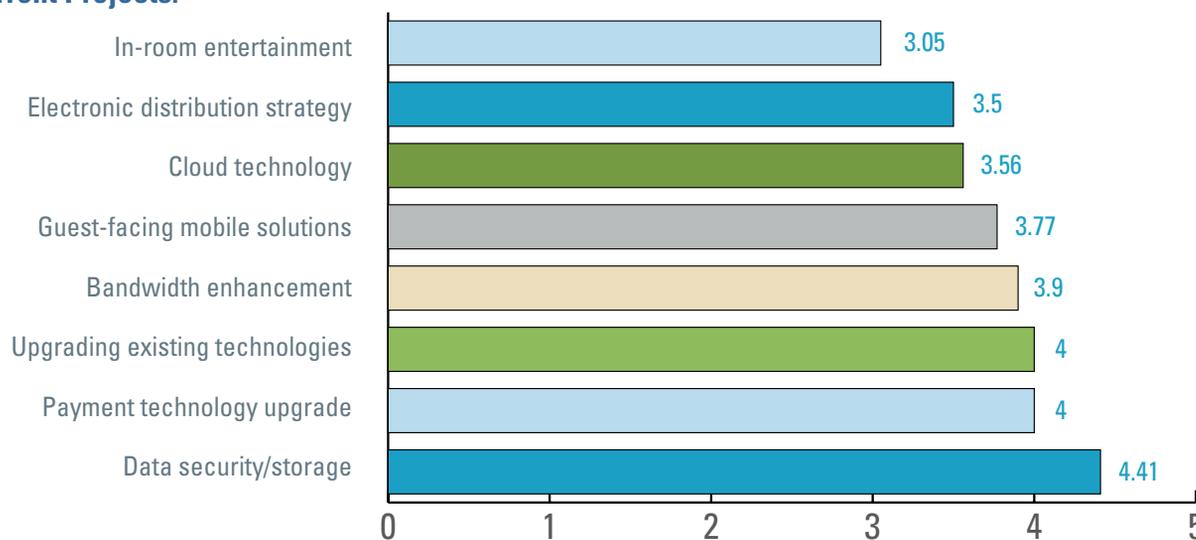
Both survey respondents and those responding to the e-mail survey in Europe were asked to list the top technologies companies/properties should be investing in during 2015. This is in contrast to the previous question because it focused on the importance of projects to their company, not necessarily the ones that are most important to the industry. Overall, mobile solutions, bandwidth/HSIA and connectivity topped the list.

### Technology Decisions, Goals and ROI

When considering technology investments, there are multiple factors that need to be considered before making a final investment decision. Respondents were asked to provide a list of important factors they consider when investing in technologies in addition to ranking the factors on a scale of 1 to 5 with 1 being "Not at all Important" to 5 being "Very Important." Overall, the following were the top

## Top Technology Projects for 2015

### Current Projects:



Using a scale from 1 to 5, with 5 most important and 1 least important.

three factors which had the greatest influence on investment decisions: productivity/employee needs (23 percent), guest needs/expectations/experience (23 percent) and ROI/revenue/benefits (21 percent). Guest needs and expectations were listed as top factors in both lists, but when asked to rank the items by importance, both security and compliance with industry standards rose to the top in importance rankings.

In addition to the factors listed above that are involved in the technology investment decision-making process, there also has to be a business justification. How will these technology projects assist the company in reaching its overall operational goals? Those responding to this survey indicated that, in general, technology investments typically provide easier management/maintenance, lower costs, and increase revenues. In addition to reaching specified goals, these IT professionals were also asked to list evaluation techniques to determine the success of IT investments. The items were ranked on a scale of 1 to 5, with 1 being “Not Important at All” and 5 being “Very Important.” The top item listed was re-positioning the property’s brand image, followed by better integration with other systems, easier maintenance, increase in property’s market share and increase in employee satisfaction. These items could be used in a business case for technology projects to justify technology investments.

### In-room Technologies

In order to narrow the survey group to those with influence on in-room technology decisions, respondents were asked if they were involved in the management or implementation

of in-room technologies at their property/company. Nearly 75 percent of respondents (73.2 percent) stated that in-room technologies are part of their responsibilities.

When it comes to in-room technologies, it is important to know when it is time to replace aging technologies or implement new technologies. Respondents were asked to provide information on existing in-room technologies, which ones they plan to replace/upgrade in the next 18 months and new installations during the next 18 months. It will not be a surprise to anyone to know that the in-room technologies receiving the most attention are televisions, television content, wired Internet access and wireless Internet access. These currently have the greatest usage, plans for new installs or plans for upgrades. Other in-room technologies hotels are spending money on in the next 18 months include: guest sensors, room control devices, energy management solutions, tablets and door locks.

The respondents to the online survey and e-mail distribution group from Europe were both asked to list the top in-room technologies they thought were worth investing in during 2015 and the in-room technologies they felt were most important to their guests’ experience. Again, high speed Internet access and televisions were listed as top priorities in both categories. In addition, respondents to the survey were asked to list technologies they wished they had not invested in/installed during the past five years. The items on this list included: video on demand, wired guest rooms, VoIP with screens, iPads in the guest rooms and iPod/iPhone docking stations.

As with any projects, there can be challenges to the implementation of offering new in-room technologies. Respondents were asked to rate a list of challenges on a scale of 1 to 5, with 1 being “Not at all Challenging” and 5 being “Very Challenging.” The item listed as the most challenging was IT budgets followed by pace of technology development, hotel staff training, guest expectations, and return on technology investment round out the top five challenges.

Hotel staff training was listed as one of the top five challenges. When asked who is in charge of in-room technologies at the property level, the majority of respondents indicated that IT staff (82.4 percent) and engineering staff (82.4 percent) share this responsibility. This responsibility also overlaps with rooms department staff (41.2 percent), housekeeping staff (52.9 percent) and third party managed call centers (47.1 percent). Therefore, all of these individuals need to have proper training to assist in the operation and maintenance of in-room technologies.

### Mobile Technologies

Mobile technologies are important technologies to the hospitality industry and the development of new technologies in this arena are starting to pick up the pace. When asked

### Technologies Properties Should Invest In:

1.	Mobile solutions (web site and apps)
2.	Bandwidth/HSIA (wireless and wired )
3.	Connectivity (smart TV with guests’ devices)
4.	CRM solutions (feedback and integration)
5.	Business intelligence (RM, e-marketing, etc.)
6.	Central reservation system
7.	Network security (hotel and guest)
8.	Big data analysis
9.	Green energy management
10.	Digital transformation (going paperless)

Article continued on page 28.



## Factors Considered When Making Investments

### Factors Considered:

1.	Productivity/employee needs	23.3%
2.	Guest needs/expectations/experience	23.3%
3.	ROI/revenue/benefits	20.9%
4.	Competition	9.3%
5.	Security/risk control	4.7%
6.	Company life cycle/suitability	4.7%
7.	Functionality/user interface	4.7%
8.	Total cost/price	4.7%
9.	Compliance/regulations	2.3%

Above are the top factors, with the figure demonstrating what percentage of respondents listed the specific factors.

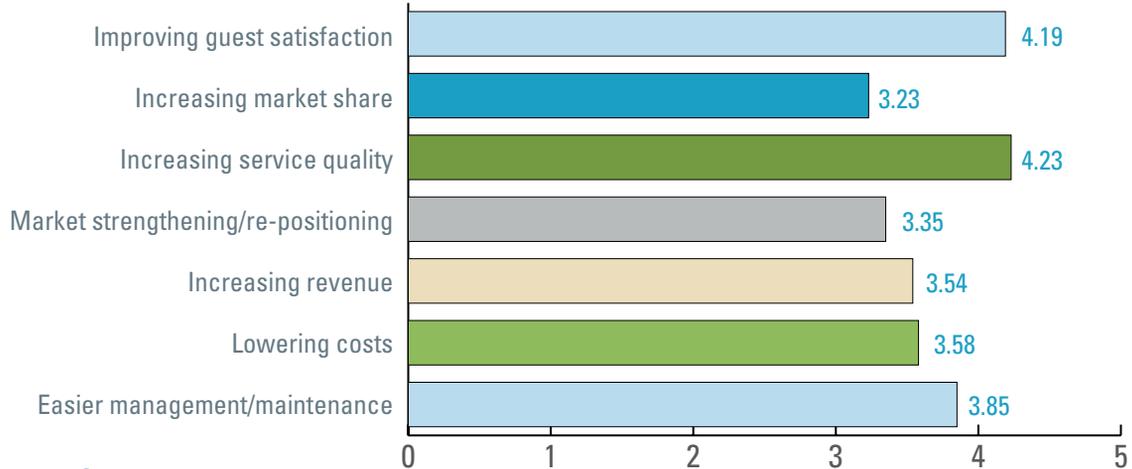
### Importance of Factors:

Guest needs/expectations	4.59
Security	4.19
Compliance with industry standards	4.11
Expectations of return on investment	3.89
Current state of your technologies	3.85
Employee needs/efficiency/productivity	3.78
Safety	3.58
Competition	3.44
Current market trends	3.44
Attractive newer technologies	3.3
Good offers from vendors	3.07

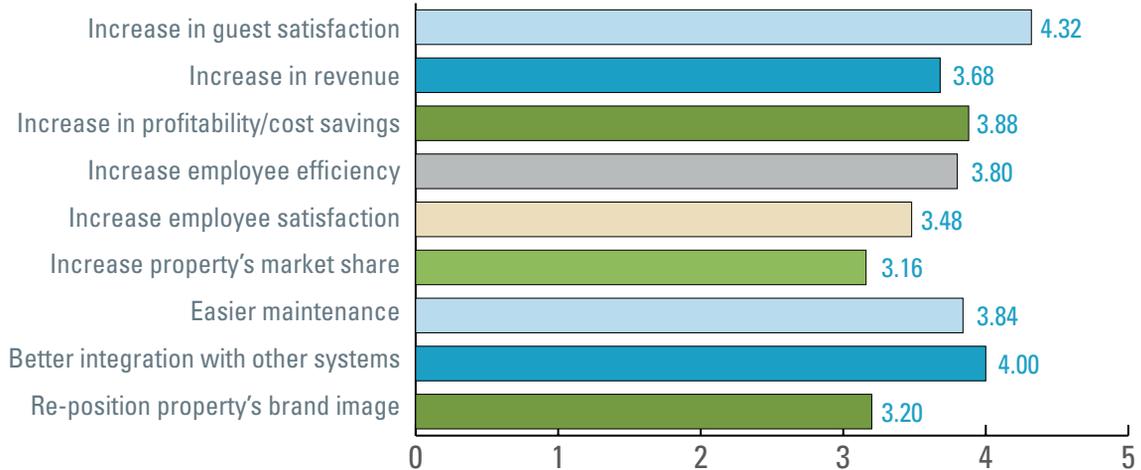


## Contribution to Company Goals

### How the IT Investments Contributed to Company Goals



### IT Investment Success

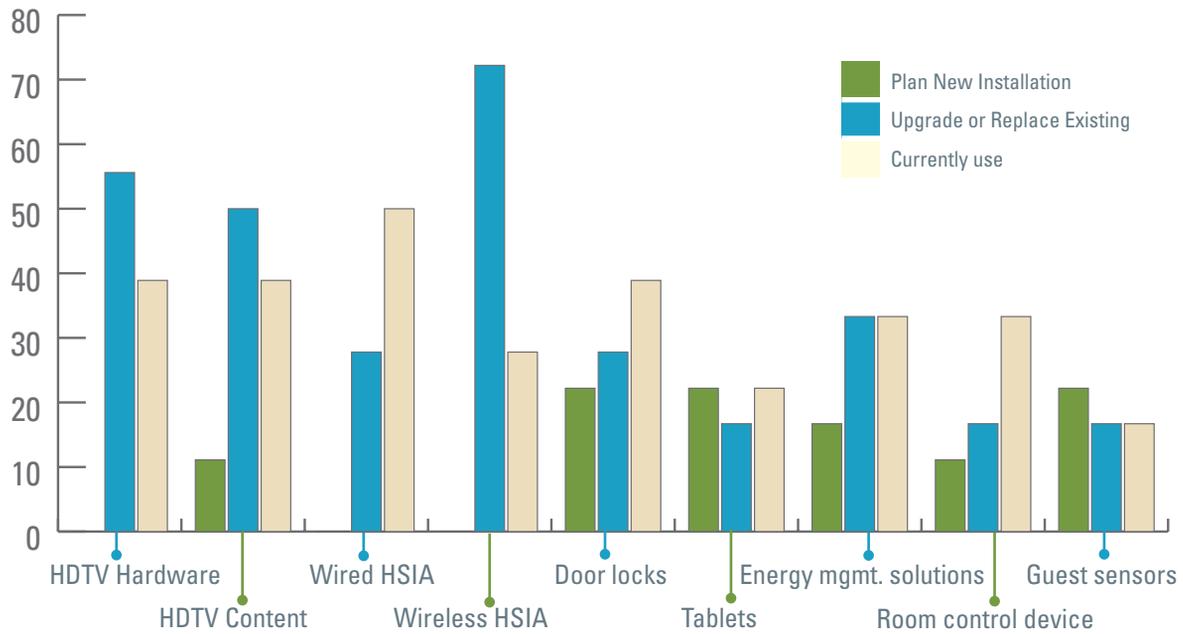


Using a scale from 1 to 5, with 5 most important and 1 least important.



## In-room Technologies

### Current Use, Upgrades and Installations:



### Top Technologies

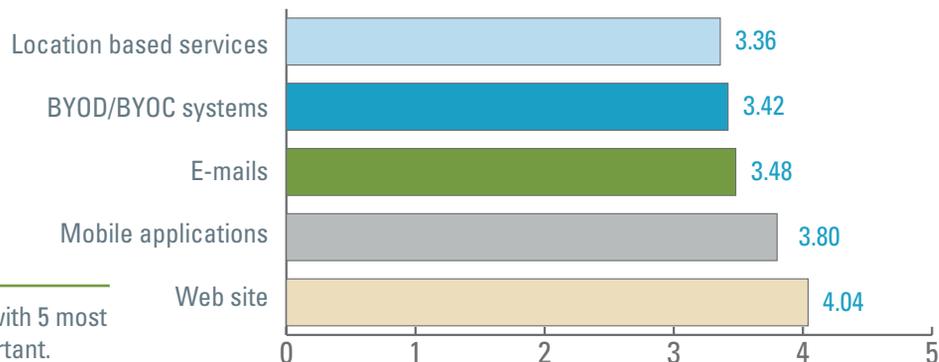
#### Top in-room technologies worth investing in during 2015

1. Guest Wi-Fi/Wi-Fi/HSIA
2. HDTV/TV/IPTV
3. Room control/environmental control
4. Wiring/infrastructure/bandwidth
5. Integrated entertainment solutions/in-room entertainment
6. Door locks/RFID
7. VoIP phone
8. Mobile

#### Most important in-room technologies to the guest experience

1. HSIA (wireless and free)
2. Television and content
3. Connectivity (own devices)
4. Integrated room control (ambiance, facilities, etc.)
5. Guest request solution (orders and information)
6. Door room locks
7. Energy management solutions
8. Phone (VoIP)

### Importance to creating a personalized guest experience



Using a scale from 1 to 5, with 5 most important and 1 least important.

which technologies are the most important to creating a personalized guest experience, web site was ranked number one followed closely by mobile applications.

Respondents were asked if they currently used mobile technologies at their property/company and whether they would be adding mobile technology deployments in the near future. Currently, many properties are offering the following mobile capabilities: booking, promotions, guest service/online concierge, internal communication and maintenance, check-in/check-out, loyalty programs and guest surveys.

### IT Budgeting

As mentioned in an earlier question, IT budgeting is one of the biggest challenges facing IT managers. In order to determine if your property is on track, it is easier if you have a figure to benchmark against. In this survey, respondents were asked to provide information on their 2014 and 2015 budgets as a percentage of total revenue. The figures provided indicate a decrease from 5.1 percent of total revenues dedicated to IT in 2014 decreasing to 4.4 percent in 2015. In order to get a picture of where the money was being spent, respondents provided a breakdown of the IT budget for their property. The vast majority of IT budgets for this group are spent on bandwidth, networking and connectivity (56.3 percent). In a distant second, property management systems garnered only 13.2 percent of IT budgets followed by guest relationship management (11.2 percent). ■

### References

- Beldona, S., & Cobanoglu, C. (2007). "Importance-Performance Analysis of Guest Technologies in the Lodging Industry." *Cornell Hotel & Restaurant Administration Quarterly*, 48, 299.
- Davis, F. D. (1986). Technology Acceptance Model for Empirically Testing New End-user Information Systems: Theory and Results, Doctoral Dissertation, Massachusetts Institute of Technology.
- Law, R., Buhalis, D., & Cobanoglu, C. (2014). Progress on Information and Communication Technologies in Hospitality and Tourism. *International Journal of Contemporary Hospitality Management*, 26(5).
- Morosan, C. (2012). Theoretical and Empirical Considerations of Guests' Perceptions of Biometric Systems in Hotels: Extending the Technology Acceptance Model. *Journal of Hospitality & Tourism Research*, 36(1), 52-84.
- Nyheim, P. D., & Conolly, D. J. (2012). *Technology Strategies for the Hospitality Industry* (2nd Ed.). Prentice Hall.
- Zhu, W., & Morosan, C. (2014). An Empirical Examination of Guests' Adoption of Interactive Mobile Technologies on Hotels: Revisiting Cognitive Absorption, Playfulness, and Security. *Journal of Hospitality and Tourism Technology*, 5(1), 78-94.

## Mobile Technology

Current mobile technology deployments at the property level
Booking/promotion
Guest service/online concierge
Internal usage (communication and maintenance)
Productivity (express check-in and check-out, process optimization, etc.)
Loyalty program
Guest survey
Future mobile deployments
Guest experience/service
Guest tracking: <ul style="list-style-type: none"> <li>➔ Virtual concierge</li> <li>➔ Guest request follow-up</li> <li>➔ Order taking</li> <li>➔ Check-in &amp; check-out</li> </ul>
Booking
Loyalty program

## Budgeting

### Allocation of IT Budget

