Toward Sustainable Hotel and Restaurant Operations

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Toward Sustainable Hotel and Restaurant Operations

Abstract
The world tourism industry has moved forward on improving operational sustainability and on reporting the results of those efforts. However, the overall picture is complex, given the difficulty in determining what to report, which benchmarks to apply, and how consumers respond to sustainability reports. Many operators have compiled sustainability statistics up and down their supply chain—given that customers have espoused a broad interest in the industry's carbon footprint. Carbon is one of the areas that is reported by many operators, as is water conservation. Continuing research will help the industry clarify and report on the industry's sustainability status, but this remains a work in progress.

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by Glenn Withiam

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Toward Sustainable Hotel and Restaurant Operations

by Glenn Withiam

ABOUT THE AUTHOR

Glenn Withiam is the director of publications at the Cornell Center for Hospitality Research. The CHRS proceedings series would not have been possible without the notes provided by the following session reporters: Elisa Chan, Nancy Chan, Laura Fraefel, Mathias Gouthier, Arnab Gupta, Rahul Kamalapurkar, Sanghee Park, Kate Loh Qiaoling, Natasha Singh, Kanika Thakran, Matthew Walsman, Jie Yang, Yunzi Zhang, and Enlin Zhou. The session reporter group was organized by Kimberly Schlossberg, CHR conference assistant.
The international hotel and restaurant industry has been working toward sustainability in operations, and industry executives are making every effort to report their sustainability results, partly in response to requests from customers and governments. One resource for this effort is the Global Reporting Initiative, which involves numerous industries. Because hotels occupy a central point in many supply chains, hotel operators are looking up and down the supply chain in connection with sustainability reporting. In this regard, sustainability has become a business driver, and guests are aware of hotels’ sustainability efforts. However, the only sustainability-related element in the actual purchase decision is a “healthy room,” according to research by Expedia and MindClick. Even as guests expect hotels to be sustainable, they are also uncertain about environmental claims, on the concern that hotels may be “greenwashing,” or exaggerating their sustainability efforts. One way for hotels to overcome that concern is to take advantage of internationally recognized certifications, including LEED, ISO 14001, and Travelocity’s Green Hotel directory. A particular challenge in sustainability reporting is that benchmarks are difficult to determine. Thus, research is under way to establish appropriate benchmarks. Since a one-number standard is nearly impossible to determine, several benchmarks based on monthly data may be the most applicable approach. Carbon reporting seems to be one item of particular interest. SABRE, for instance, has developed a CO₂ reporting standard that varies by country. As an industry supplier, EcoLab also works to support hotel and restaurant sustainability, particularly focusing on water issues. One issue that particularly affects restaurants is the use of packaging for carryout and drivethrough operations. One study found that restaurant customers responded to packaging was recyclable in terms of the size and nature of their’ orders.
The world tourism industry has moved forward on improving operational sustainability and on reporting the results of those efforts. However, the overall picture is complex, given the difficulty in determining what to report, which benchmarks to apply, and how consumers respond to sustainability reports. Many operators have compiled sustainability statistics up and down their supply chain—given that customers have espoused a broad interest in the industry’s carbon footprint. Carbon is one of the areas that is reported by many operators, as is water conservation. Continuing research will help the industry clarify and report on the industry’s sustainability status, but this remains a work in progress.
Toward sustainability performance measurement. An increasing number of international hotel brands are reporting their sustainability activities, said Eric Ricaurte, founder of Greenview. The challenge of consistency in reporting is gradually being addressed by the Global Reporting Initiative and other, similar efforts. Reporting is now extending up and down hospitality firms' supply chains, with the understanding that hotels themselves are part of the supply chain for group and corporate customers. Both clients and owners are asking hotels about their sustainability activities, albeit for different reasons, and governments worldwide are also involved. Thus, a hotel has many stakeholders who are interested in its carbon footprint.

Some global hotel chains have begun to provide reports using such measurements as carbon, energy, water, and waste. The companies issuing such reports include Accor, Hyatt, IHG, Marriott, Starwood, and Wyndham. Among other firms, Goldman Sachs has noted these reports and has provided sustainability ratings for hotel brands. The City of New York has also created a database of hotels' reports of water use, Energy Star scores, and greenhouse gas emissions. In short, the more comparable the reports, the stronger the competitive factor will be among hotels, particularly given the interest from customers, such as groups and meeting organizers, who want to use the hotels' reports to calculate their own carbon footprint.

Focus on sustainable purchasing. An analysis by Joanna Abrams, CEO of MindClick, found that sustainability reporting is becoming a business driver. In a study with Expedia, Abrams found that two-thirds of 5,000 Expedia patrons surveyed agreed that hotels need to be more socially responsible, and 80 percent held a higher opinion of the hotel if they were aware of its sustainability activities. What's interesting is that two-thirds of guests are aware of issues surrounding energy efficiency, water conservation, and recycling, but only one-fourth said that these issues drive their hotel purchase decision. In contrast, just one-third were aware of room health, but three-fifths thought that room health was an important issue. Abrams suggests that hotels need to focus more on increasing awareness of room health issues, to remedy this disconnect.

Looking at drivers of travelers' hotel selection, room health was the only sustainability attribute that affected hotel choice. Worthwhile though they are, such factors as LEED certification, local organic sourcing, and helping the local community did not motivate purchases. Overall, the study found that sustainability efforts increased guest satisfaction ratings, and when guests had both an awareness of those

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Creating energy benchmarks. As Eric Ricaurte mentioned, hoteliers have few sustainability benchmarks against which to measure themselves. As a starting point to address this issue, Howard Chong, an assistant professor at the Cornell School of Hotel Administration, analyzed the effectiveness of existing measurement schemes. Acknowledging that environmental sustainability offers the two broad benefits of cost reduction and product differentiation, Chong wanted to focus on the cost issue, with a goal of determining where the potential gains exist in sustainability initiatives. He outlined the following characteristics of a useful benchmark: it should account for weather, location, and hotel size and class; it should have business relevance; and it should help companies understand why they achieved a particular score.

With those principles in mind, Chong assessed two common energy measures: year-over-year energy use (YOY) and Energy Star. The YOY measure doesn't account for weather variation or hotel occupancy and thus has low business relevance. Energy Star is a step up from YOY. It’s an industry standard, offers a transparent methodology, and shows whether energy use is high or low. However, Energy Star provides no guidance or explanation for energy use statistics.

Consequently, Chong focused on measuring monthly energy data, for three reasons. It (1) enables a better understanding of the drivers of energy use, (2) builds on ASHRAE guidance on utility bill analysis, and (3) allows decomposition into various end uses, including heating, cooling, and baseline demand. Thus, a monthly energy measure has higher business relevance than YOY statistics. Chong has, for instance, developed monthly charts showing a linear relationship between weather and energy consumption. Using monthly energy measures and breaking out HVAC usage, a manager can compare a hotel’s energy use over time to identify opportunities to reduce usage.

A single benchmark will probably not be satisfactory for the global industry, due to many different operating standards. Chong further warns that comparing one hotel’s energy use with other hotels, even those that appear similar,
may not be helpful due to large variations in efficiency. Comparing across chain scales highlights the higher energy use by upscale properties due to higher service levels. Thus, the comparison group matters, because utility use varies greatly across countries, across service levels, and by functions included in house. As a closing note, Chong suggests that hotels should be seeking to improve efficiency, rather than focus on conservation. Improved energy efficiency means less energy use for the same level of service, while conservation implies both lower energy use and decreased service, which is not desirable.

**How green are you really?** So many hospitality operations have jumped on the sustainability bandwagon that customers are wary of “green” claims, and many consumers suspect “greenwashing,” said Jie Zhang, of the University of Vermont. For this reason, hotels have started to seek eco-certifications. With Nitin Joglekar of Boston University and Cornell’s Rohit Verma, Zhang studied the asymmetries between signals sent by the hotels and the messages received by guests, which is a particular challenge for service businesses. Since a hotel’s product attributes are experiential, they need to be signaled well in advance. Based on a study of 2,700 hotels, Zhang and her colleagues examined the cost efficiency of resource consumption attributed to the operation and that attributed to customers. They also noted whether the hotel had a credible eco-certification, such as Travelocity’s Green Hotel directory. Finally, they considered each property’s profitability.

Although all services are co-produced, it is possible to attribute certain expenses more to occupancy and others more to operations. So (applying categories from the Uniform System of Accounts), electricity, water, and maintenance and other expenses are cost factors of the operation itself, while guests have a stronger influence on supplies used in F&B and in the rooms department. Ironically, certified hotels showed slightly lower profitability, once again indicating that guests will not pay extra for sustainability. However, guests will themselves behave more sustainably when they see a credible green signal from a hotel. Hotel guests consider such a credible green signal to be an indication that a hotel is not greenwashing. Although customers reward green hotels by behaving more sustainably, that has so far not translated into greater profitability.

**The sustainability certification question.** Measuring sustainability continues to be a challenge, since there are so many variables in hotel operation, even with such standards as Energy Star and ISO 14001. More to the point, given the many certifications, one question is whether guests even pay attention to certifications. Research has found benefits for hotels certified with ISO 14001, but there remains a research gap linking that certification with client’s evaluations, according to a study presented by Angel Peiró-Signes, of the Polytechnic University of Valencia, and conducted with Marival Segarra-Ona, also of Polytechnic University of Valencia, and Cornell’s Rohit Verma. Focusing on this question of customer value, their study found that urban and

*Jie Zhang: Although there is no indication that guests will pay more for a “green” hotel, they do act more responsibly when they are aware of the hotel’s sustainability efforts.*

*Angel Peiró-Signes: Although certification under ISO 14001 helps hotel managers operate more efficiently, more research is needed to determine how guests react when a hotel has achieved this standard.*
beach hotels with certification had stronger EBITDA than those without.

Taking the next step, they analyzed the client evaluations in 2011 for 350 Spanish hotels with ISO 14001 certification, as compared to 6,150 properties without certification. Spain's hotels have moved ahead with ISO certification at a greater rate than operations in many other nations. Ratings for hotels with certification were significantly higher for comfort, location, and services in all customer segments, as compared to those without certification. Pieró-Signes noted that certified hotels tended to be large hotels operating in upscale segments. A further question in these data is whether certification is just one facet of effective management strategies that result in higher guest ratings. Moreover, he noted the influence of size in sustainability implementation. More study would be needed to control for other variables to isolate the effects of ISO 14001 certification.

Moving forward on carbon. As one of the hospitality industry’s largest suppliers, Sabre Holdings, which includes Travelocity, has developed a suite of products and services to assist hotels, airlines, and car-rental firms in reducing their carbon footprint. One major initiative is CO₂ reporting, according to Peter Berdy, a partner at Sabre Airline Solutions. Among Sabre’s services to the travel industry is flight planning and optimization to reduce fuel use, CO₂ management and reporting tools, corporate travel tools, paperless travel documents, and its list of eco-certified hotels. Focusing on carbon reporting, Berdy underscored the challenge to the hospitality industry posed by measuring and reporting carbon emissions. As noted by other speakers, comprehensive standards are essential but so far elusive, given that properties use different sources for power and that CO₂ emissions vary among providers. Given those issues, Sabre considers providing carbon emissions intelligence to be an essential part of its sustainability strategy. In developing its models, Sabre’s objectives included engaging with partners in an open dialogue on solutions, incorporating emissions model improvements as standards are developed, providing transparency on methods and data, using the best available data, and continuing to align with the global Greenhouse Gas (GHG) Protocol.

Sabre is well positioned to lead the effort, given its status as one of the world’s largest travel industry databases. Using data available from STR and the U.S. Environmental Protection Agency, it’s possible to estimate carbon emissions based on data available at the time of booking. Taking that a step further, Sabre has a model to estimate average CO₂ emissions for energy consumption by country. Berdy concluded that Sabre’s hope is that its advocacy and example will help the hospitality industry to move forward to develop standards, share data, and provide emissions information to partners, customers, and prospective guests.

Restaurant packaging as a behavior cue. Although restaurants are service businesses, many of them use considerable amounts of packaging. A study presented by Helen HaeEun Chun, an assistant professor at the Cornell School of Hotel Administration, demonstrated the virtuous effects of letting customers know that the restaurant is using...
sustainable packaging. Working with Cornell's Michael Giebelhausen and Brian Wansink, Chun tested whether consumers' behavior would change if they knew they were using sustainable packaging. The researchers considered the effect of a phenomenon known as licensing behavior, in which someone actually feels a license to misbehave, having been "good"; environmental cues, in which the cues activate associated norms; and behavior priming, which sets a person up to behave in a certain framework.

Test one involved 288 customers at a quick-service drive through. Customers in the test condition were informed that their order would be delivered on recycled paper packaging, while control customers received just a standard welcome. The "sustainable" customers had lower average checks and a substantially lower calorie count in their order. Test two was a lab study with 158 student participants. The students were given one of two package types filled with popcorn, while watching a short movie. The test group was informed that they had "healthy popcorn" in a sustainable package, while the control group was given "unhealthy popcorn food" in a normal package. The result was that the test group thought their popcorn was more healthy and ate less than the control, even though neither group could differentiate the popcorn on taste. In test three, a food order study, 139 students were involved in a simulated test of package type and two different types of food, a fruit salad and a cinnamon melt. When control participants were told that the containers were sustainable, they indicated that they would order a smaller size of the unhealthy cinnamon dish, but they ordered more of the healthy fruit salad. A fourth test is planned to test the effect of sustainable packaging on behavioral priming and the effects of packaging on signals that would cause people to eat more or less of a food.
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