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The Strategic Value of Information:
A Manager's Guide to Profiting from Information

by Gabriele Piccoli, Ph.D., and Paolo Torchio





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The Strategic Value of Information:

A Manager's Guide to Profiting from Information Systems

by Gabriele Piccoli and Paolo Torchio

EXECUTIVE SUMMARY

The unprecedented volume of data captured by modern hospitality firms can be used to create economic value. This report provides a methodology to help hospitality managers identify and prioritize possible data-driven initiatives.

This process starts with identifying the transaction-processing systems in the organization and inventorying the data they capture and store. After envisioning possible initiatives that employ these data, the methodology suggests a way to prioritize projects to ensure that only those offering positive returns are implemented.

The methodology presented here allows managers to make such a cost-benefit assessment for any data-driven initiative. The analysis categorizes each initiative in one of the following four possibilities, depending on data availability and project potential:

(1) *Imperatives*: Initiatives that have considerable upside potential and rely on readily available information.

(2) *Quick Wins*: Initiatives that do not have vast upside potential but still can be readily implemented based on immediately available information.

(3) *Trade-Offs*: Initiatives that have great upside potential but rely on information that is not readily available.

(4) *Losing Causes*: Initiatives that show neither upside potential nor offer readily available information.

A case study from a real property illustrates how a hotel could use the methodology first to devise possible data-driven initiatives and then to determine which of those proposals are most worth pursuing.

ABOUT THE AUTHORS



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The Strategic Value of Information:

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Data and information are critical to business success. With the widespread adoption of powerful, affordable information technology (IT) systems, data have begun to take their place as a crucial organizational resource alongside capital and human resources. The recent customer-relationship management (CRM) and business intelligence (BI) trends speak to the growing attention being given to the competitive use of business data. For example, hotel companies that manage large resorts with services such as spas, athletic facilities, shops, restaurants, and outdoor activities can gather valuable data about customers' interests and preferences. This information can then be used to make decisions about who should receive promotional offers and when to send them. If occupancy is low at one of the golf resorts in the firm's portfolio of properties, for instance, a tailored offer could be delivered to golf-oriented customers. This simple example highlights how customer data can help an operation target its marketing offers and elevate its message above the noise produced by typical broad-brush offers that most guests receive.

The lodging industry is well aware of the threat posed by commoditization. The concern is that customers with access to the internet are able to examine an unprecedented number of options for their traveling needs—in particular searching for the lowest possible price for accommodations.¹ This free-flowing information has put pressure on operators

¹ See: Gary Thompson and Alexandra Failmezger, "Why Customers Shop Around: A Comparison of Hotel Room Rates and Availability across Booking Channels," *CHR Reports*, Vol. 5, No. 2 (2005), Cornell University Center for Hospitality Research; also see: Steven A. Carvel and Daniel C. Quan, "Low-price Guarantees: How Hotel Companies Can Get It Right," *CHR Reports*, Vol. 5, No. 10 (2005), Cornell University Center for Hospitality Research.

to find ways to offset guests' tendency to treat hotel rooms as a commodity. While it is true that travelers have access to more information about hospitality firms than ever before, hospitality firms likewise have access to more information about customers than ever before. It is by productively using the wealth of data and information available that operators can counteract customers' search-and-switch mentality by differentiating their products and services.

Those are just some of the reasons that hospitality managers recognize the value of business data. Currently lacking, however, are useful frameworks to help us think about the different types of data typically generated during the normal

course of business and the potential for value-creation strategies enabled by those various data types. Networked IT allows for strategies that capitalize on business data and the intelligence that can be generated from it. In this report we seek to offer a framework for analyzing initiatives for the profitable use of business data.

The Value of Information: Our 1.5¢

While conventional wisdom has long coalesced around the notion that computer connectivity gives hotel customers more power to command low prices than ever before, surprisingly little rigorous research has tested this proposition. Focusing on this question, we used nine months of aggregate booking and rate data for 79 hotel brands in the U.S. to compute the sensitivity of average daily rates (ADRs) to consumer shopping, expressed as look-to-book (LTB) ratios. Our results indicate that for every incremental availability request that a customer made to a brand's reservation system (i.e., a one-unit increase in LTB ratio), ADR decreased by 1.5¢ in aggregate. This result confirms the notion that an increase in consumers' shopping correlates with downward pressure on rates.

Despite that discouraging aggregate correlation, our data set held favorable news for at least some operators when we segmented our sample into five lodging segments: namely, economy, limited service, full service, upscale, and luxury. As a general rule, the rate pressure associated with increased consumer shopping diminished as we examined higher segments. In other words, we found that products that are more differentiated are less subject to the effects of customer shopping than are those in low-end, undifferentiated product segments. The extent of differentiation is a function of the complexity of the product, or to the prominence that service plays in the quality of the experience.

While our findings may suggest that operators who manage the most distinctive properties or brands will be able to counter the downward pressure on rates that comes from increased customer shopping, we believe that our results point to a more general principle. Even firms that compete in markets characterized by relatively homogeneous properties may be able to counteract the consumer-power trend by increasing the degree of product targeting and the complexity of the overall service being delivered. The current trend toward dynamic packaging is an example of

a method that undifferentiated hotels, such as those in mid-market and economy segments, use to set themselves apart.²

On balance, our research offers encouraging results. It suggests that while customers do have increased market power, operators can use information systems to counteract some of that power. The results of our research challenged us to think about ways in which operators in all segments of the industry can foster differentiation. The remainder of this report details the results of our deliberations.

Information: An Interesting Resource

Information systems (IS) professionals distinguish between data and information. Data are typically defined as codified raw facts—things that have happened (e.g., a customer has made a reservation), which are coded as letters and numbers and stored by a computer (see Exhibit 1).

Information is typically defined as data in context (see Exhibit 2). In other words, data become information when

EXHIBIT 1 A string of data

85903380 1 Aug 29 2004 Aug 30 2004 99.00 DR GABRIELE PICCOLI
--

EXHIBIT 2 Information: Data with meaning

Conf. #	Type	Arrival	Departure	Rate	Guest name
85903380	1	Aug 29 2004	Aug 30 2004	99.00	DR GABRIELE PICCOLI

they have been given meaning and can be interpreted. It follows then that information is audience dependent. That is, one person's data may be another person's information.

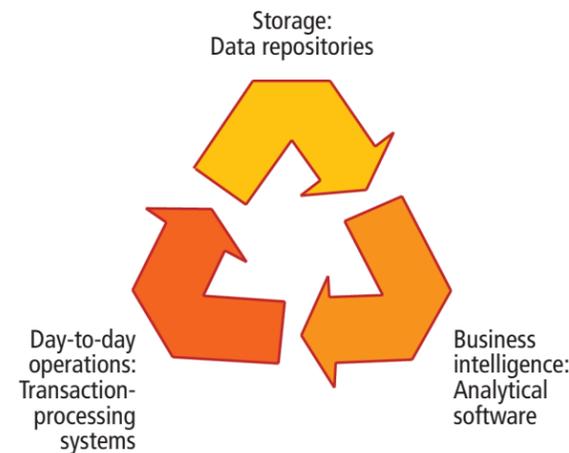
The following are the characteristics that differentiate information from physical goods.³ Understanding these characteristics is important to appreciate how information can be used in business strategy.

- *Information is costly to produce.* The first copy of an information-based good is generally expensive to create. For example, writing this report required substantial time in researching the ideas, studying the case examples, discussing the frameworks with colleagues and managers, and writing and editing it. By the same token,

² Dynamic packaging allows the bundling of travel services (e.g., air, hotel and car) into what is effectively a single product. Dynamic packaging allows operators to move inventory without disclosing the price of each component of the package, thus protecting the brand.

³ Much of this section is built on the ideas of: C. Shapiro and H. Varian, *Information Rules* (Boston, MA: Harvard Business School Press, 1999). Following these authors we refer to anything that can be rendered in digital format as information goods.

EXHIBIT 3
Information-systems cycle



to collect a single reservation a hotel generally needs a substantial investment in IT infrastructure, including interfaces to reservation systems.

- *Information is cheap to reproduce.* Once the expensive first copy of an information good has been created, a second copy can be created at almost no cost. For example, developing Microsoft Word, with which I am writing this report, was a huge undertaking, with millions of lines of code necessary to produce its first copy. Yet, the cost of making the second and ensuing copies of it is essentially nil.
- *Information is inexpensive to distribute.* Now that we have access to almost ubiquitous computer networks, information that has been stored digitally can be delivered at almost no cost. You were able to download this report at no charge. Even when you have to pay for an item, as with the pay-per-download music-retailing model, the cost is nominal.
- *Information is not consumed by use.* Perhaps the most intriguing characteristic of information is that it can be reused multiple times. Physical goods are destroyed through their use, and a room-night can never be retrieved once the night is gone, but information can be reused at will. Moreover, because information can be cheaply and simply customized, it can be reused in many different forms.

The Information Systems Cycle

The Information Systems Cycle presented here is an essential underpinning of this report. With the increasing number of computerized information systems pervading hospitality operations, the potential is great for extracting business value

from information. Business data are typically generated by transaction-processing systems (TPSs). These include slot machines in a casino, restaurant POSs, and call-accounting systems in hotels. TPSs are generally developed to support the business's daily operations, but as a side benefit, they capture information about the business's customers.

A critical insight, often overlooked despite its disarming simplicity, is that the data generated by a TPS during the natural course of business often have value beyond the completion of the fundamental business transaction. Exhibit 3 shows how transactional data, if properly stored and organized, can become the raw material for the development of business intelligence.⁴

Despite recognizing that data have considerable potential value, managers with whom we've spoken point to the difficulties of deciding how to use those data and in making the business case for initiatives that employ the available information. The difficulty of deciding how the data can be used all too often freezes hospitality organizations in the first step of the IS cycle.

Nevertheless, examples abound of firms that have successfully harnessed the business information cycle to their benefit. Harrah's Entertainment has received much publicity for its initiatives that involve using data about customers' gambling behavior, mostly captured from slot machines, to predict customers' lifetime value and to better allocate the marketing budget.⁵ Darden Restaurants and Marriott International have also received attention for their ability to compete on analytics and their efforts to drive value from the wealth of data they accumulate during business operations.⁶

Examples, however, can only go so far in helping operators decide where to focus their attention. To alleviate this problem, we offer a model that can help you determine which information initiative is likely to offer the biggest bang for the buck.

Information Strategy: A Methodology

The following is a straightforward method for extracting value from business data. The approach involves the following four steps.

- (1) Identify relevant transaction-processing systems;
- (2) Inventory data currently available in these systems;
- (3) Conceptualize initiatives that use the available data; and
- (4) Prioritize the selected initiatives.

⁴ The term business intelligence has become a buzzword. We apply its original connotation of "data-driven understanding of the business."

⁵ R. Lal and P. Carolo, "Harrah's Entertainment, Inc.," Harvard Business School Case Study

⁶ T. Davenport, "Competing on Analytics," *Harvard Business Review*, 2006.

The difficulty in deciding how to use data often freezes managers' information decision making.

Step One: Identify Relevant Transaction Processing Systems

This first step is designed to allow you to narrow the scope of the analysis and focus on the systems that are most likely to hold relevant data. This step recognizes that managers in specific functions typically have a limited area of influence in which to propose and implement projects and initiatives. For example, hotel revenue managers are mainly focused on pricing and rate-restriction decisions pertaining to distribution. At this stage the primary objective is to focus attention on the computer systems that hold data relevant to the area of interest—typically, a relatively small set of applications.

Step Two: Inventory Available Data

Once the relevant TPSs have been identified and listed, you will need to inventory the data that are readily available in them. A first step in this phase may be to explore the system's reporting functions. The key here is to focus not so much on the analyses that the reports yield, but instead to identify the underlying data that are collected in the natural course of business. When you are unfamiliar with an application, this step may be best accomplished by meeting with users who have intimate familiarity with the software, its capabilities, and the data it stores. These users typically will be aware of the opportunities and challenges that you face. In large organizations, it may also be necessary to meet with the IT professionals who support the software. In such a meeting you will need to explain the objectives of your initiative and learn what data are being recorded, in what format, and over what time period. Even if IT professionals share the underlying data schema, you may need their help in doing so, because reading a diagram of this kind may not be easy. More important, the data schema will tell you what data the application is set up to record, not what is actually tracked or with what degree of accuracy. Regardless of whether you are familiar with the systems or not, the outcome of this phase should be a comprehensive list of data items that are reliably tracked within each available TPS.

Step Three: Conceptualize Initiatives

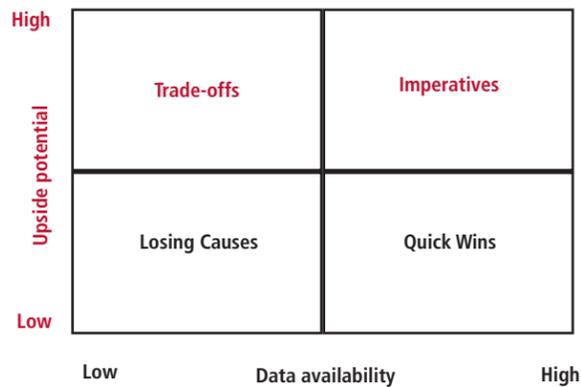
Having laid out all the available data currently being tracked by your TPS, you can ask yourself: Given what I have, what would I like to know? We can offer little formal guidance for this phase, as there is no substitute here for your own creativity and insight. As you examine your existing data, ideas and potentially beneficial analyses will likely emerge. Inevitably, you will find that your thinking will embrace initiatives that require data to which you have no immediate access. As with any brainstorming process you should focus at this point on generating ideas without much worrying about their feasibility or financial viability. You can sort the ideas in the next step.

Step Four: Prioritize Initiatives

Once you have articulated a number of potential initiatives you must evaluate their feasibility. This stage also requires you to make a series of pragmatic decisions regarding the order in which the suggested initiatives should be implemented. It is our experience that "selling" data-driven initiatives to executives is a difficult task because the financial-justification measures commonly used to support project decisions are ill-suited to the task. Initiatives that are based on data analysis are qualitatively different from automation initiatives, where ROI is much easier to compute. As a consequence, we have found that the reputation of the initiative champion and the trust that executives put in her judgment are of paramount importance. To decide what initiatives to pursue and to establish the solidity of the initiative champion's judgment, we suggest using a prioritization matrix based on the evaluation of two dimensions: upside potential and availability.

Upside potential. The upside-potential dimension provides an assessment of the financial benefits associated with the initiative in terms of revenue lift or cost reduction. We think of effectiveness-focused initiatives as designed primarily to improve revenues, and efficiency-focused initiatives as

EXHIBIT 4
Initiative-prioritization matrix



designed primarily to reduce costs. In either case we term the positive results that the initiative yields as upside potential. The extent to which data-analysis initiatives have upside potential typically depends on the following factors.

- *Time sensitivity:* How quickly decisions must be made following the time of data collection;
- *Immediacy:* The degree to which the information is directly usable after it is generated;
- *Aggregation requirements:* The extent to which the benefits of the analysis depend on substantial aggregation of multiple data sources; and
- *Trending requirements:* The extent to which the benefits of the analysis depend on trending over time.

Data availability. The data-availability dimension provides an assessment of the immediacy with which the initiative can be implemented and of the costs associated with that implementation. The higher the availability of the needed data, the cheaper and more immediate the successful implementation of the initiative. The following are critical dimensions of data availability:

- *Accuracy:* The extent to which the available information are reliable without duplication, inaccuracies, or outdated elements; and
- *Comprehensiveness:* The extent to which the data needed to carry out the initiative are complete, without missing elements or missing values.

Note that data availability becomes crucial when resources are limited or executives are not sold on the potential of data as a strategic resource. Developing initiatives around high-availability data is important in this situation to establish a track record of project success.

When initiatives are mapped (as in the case study that follows), it becomes clear what can be quickly implemented, maybe as proof of concept or to gain support from other executives. It will also become clear what initiatives are resource intensive and require a high level of organizational commitment. For the purpose of conceptualization and analysis, we have identified the following four possible categories of initiatives (shown in Exhibit 4).

Imperatives. In this quadrant are projects that have considerable upside potential and rely on readily available information. These initiatives are quickly and easily implemented with limited investment of resources beyond already sunk costs. They therefore deliver an appealing cost-benefit ratio, and not implementing them is tantamount to leaving money on the table.

Quick wins. In this quadrant fall projects that do not have vast upside potential but still can be readily implemented based on immediately available information. We call these initiatives “quick wins” because they can be implemented easily, and they do not require significant resources or a demanding approval cycle. In the absence of clear imperatives, quick wins can be used as proof of concept to gain momentum and to establish a track record of successful implementation.

Trade-offs. In this quadrant are projects that have great upside potential but rely on information that is not readily available. Consequently, trade-offs tend to be costly. The complication may be that the information is not easy to capture, that it is not in a readily usable format, or that the initiative requires the integration of information from multiple sources. We term these initiatives “trade-offs” because they will require substantial resources before any payoff. Needless to say, trade-offs should be subjected to rigorous cost-benefit analysis and justification of the needed resources.

Losing causes. In this quadrant fall projects that show neither upside potential nor readily available information. While they may appear to be good ideas in principle, losing causes should not be implemented unless they can be accomplished in conjunction with more useful projects. Otherwise, these projects should be shelved until a change in circumstances moves them to the quick-wins quadrant.

Using the prioritization matrix requires creativity and specific knowledge. This methodology will be successfully only when you have developed a deep appreciation for the specific context in which you manage.

In the remainder of this report we illustrate the use of our methodology with the case of the hotel we call “The Independent.”

Case Study:
Online Distribution at The Independent

The following scenario draws on real experiences and data from a hotel we dub “The Independent.” The customer data of interest come from prospective travelers’ online booking activities. As many observers have noted, e-commerce allows unobtrusive data collection since all e-commerce transactions are computer mediated and therefore are easily recorded and archived. Few other consumer transactions can be tracked with such precision, comprehensiveness, and depth, and at such low marginal cost.

The Independent is a fictitious upscale property in New York City without a chain affiliation but with a strong brand and good name recognition. The forward-looking management at The Independent early on saw the potential offered by online distribution. The Independent created its first website in the mid-1990s and developed a channel strategy to improve its online exposure. Here is how The Independent can apply our methodology.

Identify relevant TPSs

Using the IS Cycle we can map the transaction-processing systems currently constituting The Independent’s online distribution infrastructure. Given the narrow focus taken by The Independent, the two relevant TPSs are The Independent’s own website and its booking engine.

Inventory available data

A look at these systems reveals that they capture considerable data in the natural course of business, as guests check rates and availability and then book rooms. A quick inventory of the data typically generated by online shoppers visiting The Independent’s website and using its electronic distribution infrastructure is shown in Exhibit 5.

The information shown in that exhibit is captured when online customers browse through The Independent’s offers and complete online transactions. But those same data, if appropriately organized and stored, can be useful for later analysis. The important point here is that the customer does nothing extra for these data to be recorded. Even though the primary purpose of the website is transaction processing, carefully feeding the data thus generated through the IS Cycle offers the potential to create value by repackaging and analyzing it.

Conceptualize initiatives

Simply looking at the data available allows us to envision a number of analyses that can be performed. Some examples are shown in Exhibit 6. This type of analysis allows The Independent to be more efficient in the deployment of its

Extracting value from business data involves identifying relevant transaction-processing systems; inventorying available data; conceptualizing possible initiatives that use the available data; and prioritizing the potential initiatives.

EXHIBIT 5
TPS data

Source data	Transaction data	Personal data
Referring source	Date and time stamp	Name
Keyword or parameter	Arrival date	Address
Entry page	Departure date	Email
Path within the site	Rate	Payment method
Exit page	Rate type	

resources. For example, it would allow the firm to keep track of the sources of business that consistently provide qualified travelers who end up booking through the hotel’s website—rather than simply browsing. Those data then would give The Independent concrete information upon which to decide how to optimize its online advertisement mix.

The realm of possible analyses expands as available data are blended with information not currently in our portfolio,

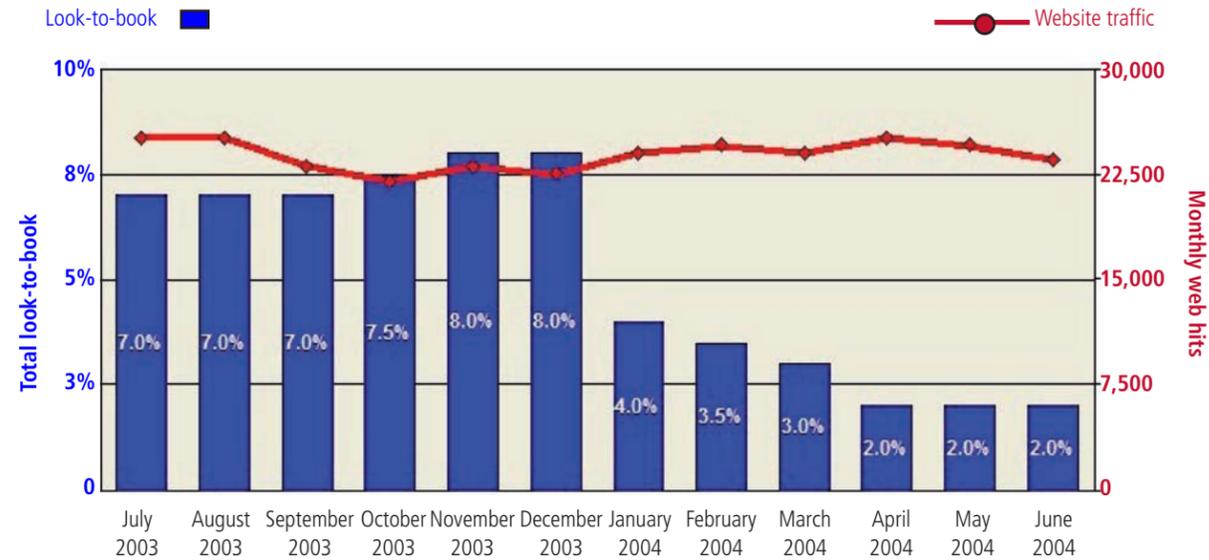
EXHIBIT 6
Future data analyses

Aggregate analysis	Source analysis
Visitor-to-look ratio	Referrer ROI
Look-to-book ratio	Keyword ROI
Length of stay	
Booking lead time	
Stay pattern	

for example, demographic and geographic customer profiles, guest-history data, and booking statistics from the other distribution channels. The Independent can, for example, evaluate the geographic and demographic characteristics of its online-booking population to select the appropriate marketing channels to reach this audience. In particular, the hotel could highlight opportunities for moving more customers to the online channel by analyzing discrepancies between the profile of travelers who stay at The Independent and that of the online customer base.

This conceptualization stage can continue for as long as needed and involve as many people as needed. Eventu-

EXHIBIT 7
Website traffic and look-to-book ratios



ally the potential initiatives generated should be listed and prioritized. For illustration's sake, we propose the following three initiatives for The Independent to consider:

- Real-time channel monitoring,
- Referring-site and keyword ROI, and
- Differential pricing.

Set priorities

Under resource constraints The Independent is unable to implement all three of those initiatives, and some may even be losing causes that should not be implemented. Indeed, our prioritization analysis revealed that the three initiatives are widely different when plotted on the prioritization matrix. The first one turned out to be an imperative, the second one a quick win, and the third one a trade-off, as we explain next.

Imperative: Real-time channel monitoring

Given the steadily increasing popularity of online booking, The Independent needs to monitor its online distribution channels in real time. Data availability for this initiative is high because the hotel has ready access to these data. Likewise the upside potential is high if rates across channels can be maintained in alignment.

The Independent was enjoying consistent website traffic and an equally consistent level of interest from website visitors shopping for rates and availability. This consistent flow is shown by a flat visitor-to-look ratio, that is, the undupli-

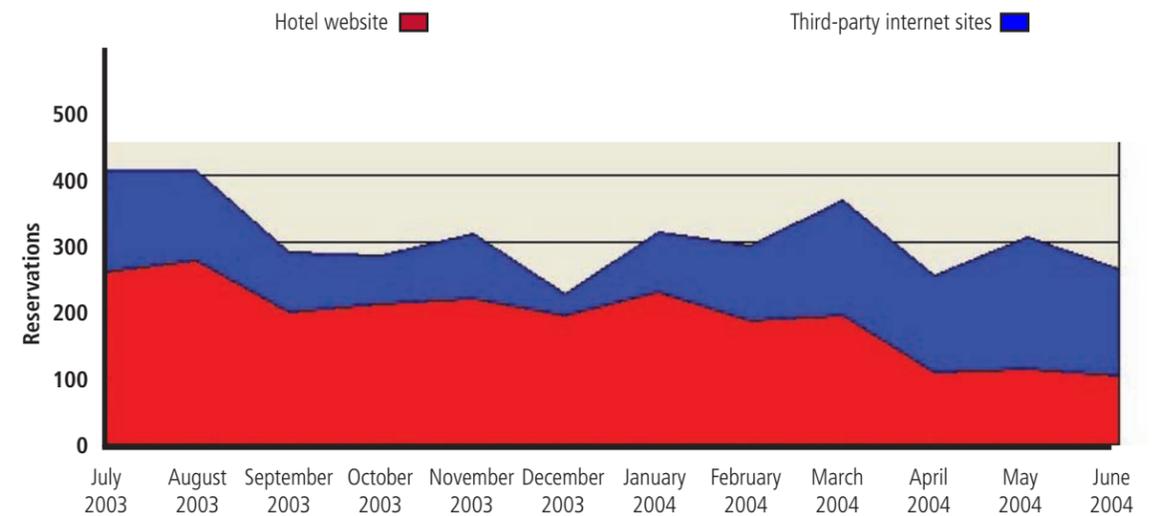
cated number of visitors to the website and the number of unduplicated availability requests. Since the idea is to convert "looking" visitors into "booking" customers, our next analysis was to check the look-to-book ratio. In this case The Independent found that its look-to-book ratio had eroded to a figure well below the typical 6 to 8 percent to which the hotel had grown accustomed (see Exhibit 7).

If The Independent had been tracking the real-time performance of its website, its managers would have quickly detected the discrepancy and been tipped off to the fact that some other channel was probably underpricing the firm's website. While The Independent's marketing efforts were steadily driving traffic to the website, shoppers coming to the website were not booking because they were able to find a better deal somewhere else. Armed with this timely information, The Independent could have quickly reversed the trend.

Further analysis confirms the above explanation (see Exhibit 8). Bookings posted by The Independent's own website engine remained in steady proportion to those of internet retailers during the third and fourth quarter of 2003, but that proportion began to diminish in early 2004. During the second quarter of '04 and beyond, the bookings made directly at The Independent's website had fallen by half—even though the visitor-to-look ratio had remained unchanged.

Moreover, since The Independent has access to ADR by channel (Exhibit 9, overleaf), it was able to compute the revenue lost from not catching the dip in look-to-book ratio in a timely fashion. Assuming that the channel mix for the

EXHIBIT 8
Bookings by distribution channel



bookings placed in the first quarter of '04 had remained unchanged during the second quarter, the cost of not detecting the changing mix cost the firm thousands of dollars per month in lost revenue.

Quick Win: Referring-site and keyword ROI

Data are readily available regarding the source of referrals to The Independent's website, because the booking engine automatically tracks search keywords that lead to the website and referring sites (e.g., search engines such as Google, and partner sites such as CitySearch or Frommers). However, only 2 to 5 percent of The Independent's business comes from partner sites, which means the upside potential of determining the ROI on keyword and referral sites is relatively low.⁷

Note that the information obtained through this analysis is different from a click-through ratio produced by the referring site. Click-through ratios, while valuable, provide no insight as to what the customer did after clicking through to the hotel's website. This further analysis is crucial because the pay-per-click revenue model means that the hotel pays the same for a visitor who leaves the site immediately as it does for one who ends up booking a room.

Nonetheless, with the cost of developing a keywords marketing strategy easily in the several thousands of dollars, computing an ROI on referral sources and keywords can be useful knowledge and would allow the hotel to better target

⁷ Note that hotels that manage referring sites and keywords typically experience a high percentage of business flowing through these sources. This is not the case for The Independent at this time.

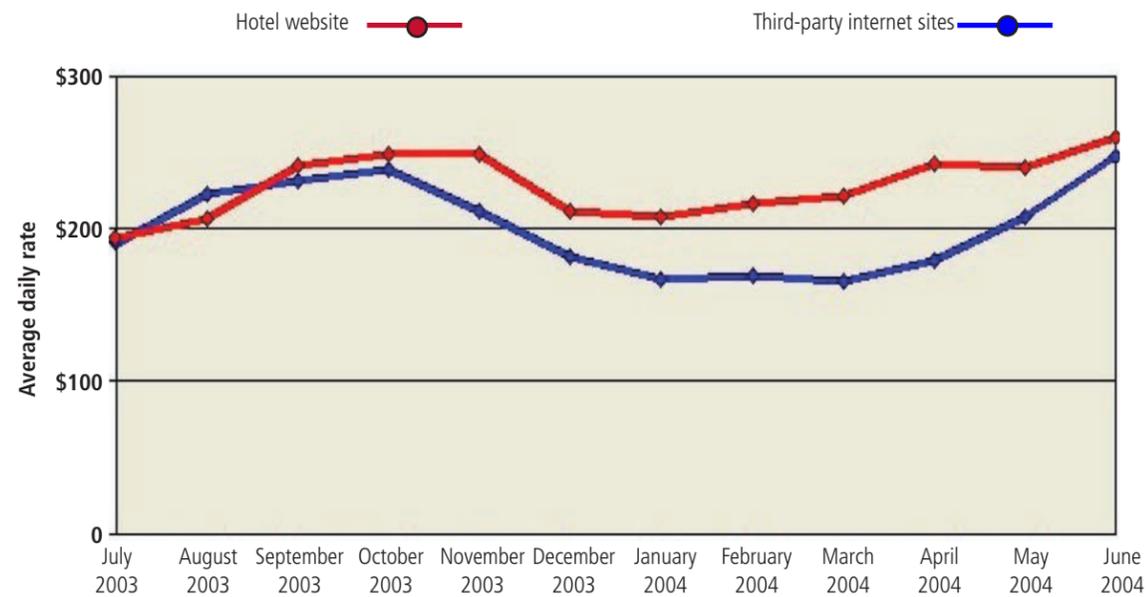
online customers as they become an increasingly important segment of the overall customer base.

The first result The Independent obtained from this analysis concerns referring sites and keywords that had extremely low visitor-to-look ratios. The immediate conclusion is that these sites and keywords were producing unqualified traffic or mismatched customers who departed from the website once they received availability and rate information (i.e., segment mismatch). A second result from this analysis is a ranking of referring sites and keywords by look-to-book ratios. Such ranking allows management to identify the combination of referring site and keyword that is producing the most qualified traffic (i.e., those with the highest conversion ratio). Finally, computing the average rate and average booking lead time for each site and keyword enables management to see beyond traffic and conversion statistics to record the booked rate these customers pay. This analysis is important because the highest look-to-book ratio may be produced by keywords that signal deals on distressed inventory, but these keywords may have a lower overall ROI than do keywords that produce higher ADRs despite lower conversion ratios. Management could infer that those referring sites and keywords bring in customers with low price sensitivity or keen interest in distinctive hotels like The Independent.

Trade-Off: Dynamically differentiated pricing

The lodging industry's customers are often willing to provide personal information that allows improved, tailored service.

EXHIBIT 9
ADR by distribution channel



Most hotels have found it difficult to make full use of this personal information, though many have made the effort to do so under the umbrella of customer relationship management. In addition to merely recording guest histories, CRM calls on hotels to discriminate profitable customers from unprofitable ones and offer differentiated service to the valuable customers.

As a type of CRM initiative, The Independent is considering an approach that would allow it to price its inventory according to both typical revenue-management variables (e.g., booking dates, length of stay) and also the identity of the prospective guest. This initiative requires the ability to track individual customers. In particular, it means asking them to input their frequent-guest ID number prior to querying the search engine and being able to pass this number through to the booking engine—both non-trivial tasks from a technological standpoint—which means that this initiative has low availability. This initiative has elements of revenue management (i.e., optimally pricing a room) and marketing and operational effectiveness (i.e., loyalty, better customer targeting, and customer satisfaction). Thus, it has considerable upside potential.

Because of the low current availability of the needed data and the need for technology upgrades, implementation of this initiative can neither be immediate nor risk free. Moreover, computing an ROI associated with its implementation is a non-trivial feat. Thus, any proposal for this initiative is likely to meet substantial resistance.

Conclusions

We wrote this report primarily to demonstrate the power of information. Moreover, we sought to demonstrate that an attentive management of business data for analytical purposes can pay off handsomely in the hospitality industry. It is not enough, however, to believe in the power of data analysis or to purchase “analytical software,” to extract value from business data. Rather what is necessary is to adopt a straightforward methodology that you can quickly understand and implement. We hope to have succeeded in offering such a methodology and spurring your own thinking on this topic. ■

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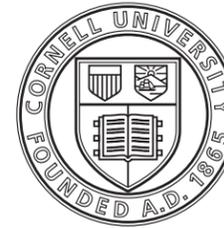
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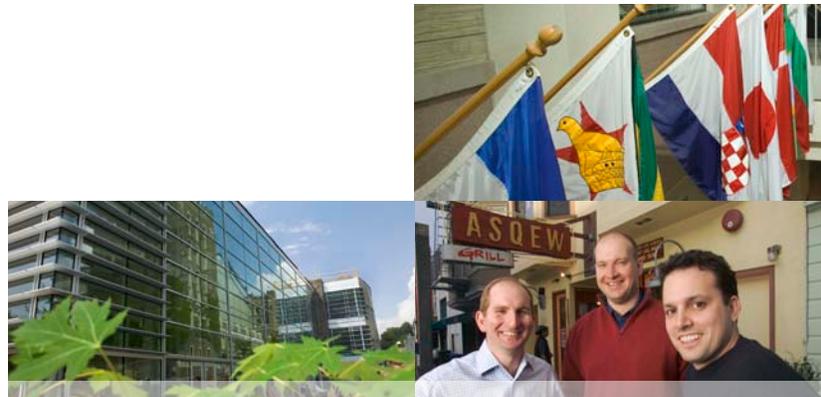
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