

The Future of Hotel Electronic Distribution

Expert and Industry Perspectives

We know that the internet has become a key distribution point for hotels, but that only makes a hotel's CRS even more important.

BY PETER O'CONNOR AND ANDREW J. FREW

Hotels traditionally use a variety of different distribution channels, including distributing through other properties within their chain, joining marketing consortia or other types of affiliation organizations, or outsourcing to representation or third-party reservation companies. Most hotels also use intermediaries such as travel agents, tour operators, or incentive houses. Increasingly, hotels are making use of the growing range of electronic-distribution channels, which is this paper's topic. In all cases, the objectives of using the channel are twofold, namely, to make relevant and timely information conveniently available to the hotel's potential customer; and to make it easier for guests to book the property in question.

A distribution channel is defined as a mechanism that provides "sufficient information to the right people at the right

time and in the right place to allow a purchase decision to be made, and also allows the consumer to make a reservation and pay for the required product."¹ Effective distribution is especially important for hotels because of their perishable inventories. In this article we offer a conceptual overview of consumer-focused hotel electronic distribution channels based the results of a Delphi study and a survey of electronic-distribution managers from major hotel chains. We identify both the channels and the distribution nodes that are most important for hotel distribution and we offer forecasts regarding the components that will be of greatest importance.

¹ F. Go and R. Pine, *Globalization Strategy in the Hotel Industry* (New York, Routledge, 1995), p. 307.

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The Role of Information Technology

Information is acknowledged to be the “life-blood” of tourism, because without information, the customer’s motivation and ability to travel is severely limited. This need for information is heightened by the intangible, complex, and interdependent nature of tourism. Tourism products are diverse (in many cases, it is this heterogeneity that makes them attractive in the first place), are rarely purchased in isolation, and can be combined in a seemingly endless range of per-

In effect, each intermediary is trying to bypass intermediaries further down in the distribution chain and transact business directly with the customer.

mutations and combinations. We contend that consumers are increasingly seeking out information in an attempt to minimize the gap between their expectations and their actual travel experience. As a result, for tourism products, the fast, efficient exchange of information has become essential for effective distribution, sales, and customer service. Information technology facilitates this process and thus has become an almost universal feature of the tourism sector. Simply making information available about the product is not enough for effective distribution, however. A mechanism must also be provided that allows the customer to purchase the product. A traditional booking required customers to use channels in pairs—one distributing information to make the client aware of the product and one to complete the transaction. Thus both an advertising medium (for example, brochures or guidebooks to disseminate information) and an interactive medium (such as, for example, a telesales agent or a travel agent to make the reservation) were needed to complete the transaction. As a consequence, this multi-step process was inefficient for all parties. In contrast, IT-based systems improve the process by acting as both the information distributor and the reservations facilitator, allowing travelers to make bookings at a fraction of the time, cost, and inconvenience required of traditional methods.

Electronic Distribution in Tourism: An Overview

While the history of electronic-distribution systems in tourism is well documented elsewhere, a brief overview of the key issues is useful to place the remainder of the paper in context. Most analysts agree that the concept of electronic distribution developed from internal systems created by the airlines for inventory control in the late 1950s.² Travel agents were subsequently given direct access to these systems, allowing them to see real-time availability and pricing information, and to make instant bookings. At the same time, to help offset their capital costs, most airlines’ reservation systems began selling complementary travel products, including hotel accommodations. Hotel companies eventually developed their own computerized systems—central reservation systems (CRSs)—and linked them electronically to the airline systems to give access to the travel-agent market. In many cases, these connections were facilitated by a “universal switch,” which was a translator capable of connecting any hotel CRS to the numerous GDS platforms—meaning that only a single interface was needed between the hotel CRS and the switch to give access to all of the major GDS systems. Despite such improved efficiency, the capital cost of developing and maintaining a CRS was still substantial, and many hotel companies chose to outsource their distribution to reservations companies instead of developing their own systems in-house. The use of destination-management systems (DMS) can be regarded as representing a similar strategy. DMSs distribute a wide variety of tourism products (focused primarily on the leisure customer), are generally government sponsored, and pay particular attention to representing small and independent tourism suppliers. With the exception of a small number of European countries, however, the effect of DMSs has so far been minimal, as they have in general failed to evolve from their initial conception into profitable, self-sustaining commercial systems.

² See: T. Knowles and M. Garland, “The Strategic Importance of CRS in the Airline Industry,” *EIU Travel and Tourism Analyst*, Vol. 4, pp. 4–6.

The Arrival of Internet Commerce

Until the early 1990s hotels' electronic channels of distribution constituted the closed user group described above. The channels comprised linear relationships in which systems cooperated, rather than competed, with each other. While hotels benefited from using electronic distribution channels, the channels were expensive and lacked flexibility. Between 1993 and 1997 commissions and other reservation costs (measured on a per-available-room basis) grew from US\$429 to US\$930—an increase of 117 percent in four years.³ Such cost increases, taken together with advances in information technology, persuaded many hotel companies to find alternative ways to distribute their product. The rise of the worldwide web as an electronic commerce medium provided just such an opportunity. Tourism suppliers quickly began experimenting with web-based distribution, and the web has had a profound effect on the way in which travel products are marketed, distributed, sold, and fulfilled. For example, the majority of major hotel chains have taken advantage of the opportunities presented by the web. In a survey of the top-50 hotel companies carried out in 2001, over 90 percent had a company web site, with nearly 95 percent of these providing reservation facilities to allow the customer to book directly.⁴ Such sites appear to be highly effective, with the majority of internet bookings estimated to flow through these sites rather than through web intermediaries.⁵ Savings from the avoidance of GDS fees and travel-agent commissions are thought to be substantial—perhaps as much as US\$1.3 billion for the 2000 to 2003 period, representing annual savings equivalent to 1.7 percent of total industry profits in 2000.⁶ Perhaps the most signifi-

cant effect of the web is the rearrangement of distribution-channel partners' relationships, which is still in progress. In addition to cooperating with each other as they did in the past, most have started to compete with each other by creating their own consumer-oriented web sites that provide information and booking facilities. The situation is well summarized by Dombey, who describes it as "little short of a technological stampede. Up and down the traditional distribution chain, ... providers are working feverishly to re-engineer their travel systems... to bypass both the GDS and the travel agent to create a direct link with the customer."⁷ In effect, each is trying to bypass intermediaries further down in the distribution chain and transact business directly with the customer. For example, switch companies, in addition to fulfilling their role as universal translators between the CRSs and the GDSs, now have the potential and frequently the facility to communicate directly with the consumer over various consumer-oriented websites.

Paradoxically, in addition to there being more competition, there is also more cooperation. Many on-line travel sites sell multiple products (e.g., airplane tickets, hotel rooms, rental cars) from multiple vendors, as their key attraction is that they are "full service" and thus offer to consumers the ability to research and purchase an entire trip on-line from a single site. Such sites need detailed content and reservation facilities, which they can only get through cooperation with other vendors. As a result, non-exclusive virtual alliances are being formed. A good example of both trends is the newly formed Hotel Distribution Systems (HDS), which—in addition to distributing hotel accommodations directly to the consumer through its TravelWeb product (www.travelweb.com)—will also provide the information and hotel-booking engine behind a large number of other web-based travel services, such as Microsoft Expedia—companies that could be regarded as competitors. There is a need to establish a clear picture of the various channels available. Furthermore, hoteliers need to determine which channels are currently the most

³ F. Waller, "The Distribution Revolution," *Hotels*, March 1999, p. 103.

⁴ P. O'Connor, "An Analysis of the On-line Pricing Strategies of International Hotel Chains," in *Information and Communication Technologies in Tourism*, ed. K. Woeber, A.J. Frew, and M. Hitz (New York: Springer-Verlag Wein, 2002).

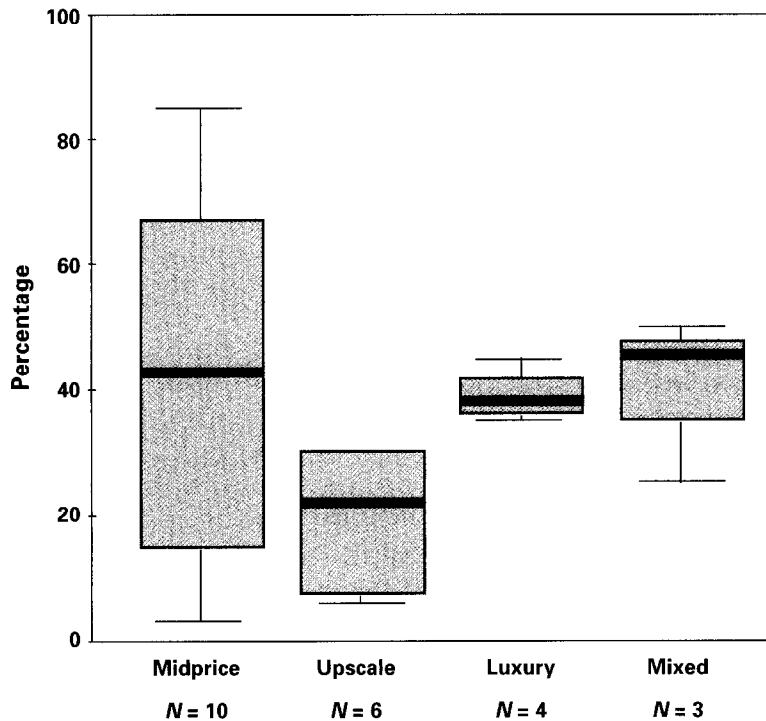
⁵ "Interview with Phillip C Wolf, President and CEO of PhoCusWright Ltd.," *HSMIAI Gazette*, 1999, p. 13.

⁶ J. Ader, R. Lafleur *et al.*, *Global Lodging Almanac—2000 Edition* (New York: Bear, Stearns, 2000).

⁷ A. Dombey, "Separating the Emotion from the Fact—The Effects of New Intermediaries on Electronic Travel Distribution," ENTER Information and Communications Technologies in Tourism Conference, Istanbul, 1998.

EXHIBIT 1

Percentage of electronic reservations by market segment



The color bars represent the mean percentage of electronic reservations, as tallied from a sample of hotels. The color box represents the range of responses.

effective at driving business to hotels, how they compare with the “traditional” hotel electronic-distribution channels, and which are likely to dominate in the future. We examine these and related questions in this study.

Research Methodology

Two complementary research techniques were used to explore this issue. The unstructured nature of the research problem and the lack of prior empirical research on the subject prompted the use of qualitative-research techniques. In particular, the need to establish a clear picture of a rapidly changing field and the desire to forecast future trends led us to conduct a three-round Delphi study with hotel-electronic-distribution experts to develop a typology of the channels currently available and to forecast the future potential of each for the hotel industry. The panel's findings were validated using a survey of hotel electronic-distribution practitioners. In addition to helping to establish the industry viewpoint regarding the current status and future potential of each channel, the survey also provided comparison data. The iterative Delphi process involves a panel of participants who give their opinions on the subject under investigation, but who neither meet nor correspond with other panel members. After the panel members answer the questions provided by the facilitator, they are normally given at least one opportunity to reevaluate their individual answers in the light of the group's response. In this study the expert panel was selected by identifying speakers on technology-related topics at major hospitality-industry conferences in the 30 months prior to the study. Based on the events calendars of two academic journals (*Tourism Management* and *Annals of Tourism Research*), the programs of 105 conferences were analyzed, giving a potential pool of over 600 speakers. We invited those who had three or more presentations at separate conferences to participate in the study. Our letter of introduction (sent by e-mail or fax) explained the purpose and proposed methodology of the study and asked potential respondents to evaluate their own level of expertise on the subject area using the rating scale developed by Loveridge *et al.*⁸ Of

⁸ D. Loveridge, L. Georghiou, and M. Necleva, *United Kingdom Technology Programme* (Manchester: Office of Science and Technology, University of Manchester, 1999).

46 who were invited, a total of 42 “experts” were willing and qualified to participate in the study. For purposes of analysis, these panelists were classified into five categories: academic, consultant, hotelier, researcher, and system supplier. (Subsequent analysis revealed no significant differences between the opinions of each grouping.) E-mail was used as the communications medium throughout, and an overall response rate of 65 percent was achieved, for a final panel size of 27.

The Survey

The sample frame for the industry survey was defined as the corporate electronic-distribution managers for the top-200 hotel brands, which represent approximately 33.5 percent of units and the majority of the world’s hotel beds.⁹ We deliberately focused on chain hotels because they are more likely to use technology-based systems for distribution purposes.¹⁰ The research instrument used was an electronic questionnaire that was delivered by e-mail to 168 individuals connected with each of the selected brands. A response rate of 25 percent was achieved. The respondents represented over 21,000 hotel properties and nearly 600,000 hotel rooms. As part of the survey, respondents were asked to estimate the percentage of total reservations that arrived through electronic channels. Their responses ranged from 3 percent to 85 percent, with a mean of approximately 40 percent. However, as can be seen from Exhibit 1, that percentage varied greatly depending on the market segment. Upscale brands received a substantially lower percentage than did either mid-price brands, luxury brands, or those in the mixed category (too few budget-brand respondents replied to this question to be included in the analysis).

Missing: A Common Vocabulary

In the initial round, the Delphi-panel members were asked to identify the electronic distribution channels currently available to hotels. Their re-

sponses revealed a problem naming and defining those channels. The absence of a common terminology for describing electronic distribution became apparent, with a variety of similar terms being used interchangeably. It was clear that a common vocabulary had yet to develop, even among experts in the field. This lack of a common vocabulary contributed to difficulty in concisely differentiating among channels. For example, the term “GDS” is often used to describe a particular hotel-distribution channel. However, GDS-based distribution can occur in many different ways (each with its own characteristics) depending on how the system is connected to the hotel and the customer. It is these routes—from the hotel to the customer through various component systems—rather than the facilitating systems themselves that are important.

Using the concept of Porter’s value chain as a basis, we developed an unambiguous system that uses abbreviations for each node on the distribution chain to generate a unique notation to describe each route to the marketplace.¹¹ Thus, instead of a multifaceted generic name such as GDS, a particular route can be described as, for example, *hotel to central reservation system to global distribution system to travel agent to customer*, or *hotel to central reservation system to representative company to global distribution system to GDS-based travel web site to customer*. This terminology was used throughout multiple Delphi rounds to develop and validate a typology of the business-to-consumer distribution channels currently available to hotels. Exhibit 2 (overleaf) shows the range and complexity of the channels currently available and demonstrates how interconnected such channels have become, highlighting the difficulty facing anyone attempting to manage hotels’ electronic distribution. Even though multiple channels have developed, it stands to reason that some must be more important in terms of their effect and potential. To identify the most-important channels, the Delphi participants were asked to indicate their opinion as to the channels they considered to have the greatest effect on chain hotels’ current volume of

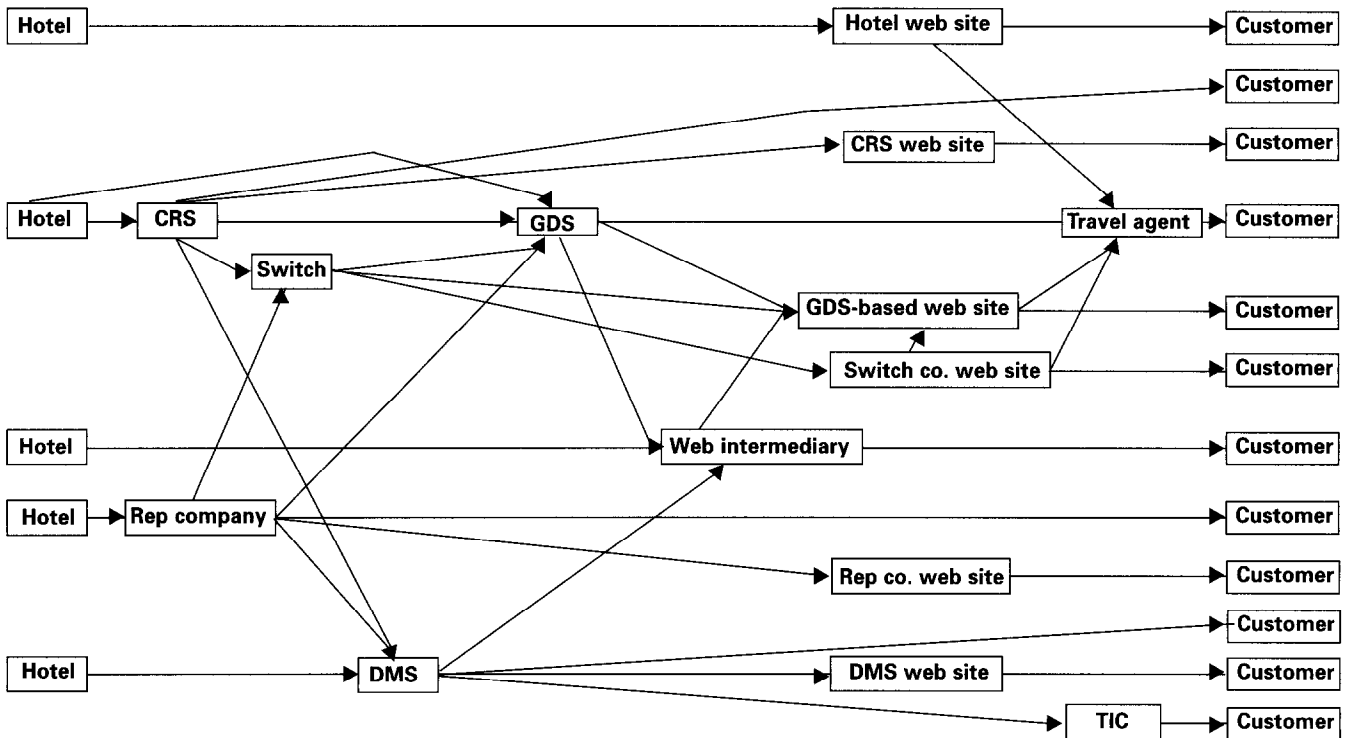
⁹ *The International Hotel Industry: Corporate Strategies and Global Opportunities* (London: Economic Intelligence Unit, 2001).

¹⁰ A. Morrison, S. Taylor, A. Morrison, and A. Morrison, “Marketing Small Hotels on the Worldwide Web,” *Information Technology and Tourism*, Vol. 2, No. 2 (1999), pp. 97–113.

¹¹ M. Porter and U. Miller, “How Information Gives You Competitive Advantage,” *Harvard Business Review*, July–August 1985, pp. 149–166.

EXHIBIT 2

An illustration of hotel electronic-distribution channels



business. The issue was also addressed by the industry survey, where respondents were asked to indicate which channels they felt to be the most important for (1) chain hotels in the industry as a whole and (2) for their own brand. In all cases, a voting system was used, with respondents able to assign multiple votes to a channel if they felt it to be especially important. A comparison of the scores in each of the three situations is presented in Exhibit 3.

As can be seen in Exhibit 3, there is a high positive correlation between each set of scores ($p > 0.85$), indicating agreement among the sub-

ject groups about the relative importance of the channels presented. The consensus is that the “traditional” electronic-distribution channels remain the most important for chain hotels. In each of the three cases, the channel of *hotel to CRS to switch to GDS to travel agent to customer* received the largest number of votes, followed closely by *hotel to CRS to GDS to travel agent to customer*, and *hotel to CRS to customer*. However, the importance of the web as a distribution medium is also apparent, with a cluster of routes that use the web to bypass the travel-agent node (identifiable near the top of the importance rating).

Thus, despite theories that the web is of minor importance in terms of online sales for hotels, it is clear that both industry practitioners and electronic-distribution experts alike now consider the internet to be a major contributor to volume of business, particularly when all of the web-based routes are combined. Similarly, certain channels (such as those that feature either DMS or third-party representative companies as a node) consistently received lower scores, indicating the declining importance of such routes.

An alternative analysis is to examine the distribution-channel nodes included in the channels rated by the panel. If a node is counted each time it is mentioned in a ranked channel, those most important as facilitators of hotel electronic distribution can be identified. Exhibit 4 (on the next page) reveals the continued importance of the CRS in hotels' electronic-distribution strategy. In both expert and industry responses, the majority of channels originate in the CRS, irrespective of how they ultimately reach the customer. Industry practitioners' perceptions of the importance of the GDS and the travel agent in hotel distribution can also be clearly seen. Those nodes received far more votes from industry respondents than they did from the expert panel, indicating that the viewpoint from those actually working in this arena is that this traditional route remains the primary one for chain hotels. That said, the node analysis also shows the importance of the web as a delivery mechanism. Both the expert and the industry votes highlight how many channels use the web as their ultimate mechanism for communicating with the customer. Although spread over multiple channels (*e.g.*, direct web site, chain web site, web intermediary, and destination web site), collectively it is clear that the web has become an important contributor of reservations.

In both parts of this study, respondents were asked to identify channels missing from the list. Content-analysis techniques revealed additional minor channels, such as representative-company websites, wholesaler or consolidator sites, specialized websites (*e.g.*, meeting or wedding planners), or auction or name-your-own-price sites. These suggestions drew attention to how various third parties (for example, wholesalers, web intermediaries, "rep" companies, and even travel-agent-

EXHIBIT 3

Hotel electronic-distribution channels' relative contribution to business

Channel	Delphi panel	Managers rate their own brand	Managers rate their own brand
Hotel to CRS to switch to GDS to travel agent to customer	15	17	18
Hotel to CRS to GDS to travel agent to customer	13	10	10
Hotel to CRS to customer	13	9	13
Hotel to CRS to hotel-company web site to customer	12	9	9
Hotel to CRS to switch to GDS to web intermediary to customer	5	7	5
Hotel to CRS to switch to GDS to GDS web site to customer	5	6	5
Hotel to GDS to travel agent to customer	4	6	4
Hotel to CRS to switch web site to customer	4	5	6
Hotel to CRS to GDS to GDS web site to customer	4	6	5
Hotel to rep company to GDS to travel agent to customer	4	5	7
Hotel to web intermediary to customer	6	6	5
Hotel to CRS to DMS to destination web site to customer	3	4	3
Hotel to rep company to customer	3	4	3
Hotel to DMS to customer	3	4	4
Hotel to individual hotel web site to customer	7	3	3

Note: Respondents in both the Delphi panel and the industry survey used a voting system to indicate their perception of the current relative importance of each of the electronic-distribution channels suggested. Each Delphi-panel respondent could allocate a maximum of 20 votes, and each manager could allocate a maximum of ten votes. Both groups were permitted to allocate multiple votes to a single channel if it was considered to be particularly important. As the number of respondents varied between the Delphi study and the industry study, the numbers of actual votes have been converted to a 100-point scale in the above table to facilitate comparisons.

EXHIBIT 4

Relative importance of nodes on the hotel electronic-distribution value chain

Node	Votes		Percentage	
	Expert Panel	Industry Panel	Expert Panel	Industry Panel
Hotel Web Site	40	24	3%	1%
CRS	308	334	26%	20%
GDS	220	416	18%	25%
CRS-based web site	42	59	4%	3%
Travel agent	175	279	15%	16%
Switch company	100	221	8%	13%
GDS-based web site	60	86	5%	5%
Switch-based web site	34	40	3%	2%
Web intermediary	62	89	5%	5%
Representative company	58	68	5%	4%
Rep-company-based web site	10	0	1%	0
DMS	48	48	4%	3%
DMS-based web site	20	31	2%	2%
Tourism information centre	13	0	1%	0%
Total	1,190	1,695	100%	100%

Note: The numbers shown for each node represent the number of times that node was mentioned in a distribution chain receiving a vote in the prior analysis. (Remember, each "expert" was able to cast as many as 20 votes, in any combination, for his or her preferred distribution channel). The industry-based participants were allowed 10 votes apiece.) For example, where a respondent allocated a vote to the *hotel-to-CRS-to-GDS-to-travel-agent-to-customer* channel, the counters for the CRS node, the GDS node, and the travel-agent node were all increased by one. That approach allowed us to identify the nodes related to the channels perceived as being important. The expert (Delphi) panel comprised 27 individuals and the industry-based sample comprised 42 individuals.

based websites) are all likely to influence future business, and further increase the complexity of hotel electronic distribution.

The Future of Hotel Electronic Distribution

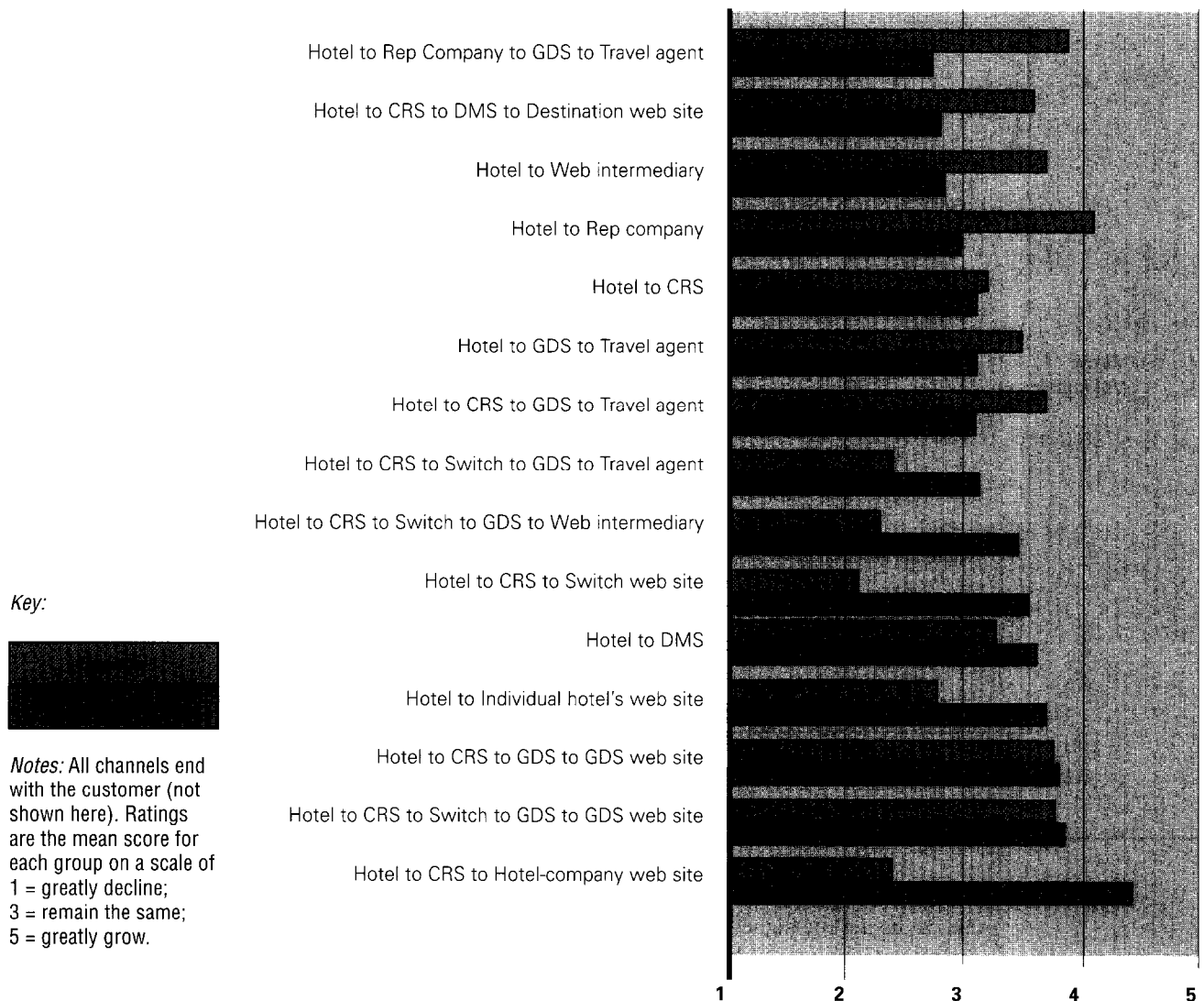
As we discussed earlier, hotel electronic distribution is in a state of rapid evolution. Channels (and channel participants) are merging, bypassing one another, while simultaneously cooperating and competing with each other. Which channels are likely to be important in the future is

clearly of interest. Given that the pace of change is so rapid, however, a long-term forecast seems unrealistic. For that reason, both groups of study participants were asked to indicate their opinions as to how each channel was likely to grow or decline over a relatively short period—that being the year following the survey.¹² A five-point scale (anchored by 1 = greatly decline to

¹² It should be noted that the intention of this approach was not to actually forecast for a specific subsequent year, but to focus respondents on a common time period, namely, the immediate future.

EXHIBIT 5

Forecasts of future growth of hotel electronic-distribution channels



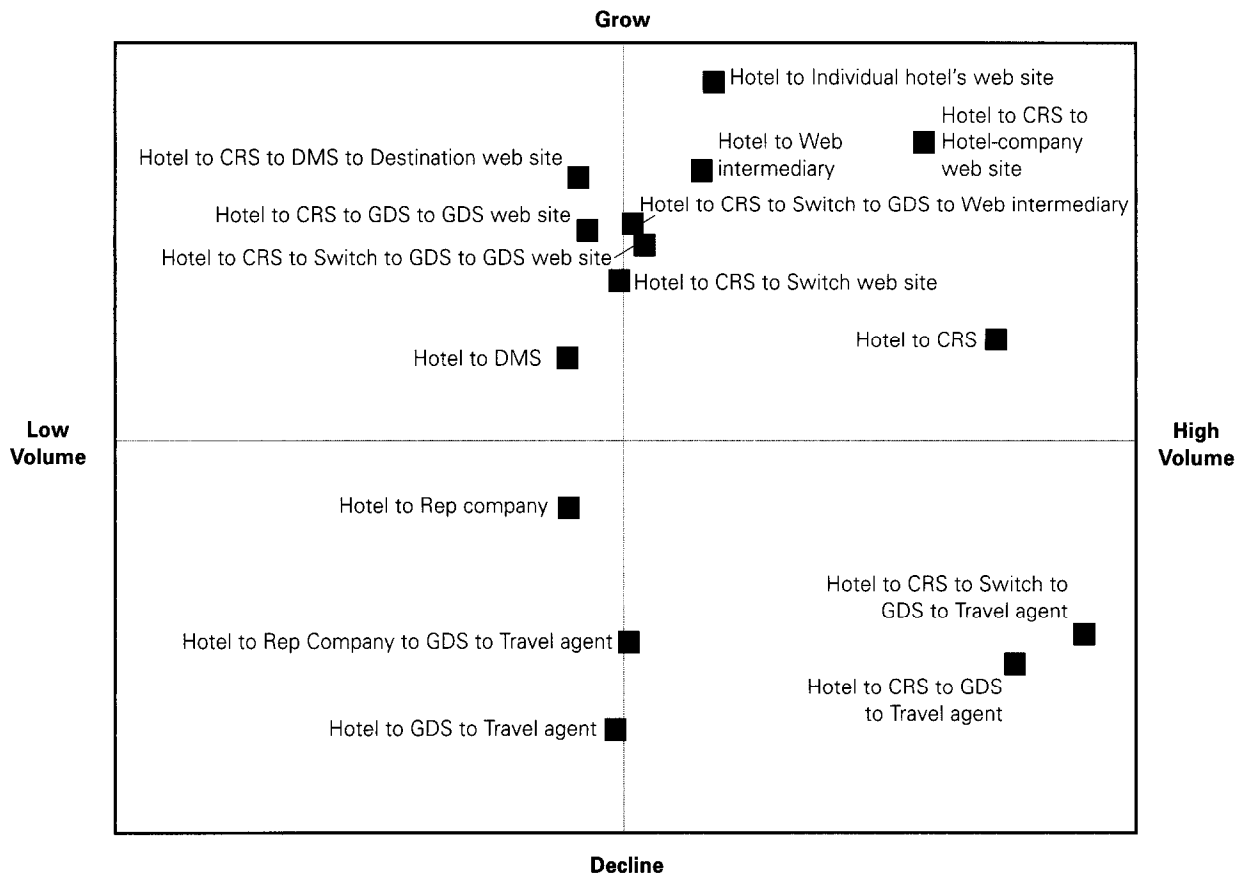
5 = greatly grow) was used to measure their responses. As can be seen from Exhibit 5, the positive attitude of both groups is immediately apparent. Few channels are forecast to decline significantly, while an analysis of the overall scores reveals an arithmetic mean of 3.19 for the expert group and of 3.39 for the industry group, dem-

onstrating that both feel that bookings volumes over the selected channels will grow slightly over the period.

Analysis of individual channels confirms many of the trends noted earlier. The continuing importance of the GDS from the industry perspective is clearly evident, with the following chan-

EXHIBIT 6

Matrix analysis of expert-panel responses

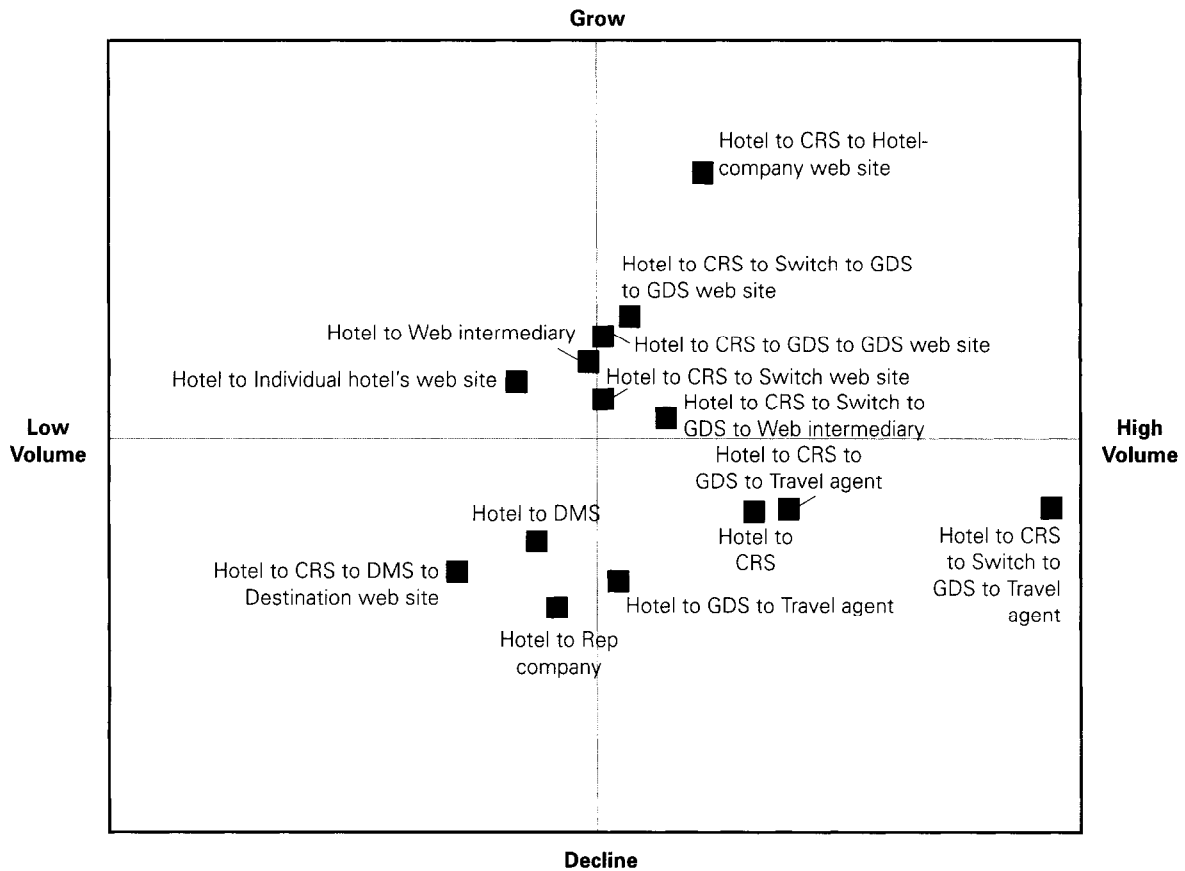


nels receiving the highest scores: *hotel to CRS to switch to GDS to GDS-based website to customer*, *hotel to CRS to GDS to GDS-based website to customer*, and *hotel to CRS to switch to GDS-web intermediary to customer*. Conspicuously absent from the above three chains is the travel-agent node. This prediction of disintermediation is supported by the fact that the majority of the channels forecasted to decline involve travel agents as the final node. Conversely, practically all of the channels forecast to grow involve the web as the ultimate node before the customer. In particular, the direct-to-customer routes (*hotel to website to customer* and *hotel to CRS to hotel-chain website to customer*) received

particularly high scores from the industry group. Furthermore, five of the seven channels forecast to grow significantly feature both the CRS as a node in the distribution chain and the web as the ultimate communications medium with the customer. This seems to indicate how hotel electronic distribution might develop in the near future—centralized through a CRS, flowing through a variety of different routes and third parties, but ultimately being delivered using the web as the communications medium with the customer. It is also interesting to note that there are significant differences in opinion between the two study groups in relation to the perceived future importance of individual channels. While

EXHIBIT 7

Matrix analysis of chain-hotel practitioners' responses



the expert group seems enthusiastic about a broad range of channels, the industry group is more positive about channels that originate in the hotel chains' CRSs. Again this confirms the theory that electronic distribution will be fed from the CRS, and it highlights the likely continued importance of such systems in hotel companies' distribution strategies. While not directly addressed in this research, however, these findings could to a certain extent be influenced by the composition of the respondent groups. Industry-survey participants were for the most part responsible for the management of the electronic-distribution function at the corporate level. As such, they would be biased toward using the CRS as the

engine of electronic distribution, since that would help them to retain control over distribution at the corporate level, thus strengthening their own positions (and ensuring their continued employment).

Combining "Forecasted Growth" with "Current Importance"

Of course growth on its own is not an indication of how important a channel will be in the future. A channel identified as having high-growth potential might currently be minor in importance, and despite its forecasted growth might still be less important in terms of generating business than some of the more-established channels.

To build a more comprehensive picture, forecasted growth must be combined with current booking volumes to identify those channels with the most potential for the future. By combining both sets of data in a matrix, the future potential of each channel can be demonstrated. Results for the Delphi panel and the industry group are presented in Exhibits 6 and 7 (previous pages). In both cases, the most attractive channels (in terms of their potential to generate high levels of reservations) are those in the top-right-hand quadrants, which combine a higher-than-average

Developing and maintaining a powerful CRS is the key electronic-distribution issue for the future.

current-reservations volume with a higher-than-average forecasted growth. In the experts' matrix, this quadrant includes six of the web-based channels. (Note that distribution directly to the consumer over the web showed the highest potential.)

The continued importance of the hotel CRS is also reflected here. Not only is the hotel-CRS-consumer route the only non-web channel in this segment, but four of the other six channels also include the hotel CRS as a node. In the industry respondents' matrix, the same quadrant reveals a cluster of channels with distinct characteristics—each uses the CRS as its first node and the web to communicate with the customer. That prediction lends weight to the theory formed earlier that the CRS will continue as the “powerhouse” of hotel electronic distribution, but that the way in which it will interact with the consumer will increasingly be web-based and dominated by third parties. The second-most-attractive sets of channels are those in the upper-left-hand quadrant and those in the bottom-right-hand quadrant. Those at bottom right currently make a high contribution to hotels' business volumes, but are forecast to decline. In the experts' matrix, only two channels appear in this quadrant, both of which are “traditional” GDS-to-travel-agent

routes. This viewpoint is supported by analysis of the industry-practitioner data, which also puts *hotel to CRS to customer* in this segment. As was discussed earlier, the current importance of these three routes is unquestionable, but it's clear that respondents feel that they will gradually decline and be replaced by alternatives. The channels found in the upper-left-hand quadrant are obvious candidates for future growth. In both analyses, the channels included in this quadrant focus almost exclusively on routes delivered to the customer over the web. Although currently minor in terms of contribution to business volumes, each has well-above-average prospects, and thus are clearly channels on which hotel companies wishing to expand their electronic distribution need to focus more attention.

Web-driven Growth

Our findings highlight the continued current importance of the traditional distribution channels—those that involve the CRS, GDS, and travel agents. In spite of the hype regarding internet commerce and threats of disintermediation, it's clear that both the GDS and travel agents remain critically important in the hotel-distribution process. These intermediaries have been in use for some time, are well proven, and will continue to be important for the foreseeable future. Hotel companies therefore need to continue to maintain and develop these channels so as to continue to profit from their success. Such channels are characterized by a high distribution cost, however, which may be a factor in the industry's support of web-based channels. The latter now generate significant numbers of reservations for the chain hotels—far more than has previously been acknowledged. Volumes are particularly high if web-delivered channels are considered collectively. Furthermore, channels that terminate on web-delivered nodes are the ones forecast for the sharpest growth. This study has also demonstrated the increased complexity of the hotel electronic-distribution environment, and how channels have become increasingly interconnected in their efforts to be the supplier of choice to the customer. It is likely that this trend will increase in the future, and that the tapestry of channels will continue to grow more complex and become increasingly influenced by web-based

third parties. No single channel seems to be emerging as being dominant, and thus it's likely that in the future most hotel companies will have to make use of many simultaneous routes to the customer. While this in itself is beneficial, as it increases the likelihood of the company's product being placed in front of the right customer, it does raise issues in terms of management, control, and cost. Maintaining descriptive information, room rates, and availability data in multiple databases is administratively challenging and error prone, and failure to actively manage such data results in inconsistencies and customer dissatisfaction.

A solution to this problem is suggested by the study's findings. The study shows that the web-delivered channels that will grow most are those that are driven (from an information and reservations perspective) by hotel-chain CRSs. By feeding each of the multiple routes to the customer from the hotel chain's CRS, data consistency could be obtained with minimum effort. Therefore, hotel companies need to continue to invest in and develop this key technology, ensuring that it can connect to and communicate with the growing number of internet-based systems so as to be able to take maximum advantage of the potential of these developing routes. Although the lack of an industry standard for reservations-systems communication means that this solution would require the development of multiple interfaces, this is infinitely preferable to the confusion and inaccuracies that would occur if companies attempted to manage multiple channels manually. Thus, developing and maintaining a powerful CRS is the key electronic-distribution issue for the future. ■



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