

An Exploratory Study of the Electronic Distribution of Hotel Rooms in Europe

David C Gilbert, Liz Lee-Kelley¹, Dominic W Beveridge²

¹School of Management, University of Surrey, Guildford, Surrey, GU2 7XH.

²Cap Gemini Ernst & Young, Sydney, Australia

ABSTRACT

Hotels sell a great deal of their inventory by means of third party distribution through the use of technology and marketing intermediaries. More recently the Internet along with other emerging technologies has offered the potential to disrupt enduring distribution arrangements. The question of strategic change is important as the low-cost, multi-channel possibilities offer considerable potential benefits to hotels, but these are also linked to considerable risks. The focus of the study is on the drivers behind the choice of distribution intermediaries by hotel groups. A research questionnaire designed to establish the factors influencing hotels' choice of intermediaries, was developed from the extant literature. Subsequently principal component analysis uncovered an overriding factor, (referred to here as 'risk preference') which is shown to influence heavily channel strategy choice. This indicates the concern by hoteliers over the impact of negative direct or intermediary-related performance on hotel brand image and reputation. The results of this study further support the theory that the hotel industry has yet to define a strategic direction that will leverage the capabilities of the Internet.

Keywords: hotel distribution, Internet, channel choice

1. LITERATURE REVIEW

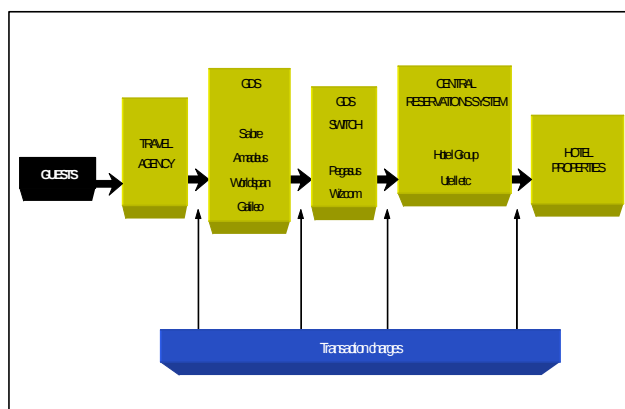


Figure1: The traditional path of online hotel reservations

Source: Price Waterhouse Coopers (1999). *Hospitality Directions European Edition - The Internet Transforms the Traditional Hotel Distribution System*, London, England: Price Waterhouse Coopers.

Distribution systems extend the number opportunities for a sale and facilitate the purchase of products in advance of their production. A traditional distribution path is illustrated in Figure 1 above.

The role of the various European travel agents is to act as the intermediary that brings travel products to the consumer. According to Dube and Renaghan [2] travel agents and meeting planners book almost half of all hotel reservations. As travel industry consumers normally cannot see the product at the time of reservation - agents therefore fulfil the key roles of advising customers, passing information between the different parties, and providing value-added services. Hence, travel agencies by tradition have played an important distributor role - their main advantage is that they are able to reach a larger number of potential

customers than if the provider were to distribute through their own outlets. As demonstrated in Figure 1, numerous intermediaries perform various functions along the transaction chain between the hotel guests and the hoteliers which result in transaction charges.

Global distribution systems (GDS) such as Sabre and Amadeus have been effective means of communication and inventory exchange between local, national and global suppliers, and the travel agencies. GDS accounts for about a third of all hotel bookings world-wide, and bookings are continuing to grow. Corporate travel agents have heavily influenced the development of the GDSs given they are able to control the relationship between the corporations they serve and the suppliers. The corporations required a global network of products which in turn required ownership of global databases, which meant the suppliers had to depend heavily on GDSs for distribution [9]. Another form of intermediary is the switch companies placed between the GDSs and the hotel central reservation systems (CRS). The need for switch companies exists because the wide variety of software and programming languages used by hotel reservation systems must be adapted to GDS software and vice versa [10]. Interestingly, these Switch companies are now able to communicate with consumers over consumer-oriented websites [7]. The CRS have enabled hotels to maintain a single image of inventory between their own systems, and (via the switch), the GDSs. Although the GDS channels attract an increasing volume of hotel reservations, it should be remembered that the bulk of world-wide hotel reservations are made directly with properties or with Central Reservations Office [6]. Although these channels account for a significant volume, they have high administrative costs attached. They both require toll-free telephone numbers in major markets, and trained multilingual staff to handle enquiries. There is evidence to suggest that hotels have been slower than

other industries to realign their distribution strategy towards Internet channels. For example, according to Harteveidt et al [3], in 2000 more than 75% of American online travel bookers bought air tickets, but only 59% booked hotels.

A new form of cyber-intermediary is the online consolidator who negotiates discounts with suppliers and then sells that capacity to consumers. Typically interacting with individual hotels, consolidators act as room brokers that purchase inventory at a deeply discounted rate, selling it on at a mark-up [11]. These online agencies (e.g. Travelocity, Microsoft Expedia and Internet Travel Network) pose a real challenge to the hotel providers since they are unable to match the intermediaries' experience and product/service range, leading O'Connor [6] to conclude that future growth will be driven through online agencies.

Webb [13] advises that hotels should employ a variety of online distribution channels as the benefits of a multi-channel strategy are highly applicable to hotel products:

- Greater responsiveness to customer shopping patterns
- Decreased dependence on existing channels (a single channel may not be suitable for all products)
- Increased outlets for distressed inventory
- Ability to penetrate new markets

From the consumer's perspective, despite the obvious attraction of the convenience of purchasing online, there has been a persistent concern about security, privacy, service levels and trustworthiness. It is also difficult to quantify value added by internet channels when many consumers still employ them purely as a means of pricing rooms perhaps because of the difficulty of physically checking products/services before purchase and the helplessness felt in offering credit card details during online purchase.

O'Connor [6] carried out a Delphi study amongst a group of experts in the field of electronic distribution to develop, validate and weight a list of core evaluation factors for electronic intermediaries. The research was focused on identifying evaluation processes, and it found that there is currently no widespread agreement in the industry on how channels should be evaluated prior to adoption. Financial factors were the most frequently cited group, while technical and operational factors received the highest individual scores - suggesting a need for prioritisation of factors in the evaluation process. Performance appraisal activities tend to be intuitive rather than based on formal guidelines or principles. A possible weakness in this study is its focus on corporate electronic distribution specialists, rather than including hotel-level operators.

2. RESEARCH METHODOLOGY

This study attempts to overcome the complaint in a recent paper [8] that indicated little is understood about

how electronic distribution studies might be evaluated. The research was carried out through a survey (see appendix) that was sent to a sample of key hotel operators with responsibility for channel management. The survey was based on a set of questions designed to measure attitudes towards twenty key attributes of online distribution channels. The responses to the survey are subjected to factor analysis to identify the underlying factors that influence their attitudes. The data collection phase was done by presenting a list of questions about the criteria used in evaluating electronic distribution media by hotel groups. The first task, therefore, was to establish a comprehensive and detailed set of decision criteria that would be assembled for this survey. An initial list of criteria was produced based on the views represented in the literature reviewed. This list was distributed to a reference group of knowledgeable academics, and their feedback was incorporated into a revised list. The revised list was then distributed to a group of five hotel industry e-commerce specialists – all of whom hold management positions in major hotel chains. Their feedback was reviewed and collated to produce a final list of items – these are listed in Table 1. This pool of twenty items formed the basis for the questionnaire.

The questionnaire investigated attitudes and used five point Likert Scales. A mixture of positive and negative statements was presented in the questionnaire to improve accuracy of response. For data collection purposes two separate populations were defined relating to the two sets of target respondents – individual hotels, and corporate level management with responsibility for distribution. The study was carried out with assistance from a number of major international hotel groups. In total, a base of 872 individual hotels was contacted for the study, and a survey instrument was distributed to every hotel in that database. The target recipients were the key rooms' management contacts in each property. A population of corporate hotel groups was also defined using assistance from industry contacts, and the survey was distributed to 70 distribution/channel managers from hotel groups in Europe. The questionnaires were distributed by email containing a link to a website, upon which a collection page was created. The responses from the website were forwarded by Email to a dedicated account from which the data were transferred to a database. The questionnaires were also sent as an attachment to the email, for those respondents with access to Email, but not Internet. Responses sent by email were added manually to the same database. From the 872 individual hotel contacts a total of 268 responses were received, representing a response rate of 30.73%. Of the corporate level respondents, 47 responses were received, representing a response rate of 67.1%. The total combined size of the sample was therefore 315.

Table 1: Evaluation criteria for electronic distribution intermediaries

Subject	Item
Technical capabilities of intermediary system	Method of reservations delivery
	Connectivity to the existing reservation systems
	Availability of booking data
	Security
	Hotel's ability to control price
	Ability to support revenue management strategy
Costs	Start-up/one-off charges for participation
	Commission costs
	Other transaction (eg switch, CRS)
	Processing (eg fax/voice reservations)
Supplier profile	Ability to reach specific markets
	Potential production volumes
	Ownership of medium
	Credibility of owners
User-facing capabilities	Speed and reliability
	Trust/privacy

	Customer experience
Representation of hotels	Appropriateness of site for the hotel's product
	Representation of price to customer
	Content (eg hotel-specific information capabilities)

3. RESEARCH RESULTS

The data collection exercise centred on a list of twenty questions that were administered to respondents. For this analysis, the responses to both the hotel and corporate-level questionnaires were combined to form a single data set of 315 cases, and subjected to factor analysis. The object of this phase of the analysis was to identify the dimensions or factors that are tapped by those twenty variables. The form of factor analysis used, Principal Component Analysis, achieves this by reducing the total number of variables, retaining only those factors that explain a significant proportion of the variance in the overall dataset. The result of the analysis has been to reduce the overall data set to six factors that explain the majority of the overall variance.

Table 2: Summary of factors emerging from analysis

Factor	* % Variance	Items	Subject	Loading	Alpha
1	15.00%	Q3	Security of connection to hotel CRS	0.62	0.6884
		Q12	Customers' trust and privacy	0.70	
		Q13	Appropriateness of site for hotel's image	0.68	
		Q19	Credibility of intermediary owners	0.73	
2	9.82%	Q7	Method of reservation transaction delivery	0.68	0.5733
		Q16	Ability to reach specific markets	0.80	
3	9.60%	Q9	Potential production volumes	0.61	0.4768
		Q14	Transaction charges (eg GDS, switch)	0.71	
		Q18	Hotel's ability to control price	0.57	
4	9.14%	Q4	Availability of management information on bookings	0.70	0.5068
		Q11	Ownership of the intermediary	0.79	
5	8.43%	Q5	Representation of prices	0.70	0.5162
		Q15	Speed and reliability of website	0.76	
6	7.87%	Q2	Connectivity to existing reservations systems	0.81	0.4254
		Q10	Commission rates	0.70	
* Rotation Sums of Squared Loadings					

The reliability of the factor analysis results was tested using Cronbach's alpha. The six factors extracted by the analysis are detailed in Table 1, along with the items from the questionnaire that loaded most heavily upon them. It should be noted that the analysis appears to

have identified factors quite different to those suggested by the academic and industry expert reference groups (see Table 1). Based on the responses to direct questions from a sample of industry operators, the logical groupings listed in Table 1 appear not to influence

individuals' attitudes in the way that was originally proposed. It is important, therefore, to understand the factors that have been identified by this analysis. The first factor accounts for a significantly larger proportion of the variance in responses than the others, and an alpha value of 0.69 suggests that it is a relatively reliable measure. Interestingly, the four items that load most heavily on this factor are drawn from four of the different groups defined in Table 1, meaning that this factor is not at all consistent with the groupings defined during the preparatory research phase. This does not mean, however, that the combination of these attributes does not make sense.

Security of connection and customer trust and privacy can be defined as hygiene factors – i.e. they are perhaps unlikely to be identified as a key source of competitive advantage, but the risk of failure in either area is generally unacceptable. The appropriateness for the hotel's image and the credibility of intermediary owners also load heavily on this factor, but like the others, the importance of these items is primarily associated with risk – in particular the damage that appearance on an inappropriate site may do to a hotel's brand image, and the risk of engaging in a partnership with a supplier that results in failure. In short, this factor appears to suggest risk has considerable influence on respondents. Of the seven factors, this was the only one that combined the internal reliability of scale with a plausible explanation. Although several other factors emerged, these had relatively lower reliability scores, and contained items that appeared to be unrelated. There are two possible explanations for this: Firstly the research instrument may not have been interpreted as consistently as the pilot phase suggested. The other explanation is that the approach of respondents to electronic distribution media is genuinely not governed by consistent, logical processes. This finding supports the literature review that suggested a lack of understanding of channel strategy in the hospitality industry.

4. CONCLUSION AND RECOMMENDATIONS

Of the twenty questions in the survey, six relate to the capabilities and the costs of different intermediaries. Had any combination of these items loaded heavily on a single factor, a preference for particular attributes of intermediary offerings would have been indicated. This was not the case, so this survey has not provided such weighting of any future direction regarding online hotel reservations.

Much of the benefit of disintermediation identified in the literature review is associated with cost reduction [1, 3, 4]. The results of the survey, however, offer no clear indication of the importance of different costs in the channel management decision making process. This finding is consistent with other sources add that the cost benefits of online intermediaries are not being realised by hotels. The lack of clear factors influencing

respondents may be explained by the diversity of different job roles amongst the respondents. The survey was distributed to "Key Rooms Management Contacts". This may have impacted the research, although the appropriate contact for each hotel may have been correctly identified, the level of involvement of each individual in both the management of distribution channels, and in the overall strategy of hotels may vary significantly.

Solomon et al [12] further define involvement as the motivation to process information, suggesting that there is a perceived linkage between the user's goals, values, needs, and their product knowledge. It can therefore be argued that the nature of different job roles within the respondents to this survey may explain the apparent lack of factors that clearly dominate the responses. A hotel General Manager, for example, may have ultimate responsibility for their hotels' strategy; however, his or her level of familiarity with the practice of channel management may be very limited if the execution of the task is delegated within the hotel. Conversely, if the key contact is a Reservations Manager, he or she may be highly familiar with the operational procedures of channel management, but not ultimately accountable for the profitability of the hotel whose inventory they manage. Similarly, distribution and channel management positions at corporate level in hotels cannot be regarded as uniform throughout all companies as the roles, responsibilities and the seniority associated with a particular job title varies between hotel groups.

Although only one main factor emerged from the analysis, the overall results of the survey suggest that the opportunities offered by the Internet are not fully realised by the hotel industry at present. This is consistent with many of the views represented in the literature review [5, 3, 6]. Because the study focused on a B2B business model, the findings have implications for management of two groups of businesses: The hotel groups whose inventory is sold through the distribution channels and the intermediaries that provide the distribution services. For hotel operators an important observation from the results of the factor analysis (See Table 2) is that they bear no resemblance to the groupings of factors that were defined by industry experts before the research began. The items were grouped into: Technical capabilities of the intermediary system, costs, supplier profile, user-facing capabilities, and the representation of hotels. These groups appear to be based on entirely logical relationships; however, the factor analysis does not identify any of these groups as underlying psychological dimensions influencing the responses to the questionnaire.

For hotel groups, for example, the importance of cost cannot be understated – The literature review explains the relevance of channels of distribution to hotels, citing the efficiencies that can be realised through the use of distributors. However, none of the factors emerging

from the data grouped responses to the questions about distribution costs together. While this could be attributed to limitations in the research technique, it could also form the basis of the argument that the cost implications of distribution channels are not fully understood by those responsible for executing channel strategy. This is unsurprising – the definition and attribution of costs in hotel distribution is a complex matter. In addition to the structure of charges illustrated in Figure 1, the one-off set-up costs of the intermediary must also be considered – already this suggests a structure of fixed and direct costs. The existence of online consolidators who sell deeply discounted hotel inventory at a mark-up further complicates the issue. The margin between each intermediary's selling and buying prices for each hotel room night is an opportunity cost to the hotels, even though it is seldom if ever treated as a cost item by hotels. Although the complexity of distribution costs makes this a difficult area to understand, it should be a critical factor in channel strategy. The results of the survey suggest that currently it may not be.

Having identified that risk has a strong influence, suppliers could adjust their marketing communications and positioning to emphasise such qualities as the security both of customer details, and of connections to hotel reservations systems, and the image of their site and the owners' financial credibility. It could also be concluded that hotel groups appear not to have a consistent perception of the value associated with electronic distribution intermediary offerings. This view is supported by the survey responses, and it would logically support the recommendation that suppliers have not been effective in communicating the value proposition of their offerings to the marketplace. The sources in the literature review suggest that although technologies and intermediaries that disrupt the traditional reservations chain are now widely available, hotels have been slower than other travel-related industries to embrace the opportunities they offer. Perhaps the opportunity remains for intermediaries to educate the market in the importance of a clear channel strategy, and the implications of different channel offerings for different businesses.

REFERENCES

- [1] Connolly, D. J., "Understanding Information Technology Investment Decision-Making". In *The Context of Hotel Global Distribution Systems: A Multiple-Case Study* Available from: <http://scholar.lib.vt.edu/theses/available/etd-113099-200845/>, 1999.
- [2] Dube, L., & Renaghan, L. M. "Marketing Your Hotel to and through Intermediaries", *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 41, No.1, pp73-83, 2000.
- [3] Harteveltdt, H., McCarthy, J. C., DeMoulin, G., & Wakeman, M. "Lodging Online: Rooms to Fill", *Forrester Research Brief*, San Francisco, USA: Forrester Research Inc., 2000.
- [4] Harteveltdt, H., McQuivey, H., & Denton, A. "Web Travel Agencies Set to Become Marketmakers", San Francisco, USA: *Forrester Research Brief*, Forrester Research Inc., 2002.
- [5] O'Connor, P. *Electronic Information Distribution in Tourism and Hospitality*, Oxford, England: CABI Publishing, 1999.
- [6] O'Connor, P. *Evaluating Hotel Electronic Channels of Distribution: A Corporate Perspective* Edinburgh, Scotland: Queen Margaret University College, 2001.
- [7] O'Connor, P. & Frew, A. "The Future of Hotel Electronic Distribution", *Cornell Hotel and Restaurant Administration Quarterly*, June, pp33-45, 2002.
- [8] O'Connor, P. & Frew, A. "An Evaluation Methodology for Hotel Electronic Channels of Distribution", *International Journal of Hospitality Management*, Vol. 23, No. 2, pp179-199, 2004.
- [9] PhoCus Wright, *The PhoCusWright Report Online Corporate Travel 2001-2002 – Market Share, Strategy, Forecasts and Commentary*, CT, USA: PhoCusWright, 2002.
- [10] Price Waterhouse Coopers, "Hospitality Directions European Edition - The Internet Transforms the Traditional Hotel Distribution System", London, England: Price Waterhouse Coopers, 1999.
- [11] Rich, M. "The Internet Introduced A Middleman To The Hotel Industry - Now Hotels Want That Business Back", *Wall Street Journal*: R10 Monday 10 June, 2002.
- [12] Solomon, M., Bamossy, G., & Askegaard, S., *Consumer Behaviour: A European Perspective*, Essex, England: Pearson Education Limited, 1999.
- [13] Webb, K. L., "Managing Distribution in the Age of Electronic Commerce", *Industrial Marketing Management*, Vol. 31, No. 2, pp95-102, 2002.

[1] Connolly, D. J., "Understanding Information Technology Investment Decision-Making". In *The*

Appendix: Hotel Electronic Distribution Questionnaire

This questionnaire is part of a study into the electronic channels through which hotel rooms are sold. All responses are entirely confidential. Please answer all of these questions openly.

Please respond to each statement by entering "X" under one number on the scale. The scale runs from 5, that indicates "I strongly agree" through to 1, that indicates "I strongly disagree".		I strongly agree			I strongly disagree	
		5	4	3	2	1
1	I only agree to distribute through websites that provide bookers with good and detailed information pages on hotels.					
2	I only look to sell through channels that can connect directly to my hotel's central reservations system.					
3	I would not consider connecting my hotel to a distribution channel unless I could be sure that it is secure.					
4	It is essential for booking channels to provide management information about bookings.					
5	Before agreeing to sell rooms through an electronic channel, the way that prices are represented must be made clear.					
6	The cost of subscribing to a channel is the most important consideration in deciding whether to sell rooms through it.					
7	The way that reservation transactions are delivered to the hotel is not important.					
8	It is essential that rate or inventory controls set by the hotel are correctly reflected through the online channel.					
9	Potential distribution partners must demonstrate their ability to deliver a large volume of business.					
10	Commission rates are basically the same for all electronic channels.					
11	My decision to allow rooms to be sold through a channel is not usually influenced by the company that owns the channel.					
12	Before I will allow rooms to be sold through a website, I must be assured that potential customers' trust and privacy are adequately protected.					
13	I always consider the brand image of a website, to decide whether or not it's suitable for my hotel.					
14	I pay particularly close attention to all the transaction costs (eg GDS fees, switch fees etc) associated with each channel.					
15	It is important to me that websites sites through which my rooms are sold achieve acceptable standards of speed and reliability.					
16	The target market of the website is not really important, as long as it produces bookings.					
17	I always try to avoid selling through websites that deliver reservations to the hotel by fax or telephone.					
18	I must have control over the prices that are displayed on partner sites.					
19	With all channel partners, I usually find out who owns the company and research them to see if they look like a viable business.					
20	I am most likely to choose to distribute my rooms through websites that offer the best customer experience.					