Distribution Channels and Management in the Swiss Hotel Sector

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Abstract

This research investigates how the hospitality sector in Switzerland has embraced the new world of (online) distribution. It analyses the role of existing distribution channels, and gives insights into channel management methods used. Data is gathered through an online survey among Swiss hotels resulting in 196 usable questionnaires. Findings show that direct booking channels remain the dominant sales tools in Switzerland, although their proportion in the distribution mix has been decreasing steadily in the last years. The Internet Distribution System channel reaches 16.4% and thus is the channel with the highest growth rate in 2011. A cluster analysis on multi-channel distribution strategies results in four groups: multi-channel distributors, electronic distributors, real time distributors, and traditional distributors. Further, it is shown that more than half of the hotels manage rates and availabilities manually and only one out of four hotels has implemented a channel manager able to manage different channels.

Keywords: hotel, distribution, channel management, Switzerland, OTA, IDS

1 Introduction

The Internet has been acknowledged as a powerful tool in terms of the whole marketing mix in tourism (D. Buhalis, 2003). Hence, it does not only provide opportunities in terms of product and service presentation, pricing, and promotion but it also offers selling opportunities including getting direct feedback from customers. In the hospitality industry Internet Distribution Systems (IDS) are playing a major role in selling hotels' allotments all over the world (Ku & Fan, 2009). In spite of the potential that the Internet provides, it has been exploited mostly by big international brands (O'Connor & Frew, 2002); many small and medium-sized enterprises (SME) in the hotel sector are challenged by the vast amount of opportunities and the variety of alternative distribution systems (Toh, Raven, & DeKay, 2011). Hoteliers of SMEs have generally been slow and reluctant in adopting and in investing in new technologies resulting in a loss of competitive advantage. Even if the growing importance of the Internet as a distribution channel is recognised (Li, Pan, Zhang, & Smith, 2009), many SMEs still not even fully exploit their own website – the most traditional online channel – as a tool for selling hotel rooms and as a way to gain

competitive advantage (Law & Jogaratnam, 2005). Actually academic studies demonstrated that hotels' websites often lack quality for instance in terms of user-friendliness, navigational structure, content quality, and up-to-datedness (e.g., Chung & Law, 2003) resulting in poor online distribution power. Consequently many SMEs have to rely on third-party websites which allow users to compare different products across multiple suppliers (Rao & Smith, 2006). Furthermore, there are many studies dealing with the development of the Internet in the hospitality sector, e.g. website evaluation (Law & Cheung, 2006), intermediation and remediation (P. Brewer, Feinstein, & Bai, 2006), pricing (Tso & Law, 2005), and the potential of online distribution (Morosan & Jeong, 2008). However, there is hardly any research looking at (online) distribution channels in terms of multi-channel management or studying behavioural patterns of hoteliers on the operational level of the distribution process (e.g., Rong, Li, & Law, 2009).

2 Literature Review

The rise of Information Communication Technologies (ICTs) and especially the increasing importance of the Internet in the tourism domain radically reshaped the demand and supply practices within the whole industry (D. Buhalis, 2003); particularly focusing on hospitality, the Internet had an unprecedented impact on hotels' marketing and distribution (Law, 2009). Ever since the 1980s, ICTs have been changing the way in which business is conducted in the hospitality and tourism industries (e.g., Dimitrios Buhalis & Law, 2008; O'Connor & Frew, 2002): the development of Computer Reservation Systems (CRS - 1970s), Global Distribution Systems (GDS - 1980s), and the advent of the Internet (1990s) generated not only a paradigm shift but an actual change in the operational practices in the industry (Dimitrios Buhalis & Law, 2008; Ip, Leung, & Law, 2011). Already in 2009, PhoCusWright stated that in the last ten years the online travel market experienced a faster growth compared to the entire travel market; however, it is interesting to note that hoteliers have been quite reluctant in adopting new technologies (Law & Jogaratnam, 2005). As stated by Buhalis (2003, p.221) the lodging sector is "the most under-automated segment of the international travel industry" and hoteliers have been hesitant to use ICTs, and the vast advantages the web can bring to them "are yet to be implemented at property level" (D. Buhalis, 2003, p. 221). Lately, Morosan and Jeong (2008) noticed the slow but inexorable effort of hotel managers to keep up and bridge this technology gap. Hoteliers need some time to understand that the Internet emerged as a new marketing environment ready to accommodate the information-intensive characteristic of the industry (Morosan & Jeong, 2008), fostering customized marketing activities in general (Lau, Lee, Lam, & Ho, 2001), and engaging in sales activities by using cheaper online distribution channels in particular (O'Connor & Frew, 2004). This is true even if a substantial portion of hotel reservations continue to be accounted for by third parties which are not purely computer mediated such as direct connections with agencies and corporate clients (PriceWaterhouseCoopers, 2003).

In 2002 online distribution was already been seen as a promising progressive shift away from traditional sales channels (Kasavana & Singh, 2002; O'Connor & Frew, 2002). Brewer et al. (2006) identified and prioritized issues and challenges hotels can

face with online room distribution: (i) rate control, (ii) staff education, (iii) customer loyalty, (iv) hotel website interface, and (v) control of the hotel image. Recently, Toh. Raven, and DeKay (2011) summarized the main reasons pertaining to the growth of the Internet for hotel bookings: (i) the Internet is a valuable channel for intangible goods purchases, (ii) customers expect goods purchased on the Internet to be cheaper, (iii) the Internet allows for quick price comparisons and decreased search costs, and (iv) the Internet allows customers to bypass travel agencies and connect directly to the seller. Technology-mediated reservation represents a large part of hotel reservations (O'Connor & Frew, 2002), but there is no evidence that traditional channels (e.g. mail. phone and fax) - which are seen as inefficient and expensive by both hoteliers and final customers (O'Connor, 2001) – as well as travel agency mediated reservations are generally declining (Grønflaten, 2009; Hong-bumm, Seonok, & Hye-young, 2012). Therefore, the issue of the Online Travel Agencies (OTA), arisen in the 1990s (e.g. Expedia and Travelocity), is still crucial for the online distribution landscape. According to Kracht and Wang (2010, p.736) advances of ICT have "not reduced the number of intermediaries in the distribution channel, but rather resulted in an increasingly complex array of intermediaries." Online intermediaries have become more and more powerful and relevant for hotels in terms of Internet readiness (Morosan & Jeong, 2008) and in terms of economic force. This development puts hotels in the disadvantaged position of having to sell large portions of their offers at discounted rates and often with high commission rates through third party intermediaries (Carroll & Siguaw, 2003). However, considering that the Internet is the most powerful marketing tool in the hospitality industry online pricing strategies must not be controlled by third party distribution channels but by hoteliers because they understand consumer behavior and their willingness to pay (Enz, 2003). Discussions about pricing and online distribution have been led by academics (e.g., Enz. 2003; Kracht & Wang, 2010) but also industry and consultancy companies reflect on these topics. Given the rapid evolution of the online travel market in the past few years, the large majority of members of the Swiss hotel industry association (hotelleriesuisse) has launched their own website and become involved in online sales. Since 2003. regular surveys have been carried out among the members of hotelleriesuisse to analyze the influence of ICT on the distribution in the hotel industry (Schegg & Fux. 2010).

Given the context described above, this paper aims at investigating the distribution pattern and challenges in Switzerland, particularly focusing on the following research questions:

RQ1: What are the predominant booking channels for hotels in Switzerland?

RQ1.1: What is the role of online distribution channels for the Swiss hospitality market?

RQ1.2: Are there differences between hoteliers concerning the mix of distribution channels?

RQ1.3: How do hoteliers select/evaluate distribution channels?

RQ2: How do Swiss hoteliers manage distribution – are there differences in terms of how various clusters of hoteliers approach price- and availability-management?

3 Research Design

3.1 Data collection

An online questionnaire has been developed. It contains one question concerning how bookings are distributed among available direct (telephone, fax, walk-in, etc.) and indirect (tour operator, tourism office, GDS, OTA etc.) distribution channels: hoteliers specified how much each channel accounts for in percentages. One question asks for the market shares of used OTA such as Booking.com, Expedia, and HRS. Further questions query if hoteliers offer price parity on diverse channels; how much commission they pay, and selection criteria for OTA. Next, hoteliers are asked if they manage online distribution channels manually, by using software, a hotel reservation system, an agency, or other possibilities. The final part comprises questions about star rating, the size of the hotel in terms of rooms offered, amount of overnight stays, its location, main target group (i.e., leisure or business travelers), and amount of opening days in the year 2011. The Institute of Tourism of the University of Applied Sciences of Western Switzerland (HES-SO Valais) was responsible for data collection. In collaboration with hotelleriesuisse the online survey was sent to 2,035 Swiss hotels, which are all members of hotelleriesuisse. In 2010, the tourist accommodation statistics reported an annual average of 4,827 open hotels and health establishments in Switzerland; corresponding to 128,865 rooms and 245,251 beds available (Federal Statistical Office, 2011). Members of hotelleriesuisse represent 65% of hotel beds and generate 77% of overnight stays in Switzerland. Data gathering was conducted between December 2011 and January 2012; hence, the data is representing the year 2011.

3.2 Data Analysis

Data is analysed in a descriptive way answering the above mentioned research questions. In order to identify different segments the Typology Representing Network TRN-32 toolkit (Mazanec, 2008), which implements the neural gas algorithm, is used (Martinetz & Schulten, 1991). Two cluster analysis trainings have been accomplished. The segmentation basis for the first one is usage of various channels of distribution, i.e., traditional distribution (telephone, fax, letters, walk-ins), electronic requests (e-mail, web booking form), online booking (GDS, IDS/OTA, direct booking on hotel website, hotel chains with CRS, social media), and tourism partners (tour operators, DMO national-local, event & conference organizers). The basis for the second a posteriori analysis is distribution channel management approaches. In order to profile the clusters ANOVAs and cross-tabs applying Monte Carlo simulation to account for cells with low counts are applied (95% confidence interval; number of samples: 10,000).

4 Results

4.1 Sample description

The response rate of the online survey was 10.1% (n=201). After data cleaning 196 questionnaires were considered for the analysis. Demographically respondents can be classified in the following categories: 10.3% one to two star hotels, 53.8% have three stars, 19.0% four stars, 4.9% five star hotels, and 12.0% are not rated or have no stars.

The structure of the sample reflects the situation in the population of members of hotelleriesuisse very well (e.g., the proportion of Swiss three star hotels is 53.0%). On average hotels have 49.8 rooms while the smallest hotel has 6 rooms and the largest 600. In terms of opening days the mean is 320.3. Half of all hotels indicated being a resort hotel and 34.7% said to be a city hotel. 61.7% specified leisure travellers as their main target group; 32.7% focus on business travellers.

4.2 Predominant booking channels (RQ1)

Direct booking channels (telephone, fax, walk-ins, e-mail, form or booking engine on own website) are the dominant sales tools for the hotels (67.0%) in Switzerland (Fig. 1). Traditional booking channels are playing an important role within the sample: telephone, fax, letters, walk-ins account for 29.6% of the total reservations followed by email (23.4%). On average, today 26.3% of bookings in Switzerland are generated electronically in real-time through IDS/OTA (16.4%), Internet booking engines on hotel websites (6.3%), GDS (2.1%), CRS of hotel chains and hotel cooperations (1.5%) or social media platforms (0.1%). About one quarter of all enterprises generate more than 30% of all sales through IDS whereas 18% of the hotels get between 20% and 30% of the bookings through this channel.

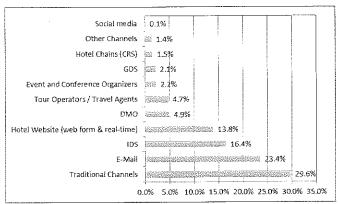


Fig. 1. Distribution Channels used by Swiss Hotels in 2011

Looking in more detail at the IDS channel, it can be observed that Booking.com (52.3%) is the most popular online distribution channel for Swiss hoteliers followed by HRS (9.4%) which also owns Hotels.de (3.9%) and Tiscover (0.4%). In 2011, classical intermediaries (such as tourism organizations or tour operators) accounted for 12.5% of all bookings.

The clustering procedure based on how hoteliers tap potential of traditional channels, electronic inquiries, online bookings, and if they still take advantage of tourism partners (RQ1.2) results in four distinct segments with a weighted simple structure index (wSSI) of 0.48. The uncertainty reduction for 50 replications yields 96.57%. The following cluster descriptions are based on the prototype tables provided by TRN32 (Mazanec, 2008). There are significant differences between the groups concerning, the location of the hotel (p=0.003), and with respect to whether a hotel

focuses on business or leisure travellers (p=0.007). Regarding the star-rating category the p-value is 0.057; thus, it is not significant at a 95% confidence level. Variance analysis shows significant results for the amount of opening days (p=0.011) and the amount of rooms available (p=0.003). Descriptions of the groups (cluster sizes in brackets) are presented below (please refer to Table 1 for further details):

Table 1. Profiles of distribution channel clusters

	Multi-channel (36.22%)	Electronic (27.55%)	Real time (13.78%)	Traditional (22.45%)
Ø amount of rooms	71.4	33.1	32.7	43.6
O number of opening days	332.2	313.0	339.0	297.4
Share of leisure guests	60.6%	80.8%	64.0%	46.5%
Share of city hotels	50.7%	18.5%	44.0%	27.3%

- Multi-channel distributors (36.22%): This group taps full potential of all possible distribution channels. In more detail, they take equal advantage of traditional distribution channels (i.e., telephone, fax, letter, and walk-ins), electronic inquiries via e-mail and reservation from, real-time online reservation (i.e., GDS, IDS, real-time booking via the hotel's website, CRS, and Social Media), and tourism partners such as tour operators, travel agencies, and DMOs. The majority of hotels located in cities belong to this group and on average these are the largest hotels offering 71.4 rooms.
- Electronic distributors (27.55%): The by far most important channels of distribution are email and online reservation forms on the hotel website. However, this majority of electronic requests is supplemented by reservations through traditional channels. Concerning location this group is characterised mainly by resort hotels.
- Real time distributors (13.78%): This group highly relies on online reservations in real-time. All other channels do play a minor role only. 64.0% of hoteliers dealing with this distribution approach are mainly addressing leisure travellers and nearly half of the hotels are located in cities.
- Traditional distributors (22.45%): Compared to "Electronic distributors" this
 group also takes advantage of electronic requests but the majority of
 reservations are done via the traditional channels namely telephone, fax,
 letter, and walk-ins. The majority of this group are resort hotels focusing on
 leisure and business travellers.

The main criteria for choosing a certain internet distribution system (see RQ1.3) is its sales strength, that means the hotels are looking for players with high booking volumes and strong marketing activities which are popular among customers in the target markets (important to very important for 94.7%). Other important factors are the popularity of the platform in the target market (91.0%) and its marketing strength and/ or market presence (89.5%). It is of interest to note that hotel presentation (i.e. pictures, video, texts, and maps) is important but it ranks below the first positions

(77.2%); the same is true for costs (i.e., fees and commissions -82.3%) and booking technology (74.9%). Other dimensions related to technology, support, additional benefits, administrative issues rank in low positions (Fig. 2).

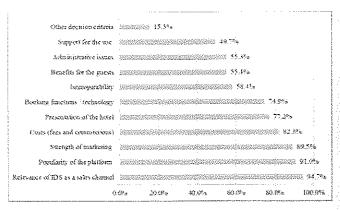


Fig. 2. Reasons to choose an Internet Distribution System

4.3 Management of distribution channels (RQ2)

When asked about their self-managed channels (RQ2), Swiss hoteliers responded as follows: 79.1% have their own website and half of them (50.8%) use an own Internet booking engine on their website. Addressing new forms of distribution such as mobile and social media channels, the answers are quite astonishing: Only 18.4% of the interviewed hoteliers have a mobile version of the website, 8.0% have got a dedicated mobile application, and 54.2% have a Facebook page. More than half of the questioned hotels (56.1%) manage their rates and availabilities manually on Internet booking platforms. There is an above-average use of "channel manager" software in 4-5 star hotels, hotel chains, business hotels as well as urban hotels. Only one out of four hotels has implemented a "channel manager" (40.3%) able to manage different distribution channels with the result of 16.9% of hoteliers selling their products on several channels offering different rates. The clustering procedure based on various modes of managing multi-channel distribution (RQ2.1) results into five groups with a wSSI of 0.80. The uncertainty reduction for 50 replications yields 92.40%. There are significant differences between the groups concerning the amount of nights sold in the year 2011 (p=0.021), the location of the hotel (p=0.007), and the star rating category (p=0.020). ANOVAs also show differences for the amount of opening days (p=0.006) and the number of rooms available (p=0.015). There is no evidence for a difference with respect to whether a hotel focuses on business or leisure travellers (p=0.183). Please note the group size of the five clusters is provided in brackets (see also Table 2 for more details).

• Pure manual management (44.90%): This group — which is the largest of the five segments - handles channel management completely manually and does not make use of any other approach at all.

- Semi-manual management (8.67%): This segment also manages channels
 manually but in combination with hotel IT systems (front office and/ or
 CRS). This approach is no option for five star hotels and one to two star
 hotels don't go for it either.
- Channel management (28.57%): This segment trusts in channel manager systems but some also manage channels manually which could be interpreted as manual checks of the software results. This is the predominant way for city hotels and hotels that have sold more than 20,000 nights in 2011.
- Hotel IT management (11.22%): This group relies strongly on hotel software systems such as the front office or CRS to manage rate and availabilities in multiple channels but also highly trusts in channel managers. Hotels belonging to this group are generally city hotels and have sold more than 10,000 nights in 2011. The segment is characterized by a high proportion of five star hotels, an average size of 68.1 rooms, and 353.2 open days per year.
- Outsourced Management (6.63%): This smallest group of hoteliers outsources the channel management task to an agency.

A cross-tab between usage of distribution channel clusters and channel management clusters shows significant results (p<0.001) indicating that more than 40% of the "Multi-channel distributors" manage distribution channels using channel management software. 46.2% of hoteliers who outsource channel management and 59.1% of "Hotel IT management" are "Multi-channel distributors". 75.9% of "Electronic distributors" do "Pure manual management" and more than half of "Traditional distributors" are composed by "Pure manual channel management".

Table 2. Profiles of channel management clusters

	Pure manual (44.90%)	Semi- manual (8.67%)	Channel (28.57%)	Hotel IT (11.22%)	Outsourced (6.63%)
Ø amount rooms	32.8	51.5	67.6	68.1	52.5
O number opening days	302.6	330.8	329.5	353.2	325.0
Share of 4-5* hotels	13.1%	20.0%	32.6%	30.0%	41.7%
Share of city hotels	19.8%	41.2%	49.1%	57.1%	38.5%

5 Discussion and conclusion

Comparing predominant booking channels revealed in this study (RQ1) with data mentioned in a German-speaking publication by Schegg and Fux in 2010 shows that direct booking channels (telephone, fax, walk-ins, e-mail, form or booking engine on own website) have been remaining the dominant sales tools for Swiss hotels (67.0% in 2011 compared to 75.4% in 2002) since 2002. Their proportion in the distribution mix has been steadily decreasing though (Schegg & Fux, 2010). The trend towards online booking channels is unbroken (RQ1.1). The sales channel with the highest growth rate is IDS which could multiply its market share within the last five years. What also emerges from the data is that in Switzerland online distribution is

dominated by Booking.com (52.3% of the IDS channel). Table 3 summarizes the development in the course of time.

Table 3. Evolution of booking shares in hotel distribution channels (data: Schegg & Fux, 2010 and present study)

Distribution Channels (2002 - 2011)	2002 (n=202)	2005 (n=94)	2006 (n=100)	2008 (n=184)	2009 (n=198)	2010 (n=211)	2011 (n=196)
Traditional Channles	44.0%	42.8%	35.6%	35.9%	31.2%	30.2%	29.6%
E-Mail	16.7%	23.2%	25.5%	26,2%	27.4%	25.7%	23.4%
IDS	2.2%	3.0%	4.0%	5.7%	10.6%	13.6%	16.4%
Hotel Website	12.6%	11.1%	13.8%	13.3%	12.7%	15.2%	13,8%
DMO	5.8%	6.1%	6.5%	6.1%	5.1%	6.2%	4.9%
Tour Operators / Travel Agents	9.8%	7.1%	6.3%	6.7%	7.4%	4.4%	4.7%
Event and Conference Organizers	3.3%	2.9%	2.8%	2.5%	2.4%	1.7%	2.2%
GD\$	2.1%	1.7%	3.1%	2.4%	2.0%	1.4%	2.1%
Hotel Chains (CRS)	2.3%	1.6%	1.5%	1.0%	0.9%	1.3%	1.5%
Other Channel	0.6%	0.4%	0.5%	0.3%	0.2%	0.3%	1.4%
Social media	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%

Further, market shares of the classical intermediaries (i.e. DMO, tour operators, travel agents, event organizers) have been declining over the last years and reached just 12.5% of all bookings in 2011 compared with 19% in 2002 (Schegg & Fux, 2010). The importance of travel agents and tour operators in the Swiss market has been nearly halved in nine years (from 9.8% in 2002 to 4.7% in 2011). The market share of the tourism organizations has been slightly declining over the last years and is now below 5% of all bookings. Generally, the discussion about cooperation among different stakeholders within the destination leading to a successful strategic and operational marketing is vivid (Bornhorst, Brent Ritchie, & Sheehan, 2010; Sheehan, Ritchie, & Hudson, 2007), especially when dealing with the use of ICTs (Dimitrios Buhalis, 2000; Fernández, Cala, & Domecq, 2011; Gretzel, Yuan, & Fesenmaier, 2000). This is a source for debates also in Swiss tourism destinations. Many hotels question the sense of using an expensive destination management system (DMS) by the local or regional tourism organisations which generates relatively few booking, loses market shares and cannot cope with the big international players in terms of marketing, technology, and strategy. Data of the present study also shows that "strength of marketing", "popularity of the platform" and "relevance of the IDS as sale channels" are the first three key factors that Swiss hoteliers pointed out for choosing an adequate IDS (RQ1.3), thus supporting the ongoing discussion between Swiss destination managers and hoteliers. Today SME hoteliers are challenged by methods available to manage multiple channels, but they also struggle with decisions regarding which channels to use. The cluster analyses show that in the Swiss hotel market many enterprises already heavily rely on multi-channel distribution (36.22%, RQ1.2) but they often still focus on a pure manual management of the various channels (44.90%; RQ2). The latter observation is in line with results from an US

survey in 2004 showing that 64% of represented properties' (n=209) channels were managed manually making real-time decisions difficult (K. P. Brewer & Kang, 2004). According to these authors many independent operators state that maintaining channels is a huge challenge because they lack experienced staff and do not have enough time for this task and they fear to lose control over the rate, inventory, or property descriptions across various channels. Thus, implications for practitioners at Swiss level are twofold: First, destination managers assisting hoteliers pertaining to sales should be aware about hoteliers' challenges and decision making process while choosing a distribution system that matches distribution strategies accordingly. Second, hoteliers should foster their presence and their management of the different channels, in particular concerning Internet distribution channels in order to save time, money, and resources. It is highly recommended to improve the coordination of the online (and offline) selling presence also in terms of rates offered. The challenges of the increasingly complex distribution with respect to rates on multiple channels and updating and coordination of room availabilities can be solved by using channel managers or modern front office systems that interface with IDS and GDS. These systems automatically update availabilities. To be competitive in a dynamic and global business environment, hotels need to increase their competencies with respect to the use of the new media (e.g., online marketing, social media, and website). At the same time hotels have to strive for cost efficiency, for example by stimulating direct bookings (e.g., via their web booking engine). Future work on the topic has to focus on more rigorous time series analysis in order to reveal developments also in terms of changing patterns regarding distribution management strategies. Moreover, the growing power of OTA/ IDS and the possible dependency of hotels is a recurrent topic in the industry and raise fundamental questions which should be addressed by academia: Can or should the (fragmented) hotel sector fight against an oligopoly of global booking portals? Is the increasing power of the "new online" intermediaries a thread (e.g., unfair market practices, high commissions, and decreasing profit margins) or an opportunity (e.g., efficient global online market reach) for individual hotels? Another research stream should focus on the performance and in particular on profitability of different distribution strategies.

6 References

Bornhorst, T., Brent Ritchie, J. R., & Sheehan, L. (2010). Determinants of tourism success for DMOs & DMOS

Brewer, K. P., & Kang, B. (2004). Managing Electronic Distribution Channels in Hotel Booking: Issues In A Changing Environment. Ithaca, New York: Cornell University.

Brewer, P., Feinstein, A. H., & Bai, B. (2006). Electronic channels of distribution: challenges and solutions for hotel operators. FIU Hospitality and Tourism Review, 24(2), 68-77.

Buhalis, D. (2000). Marketing the competitive destination of the future. *Tourism Management*, 21(1), 97-116.

Buhalis, D. (2003). ETourism: information technology for strategic tourism management. Harlow, England: Financial Times Prentice Hall.

Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research. *Tourism Management*, 29(4), 609-623.

- Carroll, B., & Siguaw, J. (2003). The evolution of electronic distribution: Effects on hotels and intermediaries. The Cornell Hotel and Restaurant Administration Quarterly, 44(4), 38-50.
- Chung, T., & Law, R. (2003). Developing a performance indicator for hotel websites. International Journal of Hospitality Management, 22(1), 119-125.
- Enz, C. A. (2003). Hotel pricing in a networked world. The Cornell Hotel and Restaurant Administration Quarterly, 44(1), 4-5.
- Fernández, J. I. P., Cala, A. S., & Domecq, C. F. (2011). Critical external factors behind hotels' investments in innovation and technology in emerging urban destinations. *Tourism Economics*, 17(2), 339-357.
- Gretzel, U., Yuan, Y.-L., & Fesenmaier, D. R. (2000). Preparing for the New Economy: Advertising Strategies and Change in Destination Marketing Organizations. *Journal of Travel Research*, 39(2), 146-156.
- Grønflaten, Ø. (2009). Predicting Travelers' Choice of Information Sources and Information Channels. *Journal of Travel Research*, 48(2), 230-244.
- Hong-bumm, K., Seonok, H., & Hye-young, M. (2012). The Impact of Hotel Property Size in Determining the Importance of Electronic Distribution Channels. *Journal of Hospitality and Tourism Technology*, 3(3).
- Ip, C., Leung, R., & Law, R. (2011). Progress and development of information and communication technologies in hospitality. *International Journal of Contemporary Hospitality Management*, 23(4), 533-551.
- Kasavana, M. L., & Singh, A. J. (2002). Online auctions: dynamic pricing and the lodging industry. *Journal of Hospitality & Leisure Marketing*, 9(3/4), 127-140
- Kracht, J., & Wang, Y. (2010). Examining the tourism distribution channel: evolution and transformation. *International Journal of Contemporary Hospitality Management*, 22(5), 736 - 757.
- Ku, E. C. S., & Fan, Y. W. (2009). The decision making in selecting online travel agencies: An application of analytic hierarchy process. *Journal of Travel & Tourism Marketing*, 26(5-6), 482-493.
- Lau, K.-n., Lee, K.-h., Lam, P.-y., & Ho, Y. (2001). Web-site marketing: for the Travel-and-Tourism Industry. The Cornell Hotel and Restaurant Administration Quarterly, 42(6), 55-62.
- Law, R. (2009). Disintermediation of hotel reservations: The perception of different groups of online buyers in Hong Kong. *International Journal of Contemporary Hospitality Management*, 21(6), 766 - 772.
- Law, R., & Cheung, C. (2006). A study of the perceived importance of the overall website quality of different classes of hotels. *International Journal of Hospitality Management*, 25(3), 525-531.
- Law, R., & Jogaratnam, G. (2005). A study of hotel information technology applications. International Journal of Contemporary Hospitality Management, 17(2), 170 - 180.
- Li, X., Pan, B., Zhang, L., & Smith, W. W. (2009). The Effect of Online Information Search on Image Development. *Journal of Travel Research*, 48(1), 45-57.
- Martinetz, T. M., & Schulten, K. J. (1991). A "neural-gas" network learns topologies. In T. Kohonen, K. Mäkisara, O. Simula & J. Kangas (Eds.), Artificial Neural Networks (pp. 397-402). Amsterdam: North-Holland.
- Mazanec, J. A. (2008). TRN32 for Windows.
- Morosan, C., & Jeong, M. (2008). Users' perceptions of two types of hotel reservation Web sites. *International Journal of Hospitality Management*, 27(2), 284-292.
- O'Connor, P. (2001). Room rates on the internet is the web really cheaper? *Journal of Services Research*, 1(1), 57-72.
- O'Connor, P., & Frew, A. J. (2002). The future of hotel electronic distribution: expert and industry perspectives. Cornell Hotel and Restaurant Administration Quarterly, 43(3), 33-45.
- O'Connor, P., & Frew, A. J. (2004). An evaluation methodology for hotel electronic channels of distribution. *International Journal of Hospitality Management*, 23(2), 179-199.

- PhoCusWright. (2009). Online travel will decline for the first time in 2009. Retrieved 31.08.2012: www.travelindustrywire.com/article38363-Online_Travel_Will_Decline_for the First Time in .htm
- PriceWaterhouseCoopers. (2003). *Innovation Survey*. London: Price Waterhouse and Coopers & Lybrand.
- Rao, V. B., & Smith, B. C. (2006). Decision support in online travel retailing. *Journal of Revenue and Pricing Management*, 5(1), 72-80.
- Rong, J., Li, G., & Law, R. (2009). A contrast analysis of online hotel web service purchasers and browsers. *International Journal of Hospitality Management*, 28(3), 466-478.
- Schegg, R., & Fux, M. (2010). Die Bedeutung des Online-Vertriebs in der Schweizer Hotellerie. Jahrbuch der Schweizer Hotellerie, hotelleriesuisse und Schweizerische Gesellschaft für Hotelkredit, 101-104.
- Sheehan, L., Ritchie, J. R. B., & Hudson, S. (2007). The Destination Promotion Triad: Understanding Asymmetric Stakeholder Interdependencies Among the City, Hotels, and DMO. Journal of Travel Research, 46(1), 64-74.
- Toh, R. S., Raven, P., & DeKay, F. (2011). Selling Rooms: Hotels vs. Third-Party Websites. Cornell Hospitality Quarterly, 52(2), 181-189.
- Tso, A., & Law, R. (2005). Analysing the online pricing practices of hotels in Hong Kong. *International Journal of Hospitality Management*, 24(2), 301-307.