Who Are the Tourists Booking Their Accommodations Online? A Segmentation Study of the Cracow Market

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Abstract
Internet and related technologies have revolutionized the distribution process in the accommodation sector, giving priority to big, online intermediaries, often at the expense of the direct booking channels of small and medium independent hotels. In order to regain their independency and flexibility in distribution strategy, hotel managers need to learn more about the profiles of contemporary online bookers visiting their region. This paper aims to contribute to the understanding of similarities and differences between consumers choosing among various online distribution channels for their tourist accommodations, and therefore help accommodation providers better manage their distribution and marketing strategies. The study is based on primary data that were collected among tourists in Cracow using a convenience sampling. The collected data was sorted, grouped and analyzed using basic statistical tools. The analysis led to determination of the size, as well as socio-demographic, and consumption features of four groups of tourists according to the online accommodation channel they used: booking.com, airbnb.com, other online channels, or online directly. The findings confirm the important role played by OTAs in the distribution of accommodation services, whereas the rate of direct online bookings recorded was lower than expected. Given the predominance of Booking.com in the market, its clients represent the typical customer in Cracow. Nevertheless, some differences among the four groups are observed in terms of age, travel party composition, first vs. repeat visitors, country of residence, length of stay, daily accommodation expenditure, and type of accommodation.

Keywords: online booking, accommodation sectors, customer hotels segmentation

JEL: M31, Z33

Introduction
Information and Communication Technologies (ICT) have had a huge impact on the development of the hotel sector, revolutionizing its everyday functioning and management (Buhalis 2003; Law 2009). They have given hotels a chance to improve distribution processes and thus to increase the number of reservations and direct sales (Bennett and Lai 2005; Sidorkiewicz and Tokarz-Kocik 2009). It was even believed that direct booking enabled by ICT development would substantially reduce the role of brokers in the processes of distribution of hotel services (Tse 2003). However, the appearance of Online Travel Agents (OTAs) has in reality lead to a re-intermediation (Bennett and Lai 2005; Bieluszko, Kubicki, and Pawlicz 2015; Stangl, Inversini, and Schegg 2016). In fact, the new intermediaries turn out to be increasingly powerful in terms of Internet readiness and economic force (Morosan and Jeong 2008). Their advantage over hotels comes from the comprehensive
services they offer, including products of many tourism providers, and platforms for customer exchange of ratings and opinions (O’Connor 2008), as well as the knowledge from data mining, which allows them to profile their customers, adjust mailing campaigns and loyalty programs, and sell tourist products in various ways (Kachniewska 2014; Toh, Raven, and DeKay 2011). The other significant evolution in the tourism accommodation market brought by the Internet has been the rise of the sharing economy, embodied by Airbnb. The highly dynamic development of the latter online platform, as well as the increasing number of hoteliers’ protests and sanctions in the largest destinations in the world, made Airbnb change its business model and invite hotels to cooperate in early 2018. Thus, today the most important competitors of the service are the world’s largest OTAs (Menze 2018). OTAs, on their part, responded to the emergence of Airbnb with inclusion in their portfolio of “non-standard accommodations” (i.e., private houses or apartments).

In 2016, the share of OTAs in the online travel market amounted to 39% and was predicted to reach 41% in 2020.¹ Currently, the largest competitors among OTAs in the world (in terms of the number of visitors) are Booking.com, TripAdvisor, YahooTravel, Expedia, and Priceline.² In Europe, nearly 70% of all hotel reservations are made via OTAs, with Booking.com being an undisputed leader;³ while the second largest channel is represented by reservations made directly via hotel websites (Wykurz 2018). Obviously, these statistics vary depending on the specificity of the accommodation supplier — some rare hotels rely mainly on direct reservations, while in others, mainly urban ones, reservations via OTAs exceed 80%. In large international hotel chains only 10% of reservations are made via OTAs, whereas in independent hotels, this figure reaches even 70%.⁴ On the other hand, the Hospitality Sales and Marketing Association International estimates that one out of four online reservations in independent hotels comes from their own websites (the other three are made via OTAs).⁵

As OTAs attract considerable tourist interest, many hotels are left with hardly any option but to sell a large proportion of their inventory through the intermediaries, often at discounted rates, paying a commission fee (Carroll and Siguaw 2003). Moreover, this cooperation requires them to standardize product presentation, give up on individualization of the marketing message, to use rate parity, as well as lower prices, and block allotment. Importantly, direct booking may be more beneficial not only for the hotels, but also for the consumers, as the prices offered directly by the hotels are usually lower than via OTAs (Greenwood 2017). Thus, accommodation providers, especially independent, small and medium sized hotels, could gain by applying a more strategic approach to the distribution of their services based not only on constant evaluation and managing cooperation with various OTAs, monitoring pricing and occupancy, but also on engaging resources in the development of direct channels, e.g., via social media (Toh, Raven, and DeKay 2011). To this purpose, they should know the profiles of tourists booking accommodation via different online distribution channels as well as understand the patterns of their behavior.

This paper aims to contribute to the understanding of similarities and differences between consumers choosing different online distribution channels for their tourist accommodation, and therefore help accommodation providers to better manage their distribution and marketing strategies. The main objective of this research is to estimate profiles of tourists in Cracow who have personally booked their accommodation according to the reservation channel of their choice. The secondary objective is to estimate the size of the segments thus determined.

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¹ See: Hotel and Mobile Boost OTA Online Bookings. [accessed 2018.11.05], [@:], https://revenue-hub.com/hotel-mobile-boost-ota-online-bookings/.
1 Literature review

Consumer market segmentation is used to divide a heterogeneous mass market into mutually exclusive and homogenous market segments — i.e., sub-groups of potential or existing consumers sharing some type of characteristics describing their demand functions. It enables marketers to identify the most profitable segments, to define the profiles of their consumers, and to target them with a dedicated marketing mix (Kotler, Bowen, and Makens 1999). Nowadays, the concept is broadly used in research and the practice of marketing, both in consumer and institutional markets.

In the hospitality industry market segmentation is conducted with the use of a variety of variables, models, and techniques (Bowen 1998). Apart from typical socio- and geo-demographic or spending variables, the criteria mainly used in the hospitality context are: destination choice (Kim, Noh, and Jogaratnam 2007; Pearce and Schott 2011), travel motivations (Gnoth 1997), trip purpose (Bowie and Buttle 2004), frequency and number of trips (Goldsmith 1999), travel party composition and size (Tideswell and Faulkner 1999), length of stay (Loker and Perdue 1992), type and attributes of accommodation (Chung et al. 2004; Inbakaran and Jackson 2005), and reservation channel.

Originally, the reservation channel in tourism served as a segmentation criterion to divide the market into travelers booking their products directly versus indirectly (Duke and Persia 1994). Subsequently, the emergence of the Internet enlarged the possibilities of both direct and indirect reservation channels and provoked an investigation into offline versus online reservation tourist behavior. However, researchers have mainly compared profiles of adopters and non-adopters of online booking channels (Card, Chen, and Cole 2003; Del Chiappa and Zara 2015; Wolfe, Hsu, and Kang 2004), while there have been few comparisons of consumer profiles based on different online reservation channels. In the latter field, Beldona, Racherla and Das Mundhra (2011) have shown for air travel ticket purchases in India that age, education, nature of Internet usage orientation, and time spent online serve as key differences between clients using different kinds of both offline and online channels (traditional travel agent, online travel agent, organization’s travel agent, airline’s: phone, office, or web site). Within hospitality research, Qi, Law and Buhalis (2013) have studied the demographic profiles of clients of five-star hotels in Macau according to their booking behavior, considering not only offline channels (and the reasons not to use the Internet) but also different online alternatives: hotel website, Agoda, Booking.com, C-trop, e-long, Expedia, Hotels website, Qunar, and others. They have found that most of the clients used the hotel website directly, and that more female guests booked through Agoda and Qunar, while more males used Booking.com and Hotels.com. Moreover, younger and middle-aged clients had a preference for Agoda, C-trop, and hotel websites (with some nationality differences). Still, due to the limitations of the sample in this study, the statistical inference could be drawn only about differences between guests booking online vs. offline. In a more recent study, Masiero and Law (2016) analyzed a set of more than 2 thousand reservations in 2011 in Ascona-Locarno (Switzerland) comprising both hotel guest profiles and hotel characteristics for four distribution channels: hotel website, online travel agencies, Destination Marketing Organization (DMO) website, and DMO call center. Their method of analysis didn’t directly show the differences between customer segments but allowed them to conclude that the length of stay, travel party size, advance in booking, and domestic vs. international permanent residence, have significant impact on the probability of the choice of the channels under consideration.

Simultaneously, there has been some limited research on characteristics of customers of one of the possible reservations channels. Notably, Murphy, Dang and Chen (2015) compared profiles of customers in Hoi An (Vietnam) using hotel websites versus other guests (using either OTA, reservations centre, fax or mail). They found significant differences in age and length of stay between both groups (while education, length of flight or of frequency of browsing activities didn’t prove to be differentiating factors). Moreover, in the sharing economy literature, there have been a few studies on profiles of Airbnb customers, notably Poon and Huang (2017) paralleled profiles of Airbnb users 6. For a review of articles related to online travel purchasing see Amaro and Duarte (2013).
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vs. non-users, Lutz and Newlands (2018) segmented Airbnb users according to the type of property shared (shared room vs. entire home), while Guttentag et al. (2018) defined profiles of consumers clustered on the basis of their motivation in choosing Airbnb.

The heterogeneity of consumers in tourism calls for a meaningful and practical application of segmentation in this domain. An a priori segmentation based on distribution channel seems to be one of the easiest to apply in practice, as it is possible for the hospitality managers to estimate the profitability of channels and offer a different marketing-mix in each of them.

The research summarized above indicates, however, that this kind of segmentation within online distribution options is quite limited. Notably, to the best of the authors’ knowledge, there are no studies comparing Booking.com versus Airbnb users. Therefore, this study was designed to fill this research gap and to profile tourists based on which online reservation channel they used when planning a visit to Cracow (the most popular tourist destination in Poland).

2 Method

The study is based on primary data that were collected among tourists in Cracow from April 1, 2018 to May 1, 2018. Convenience sampling was used, with as many tourists as possible asked to complete the questionnaire in the most popular tourist attractions of the Cracow agglomeration (such as the Main Market Square in Cracow and Wieliczka Salt Mine), as well as in tourist transportation (including excursion buses to Auschwitz), sightseeing tours in the Cracow Old Town, and Cracow Airport departure hall. The potential respondents were first asked if they were staying more than one day in Cracow, and after receiving an affirmative answer, the survey was conducted. In this way, 710 tourists properly completed the survey.

The paper questionnaire was developed both in English and Polish language versions. It consisted of 18 questions. The variables were measured on the nominal and ordinal scales. All of them were assigned into one of three main categories: socio-demographic profile, tourist stay characteristics, and consumption variables. A pilot testing of the questionnaire revealed no problems. The data analysis consisted of three main steps. First, the answers were sorted by the declared reservation channel to get the overall structure of reservation choices of tourists in Cracow. However, only surveys filled in by tourists who personally used online booking for a commercial accommodation were included in the main analysis — i.e., profile estimation (n = 402). In the second step, it was verified whether the number of observations in each category would allow researchers to use selected statistical tests. In some cases (i.e., age, trip purpose, and occupation), observations were grouped into larger categories than the intervals specified in the survey. In the third stage, chi-square tests and Cramer’s V coefficients were conducted to check whether the differences between channels were statistically significant and to determine the levels of association between reservation segment and profiling variables. As only basic statistical tools were used in this study, all of the formulas were calculated using Microsoft Excel spreadsheet.

3 Results

In general, out of 710 surveys collected at the beginning, 121 (17%) came from individual tourists who did not book their accommodation personally, 90 (13%) from group tourists, 37 (5%) from tourists staying with family or friends, and 4 (1%) from tourists using other free accommodation (couchsurfing.com). Thus, 458 surveys came from tourists having personally booked a paid accommodation. Of this number, 33 persons booked with traditional travel agents, while 23 made reservation directly offline. The remaining 402 surveys were filled in by tourists who booked their accommodation personally online. Only these surveys were included in the main analysis.

According to the collected data the structure of individual accommodation bookings in Cracow was dominated by online channels (tab. 1). In fact, 88% of individual reservations were made online. Within online channels, Booking.com was the uncontestable leader of the online distribution (52% of online channels), and Airbnb held the second position (18% of online channels). As the shares of other OTAs did not exceed 5%, in the subsequent analysis they were aggregated into one channel
called “other online” (together with the website of the city of Cracow, which was indicated by less than 1% of respondents). Similarly, two direct online channels (supplier’s e-mail and website) were merged into “online directly.” In sum, four online reservation channels were used to segment the guests: Booking.com (53%), Airbnb (18%), other online (21%), online directly (8%).

In the profiling of the consumers of the four segments, socio-demographics, tourist stay characteristics, and consumption variables were used. Considering the socio-demographic variables (tab. 2), young people (under 35) prevailed in the sample. Moreover, the young preferred Airbnb and were less likely to use direct online channels (supplier’s website or e-mail). In fact, age was the only demographic variable statistically differentiating the four segments. Looking at other variables one can see that men were overrepresented in Airbnb in comparison to the total population, but chi-square tests showed that this difference was not statistically significant. Regardless of online distribution channel, most of the guests (more than 70%) earned less than EUR 1 000, or over EUR 2 000. The majority of the tourists claimed to have undertaken higher education.\(^7\)

Profiling with the use of variables describing tourist stay in Cracow (tab. 3) revealed that couples and adult groups were the most popular travel party compositions, 59% of the tourists in the segments were visiting Cracow for the first time, most of them came from abroad (69%), they stayed in the destination for 3–4 days (62%), traveled without children (89%), and for leisure purposes (67%). However, the main result of this part of the analysis was that the features of tourist stay differentiate the segments the most. Travel party composition, number of visits, origin, and the length of stay were the variables statistically discriminating among the booking channels used. Tourists visiting Cracow for the first time and guests from abroad booked accommodation through Airbnb and OTAs other than Booking.com more often than the rest of respondents. On the other hand, direct online booking was used especially by domestic travelers and those who had already been in Cracow before. This method was also relatively more popular among solo tourists, as well as visitors who slept in Cracow only 1 or 2 nights. The longest reservations were made by other online channels unexpectedly often.

\(^7\) [In the journal European practice of number notation is followed—for example, 36 333,33 (European style) = 36 333.33 (Canadian style) = 36,333.33 (US and British style).—Ed.]
Among consumption variables (tab. 4), the only variable statistically different among the segments were daily accommodation expenditures, which were relatively high among tourists booking online directly and relatively low among tourists making a reservation with Airbnb. Other types of tourist expenditure (food and beverages, tourist attractions) were similar in all four segments. Concerning accommodation type, middle-class hotels, apartments, and premium hotels were the most-used types of accommodation in all segments but Airbnb. On the other hand, the original specialization of Airbnb in the apartment sector of the market was clearly visible.
To sum up the above results, there were some significant differences among the tourists in the four segments in terms of: age, travel party composition, first visit, country of residence, length of stay, or daily accommodation expenditure. Nevertheless, the strength of association between these variables and reservation channel was no more than moderate ($V < 0.25$; see tab. 2, 3, and 4). The number of visits ($V_{\text{FIRST VISIT}} = 0.24$) and the country of residence ($V_{\text{RESIDENCE}} = 0.23$) differentiated the segments to the greatest extent. A special case was a very strong association of apartment type of accommodation looked for by tourists and the Airbnb platform ($V_{\text{APARTMENT}} = 0.52$).

Regarding the whole online booking market for individual travelers in Cracow, the predominance of Booking.com was clear. As a result, the clients of Booking.com represented the typical customers in this market. Their profile could be characterized as follows: a person under 35 years old, earning either below EUR 1,000 or over EUR 2,000, typically a foreigner, with higher education level, visiting Cracow for the first time, for leisure purposes, usually for 3–4 days, travelling as a couple or in a group of adults without children, and spending less than EUR 40 for each of the following: accommodation (premium and middle class hotels, apartments), food and drinks, or tourist attractions.

The similarities of consumers from other online segments with Booking.com users existed mainly in terms of their gender, education, monthly income, type of accommodation (with the exception of apartments), or daily expenditures on food, beverages, and tourist attractions. Apart from the low level of spending of most tourists (up to EUR 40 per day), the distribution of these variables

| Tab. 4. Consumption variables (in %, within the four attributes separately) |
|-----------------------------|------------------|-----------------|-----------------|-----------------|------------------|
| Attribute                   | Total* booking.com | airbnb.com | other online | onlineb        | Chi-square | Cramer’s V |
| Daily accommodation expenses  |                   |             |               |                 |           |        |
| $< 20$                      | 24                | 22           | 34             | 21              | 19        |
| $20–39$                     | 32                | 32           | 39             | 30              | 19        |
| $40–59$                     | 23                | 21           | 20             | 26              | 29        |
| $> 60$                      | 22                | 25           | 7              | 22              | 32        |
| Daily food and beverages expenditures  |                   |             |               |                 |           |        |
| $< 20$                      | 29                | 29           | 27             | 28              | 32        |
| $20–39$                     | 34                | 39           | 32             | 31              | 16        |
| $40–59$                     | 21                | 17           | 25             | 26              | 29        |
| $> 60$                      | 16                | 15           | 15             | 15              | 23        |
| Daily tourist attraction expenditures  |                   |             |               |                 |           |        |
| $< 20$                      | 29                | 34           | 30             | 17              | 35        |
| $20–39$                     | 36                | 34           | 32             | 40              | 45        |
| $40–59$                     | 18                | 18           | 15             | 24              | 6         |
| $> 60$                      | 17                | 15           | 23             | 19              | 13        |
| Type of accommodation       |                   |             |               |                 |           |        |
| hostel                      | 16                | 14           | 3              | 20              | 16        |
| budget hotel$^d$             | 7                 | 8            | 2              | 3               | 13        |
| middle-class hotel$^d$       | 31                | 28           | 2              | 38              | 32        |
| premium hotel$^d$            | 21                | 24           | 1              | 15              | 16        |
| apartment$^d$                | 25                | 26           | 92             | 24              | 23        |

*Total online channels  
*bOnline directly  
*cIn EUR  
$d$Classified according to hotel categorization: one and two stars — budget hotel, three stars — middle-class hotel, four and five stars — premium hotel  
*eThe test does not include Airbnb.com (due to the low number of observations for accommodation in hotels and hostels)  
*fThe tests regard only apartments vs. all other types of accommodation (due to the methodological limitations of chi-square test)  
*$p < 0.05; **p < 0.01; ***p < 0.001
was relatively regular. As a result, online accommodation managers may target clients regardless of their level of income, gender, and accommodation preferences.

However, there were some differences between a typical tourist profile represented by Booking.com users and clients of other online reservation channels. In particular, reservations with Airbnb were made relatively more often by young people, who are not traveling alone. The sharing platform was also more often used by tourists from abroad than domestic visitors, and tourists who, to a larger extent than others, looked for cheaper accommodation options, mainly in the form of an apartment. On the other hand, other OTAs (and the Cracow website) were used relatively more by tourists staying longer than four days and spending the most on accommodation. This meant that for longer stays and higher expectations, tourists tried to make more clearly thought-out purchases, looking for accommodation outside the offers of market leaders. Users of online direct reservation options (supplier website or e-mail) were relatively more solo and older travelers, repeat and short-stay visitors, as well as domestic guests.

**Discussion and conclusions**

The study set out to identify the relative number and profiles of tourists coming to Cracow on the basis of the online reservation channel they used to book their accommodation. The findings confirmed the important role played by OTAs in the distribution system of accommodation services in Cracow. The undisputed leader was Booking.com followed by Airbnb. A significant share of accommodation booking made via Booking.com seemed to be part of the trends prevailing in Europe. However, the very low rate of direct online bookings (7% of total individual booking online, 6% of all individual booking) could be worrying for hospitality managers. That share was considerably lower than the findings of Qi, Law and Buhalis (2013) who found that most reservations were made directly via hotel websites. This inconsistency could be probably explained by the years of both research projects—the last five years have witnessed a dynamic development of OTAs. Moreover, a more recent study carried out by Masiero and Law (2016) showed that in Swiss hotel facilities the share of online direct booking was quite small (circa 6%), matching our findings in Cracow. Nevertheless, caution must be applied when comparing the exact rates from different studies due to their different definitions of the total market—the focus of the presented research was on tourists personally booking their accommodation online (comprising different categories of tourist accommodation), while the above mentioned studies (and most of the publicly available statistics) regarded only hotel rooms, often without differentiating between individual and group tourists.

Concerning the profiles of tourists booking their accommodation via different online channels, the study showed more similarities than differences among them, especially in terms of tourists’ income, expenditure other than accommodation spending, gender, education, and accommodation preferences (with an important exception of apartments). Nevertheless, some moderate differences were seen between first time vs. repeat visitors, as well as domestic vs. foreign tourists. Moreover, some minor differences were observed in tourists’ age, travel party composition, length of stay, and accommodation expenditure. In particular, these results confirmed findings of other studies indicating that the probability of using a direct online booking compared to online intermediaries was positively correlated with tourist age (Murphy, Dang, and Chen 2015), domestic residence, and accommodation expenditure (Masiero and Law 2016). On the other hand, the research found that tourists choosing direct online booking stayed for shorter periods than others, which contradicted the results of the latter study.

In general, the results of this study contribute to the understanding of consumer behavior in the hospitality market in a phase of turbulence caused by the online revolution. The findings may be helpful especially for Cracow hoteliers in their effort to increase direct bookings, diversify their OTA partners, and face the expansion of Airbnb. As important differences in OTAs popularity between countries are observed (Stangl, Inversini, and Schegg 2016), future research should verify the pertinence of our findings in other markets.
References


