Content analysis of hotel reviews as a quality management tool: Preliminary verification of the SERVQUAL scale

Elżbieta Wąsowicz-Zaborek[a] (iD)

[a] SGH Warsaw School of Economics (Poland), Collegium of World Economy, Department of International Business, https://orcid.org/0000-0001-8422-4383, e-mail: ewasowi@sgh.waw.pl

ABSTRACT

The purpose of this paper is to identify the main factors for the quality of hotel services and to verify the SERVQUAL measurement scale commonly used in the services sector. In order to achieve this goal, an innovative approach of quantitative and qualitative content analysis of reviews published by users of the reservation portals Hotels.com and Booking.com was used. The study was based on more than 167,000 opinions on 3,4,5-star hotels located in Warsaw. They were 'scraped' with an indexing robot. The research outlines a list of the most important topics raised in those comments which correspond to the factors of perceived service quality of hotels. Among these are location, room attributes, cleanliness, breakfast and staff. In addition, the most important criteria used by customers to describe each of the listed elements are also reported. The results made it possible to identify differences between the operationalization of the constructs indicated in the SERVQUAL scale and the descriptions of each factor in the spontaneous comments of internet users. Thus, the need for adjustment to the current operationalizations of the SERVQUAL model to better reflect the sentiments of consumers in the hotel industry, or even developing a completely new tool for measuring service quality, was demonstrated.

KEYWORDS

service quality, SERVQUAL method verification, OTA, analysis of opinions published online

1. INTRODUCTION

Increasing globalization and liberalization are affecting the economies not only in developing countries, but also in developed ones. The focus of organizations is also changing from profit maximization alone to maximizing profits through increasing customer satisfaction. Competitive pressures, fueled by unprecedented access to information, are forcing organizations to pay attention not only to processes, but also to how they are executed. In the 21st century,

also due to the constraints of the COVID-19 pandemic, the business scenario has changed dramatically. The competitive environment that companies face today, regardless of whether they offer physical products or services, makes it crucial for them to be aware of and recognize the benefits of high quality offerings. With its strong impact on perceived customer satisfaction, as well as its influence on customer loyalty, it is essential for a company to gain a competitive advantage (Cronin, Taylor, 1992; Fernandes, Solimun, 2018; Yang, 2003; Zeithaml, Parasuraman, Malhotra, 2000).

Quality should therefore be considered a strategic instrument in service companies' attempts to achieve their business objectives. However, the service product, due to its intangibility and high variability, is not easy to describe unambiguously. Thus, defining and studying its quality is challenging. In addition, it should be noted that a tourism service has hedonic, aesthetic and emotional components that are not often inherent to other services, such as finance or machine repair. Tourism services are also seen as a unique product because of the tangible and intangible elements that are part of it, and which affect the tourist's experience (Poon, Low, 2005). Because hotel services are categorized as high-contact services, hotel customers participate in a specific experience. As a result, hotel managers and employees must be able to transform all interactions with guests into a positive experience. A service provider's success depends on the understanding of the fundamental drivers of consumer requirements and meeting those requirements in such a way that guests are satisfied on their very first visit (Juwaheer, Ross, 2003). As a result, customer-oriented hotel companies should identify the needs of their target audience and design the service encounter process accordingly.

Conventionally, companies conduct surveys in order to see the actual level of satisfaction among customers. Based on the results of such studies, they make arrangements to improve quality by enhancing the performance of those aspects that seem to lower satisfaction. By contrast, thanks to the Web 2.0 technologies that involve Web users in co-creation of content available on the internet, it is possible to track their sentiment regarding consumed services. Despite the fact that User Generated Content (UGC) on the Web is widely available, and online published opinions on hospitality services are a valuable and reliable source of information, there is still a lack of research on the use of this source of information. Most authors continue to conduct research on small samples, often referring to small local populations.

This paper presents an innovative approach to assessing the quality of hospitality services. It relies on data from user comments on reservation portals (Booking.com and Hotels.com) rather than data collected with survey questionnaires, which was the most common method in past research. The findings allow the goal of the study which was the identification of factors that most affect the quality of service, as well discussion of the shortcomings of the SERVQUAL and SERVPERF measurement tools commonly used by researchers and practitioners, to be achieved.

The article begins with a comprehensive literature review. The following section presents a description of the research method and the results obtained. A summary and discussion are included at the end.

2. LITERATURE REVIEW

For more than four decades, researchers have been interested in the topic of service quality. Many of them have attempted to define the concept of quality in the service sector, define its essence and identify the most important factors influencing the final quality of the service. Because of its intangible nature and the customer's involvement in the entire process of its creation, as well as its high variability, the service product is difficult to describe unambiguously. Thus, defining and studying its quality is also a challenge. According to Grönroos (1984), service quality consists of functional quality (the way the service is delivered) and technical quality (the result of service performance). Quality in a service organization is "a measure of the extent to which the delivered service meets the customer's expectations" (Ghobadian, Speller, Jones, 1994). For most services, the customer is present during the process of service delivery. This means that perceived quality is influenced not only by the service outcome, but also by the service process. Perceived quality lies on a continuum, with unacceptable quality at one end and ideal quality at the other. The points in between represent different degrees of quality. A particular point on the continuum is determined by comparing the customer's previous expectations with the actual service delivery process and the service outcome (Ghobadian, Speller, Jones, 1994). A conceptual model (known as the gap model) depicting the moments leading to discrepancies between the expected and perceived service was presented in 1985 by Parasuraman et al. (1985).

Understanding the essence of service quality is the starting point for determining why service provision is rated highly or poorly. In the literature, several basic approaches that refer to different concepts for defining the dimensions of service quality can be found. One of them, authored by Parasuraman, Zeithaml and Berry, includes five basic areas. These authors developed (Parasuraman, Zeithaml, Berry, 1985) and later refined (Parasuraman, Zeithaml, Berry, 1988, 1991) the SERVQUAL method for measuring service quality. According to the premise of this method, service quality should be measured by identifying the gaps between customers' service expectations and their perception of how service providers actually perform. If expectations are met or exceeded, service quality is perceived as satisfactory. SERVQUAL was initially based on ten original dimensions of service quality (Parasuraman, Zeithaml, Berry, 1985). Following additional research, these dimensions were reduced to five: tangibles, reliability, responsiveness, assurance and empathy (Parasuraman, Zeithaml, Berry, 1988).

The SERVQUAL scale has been used to measure quality in various service sector industries (Bojanic,

Rosen, 1994; Bouman, van der Wiele, 1992; Purcărea, Gheorghe, Petrescu, 2013), including the hotel industry (Kumar, Banga, Thapa, 2011; Wrukowska, 2019). Despite its value and popularity, it has received significant criticism since its inception. Much of the critique of SERVQUAL has focused on the use of expectations as the benchmark for measuring service quality. Many researchers (Babakus, Boller, 1992; Brady, Cronin, Brand, 2002; Cronin, Taylor, 1992, 1994) have emphasized that expectations do not add value to the measurement of service quality. As a result, they proposed that service quality be measured using an outcomes-only approach rather than the SERVQUAL scale, which employs the concept of gaps. So, the SERVPERF tool was offered as an alternative to the SERVQUAL scale (Cronin, Taylor, 1992, 1994). The modified method uses the same scale based on the same dimensions of service quality (i.e. tangibles, responsiveness, assurance, reliability and empathy), but omits expectations and evaluates only perceived service quality. In recent years, the SERVPERF scale, which is easier to use for practitioners, has been employed to measure service quality in a variety of service industries (Nguyen, Chaipoopirutana,

Combs, 2011; Yao, Ding, 2011), including hotels (Nadiri, Hussain, 2005).

However, a review of the literature reveals that rather than implementing the recommended tool with the original operationalizations of its constructs (dimensions of service quality), many authors adapt and modify the scale to fit the specifics of the analyzed service industries. Researchers investigating service quality in specific industries, such as hospitality services, indicated a need to expand the list of quality dimensions to include more items or interpreted those already identified by the authors of the SERVQUAL and SERVPERF methods in different ways.

Wilkins et al., (2007), for example, identified three main areas of service quality: tangible product, service experience, and food and beverage quality. Mmutle and Shonhe (2017), on the other hand, discovered a positive relationship between front-line employees' personality traits and guests' perceptions of service quality. The following table shows selected approaches to the study of service quality over the last three decades in hotels, the research methods used, and an indication of the quality dimensions developed as a result of the analyses.

Table 1. Approaches to studying service quality measurement scales and quality dimensions

Author and year	Brief overview	Quality dimensions of hotel services
Knutson et al., 1990	The authors created a scale named LODGSERV. The 5 dimensions of quality taken from SERVQUAL were first operationalized with 36 statements (using a 7-degree Likert scale) to be reduced to 26 statements.	tangibles, reliability, responsiveness, assurance, empathy
Oberoi, Hales, 1990	The authors operationalized the two dimensions describing service quality (the tangible element and the intangible element) with a total of 23 statements.	tangibles, intangibles
Saleh, Ryan, 1991	The authors used the service quality dimensions from the SERVQUAL method but operationalized them with 33 statements using a 5-degree Likert scale.	tangibles, reliability, responsiveness, assurance, empathy
Webster, Hung, 1994	The authors took as their starting point the SERVQUAL model with the original 10-dimensional scale. However, they made considerable modifications by developing 10 items describing 8 dimensions of their own and abandoning two questionnaires in favor of a single one examining both perception of the service provided and customer expectations. They used a scale of –2 to 2.	tangibles, reliability, communication, responsiveness, security, courtesy, understanding, access
Frochot, Hughes, 2000	The authors developed a scale called HISTOQUAL to measure service quality in historic lodging facilities. It includes five dimensions of quality operationalized with 24 statements on a five-point Likert scale. The starting point for the development of the scale was the SERVQUAL model supplemented with additional dimensions and with statements adapted to the specifics of the service under consideration.	tangibles, responsiveness, communications, consumables, empathy
Choi, Chu, 2001	A factor analysis method was used to extract 7 factors that potentially influence hotel choice, and then using multiple regression, the impact of each factor on customer satisfaction and the likelihood of returning to the hotel was assessed.	staff service quality, room quality, general amenities, business services, value, security, international direct dial facilities

Table 1 (cont.)

Mangan, Collins, 2002	The goal was to measure factors that influence customers' perceptions of bed-and-breakfast operators' service quality. The scale consists of six factors developed on the basis of the SERVQUAL model enhanced with additional elements relevant to the specific nature of the analyzed services. The authors obtained a 42-item scale to measure the constructs. Each question was measured with 7 Likert-style response options.	security, empathy, bedroom/bathroom, service reliability, breakfast, trust
Getty, Getty, 2003	The authors used the 10 dimensions of service quality of the original SERVQUAL method but with new operationalizations. The adopted final model comprised 5 dimensions, some of which were new concepts, while others combined SERVQUAL dimensions. The final scale called the lodging quality index (LQI) covered 26 statements measuring both the expectations and perceptions of the service provided.	tangibility, reliability – includes original reliability and credibility dimensions, responsiveness, confidence – includes original competence, courtesy, security, and access dimensions, communication – includes original communication and understanding dimensions
Ekinci, Prokopaki, Cobanoglu, 2003	The scale includes two dimensions of perceived quality described by 13 statements measured by a 7-point Likert scale.	tangibles, intangibles
Juwaheer, 2004	The starting point for developing the research tool was the SERVQUAL model. However, the author supplemented the quality dimensions with additional elements. A scale consisting of 39 statements measured by a 7-point Likert scale.	reliability, assurance, extra room benefits sought, staff communication, additional amenities sought, room attractiveness and décor, empathy, staff outlook and accuracy, food and service, hotel surroundings and environment
Nadiri, Hussain, 2005	The authors used the SERVPERF approach based on 22 statements from the original SERVQUAL scale. Factor analysis extracted only two dimensions of hotel service quality.	tangibles, intangibles
Poon, Low, 2005	Based on a literature review, the authors created a questionnaire with 48 statements describing 12 factors that can affect hotel customer satisfaction.	hospitality, accommodation, food and beverages, recreation and entertainment, supplementary services, security and safety, innovation and value-added services, transportation, location, appearance, pricing and payment
Akbaba, 2006	The author chose the SERVQUAL method as a starting point. However, modifications were made regarding the operationalization of individual constructs. Originally 29 statements on a 5-point Likert scale were used. As a result of the analysis, 25 statements were left and the original quality dimensions were modified by partially adding new constructs.	tangibles, adequacy in service supply, understanding and caring, assurance, convenience
Albacete-Sáez, Mar Fuentes-Fuentes, Javier Lloréns-Montes, 2007	The purpose of the study was to determine quality dimensions and evaluate service quality in rural lodging facilities. The authors developed their own instrument to measure service quality in lodging facilities, consisting of seven dimensions and 36 statements following a 7-point Likert scale format.	personnel response, complementary offer, tourist relations, basic demands, tangible elements, security, empathy
Wilkin, Merrilees, Herington, 2007	The study assessed service quality in luxury and first-class hotels with a new scale encompassing 7 dimensions described by 30 statements.	stylish comfort, quality staff, personalization, room quality, speedy service, added extras, quality food, beverages
Mohsin, Lockyer, 2010	The authors used a self-designed questionnaire developed from a literature review, which used 23 statements measured on a 7-point Likert scale.	hotel ambience and staff courtesy, food and beverage product and service quality, staff presentation and knowledge, reservation services, overall value for money
Ariffin, 2013	The author's goal was to identify factors for assessing hotel hospitality. The scale developed included 3 dimensions measured by 11 statements.	personalization, comfort, warm welcoming

Rauch et al., 2015	Based on a literature review, the authors proposed their own questionnaire to evaluate the reservation and check-in system, cleanliness and maintenance of the facility and the room, courtesy of staff, benefits and amenities offered, and location. In addition, they asked about the overall fulfillment of expectations and the price/quality ratio. The conducted factor analysis identified three dimensions of service quality.	service product, service delivery, service environment
Tefera, Govender, 2016	The authors created a scale named HOTSPERF. The scale was established by adding to the SERVQUAL/ SERVPERF scales three additional statements, modifying the others, and using a 5-point Likert format. The scale describes two dimensions of quality.	tangibles, intangibles
Anwar, 2017	The author used the concept of the SERVPERF method, but with his own operationalization of the constructs. The impact of each quality dimension on customer satisfaction was also evaluated.	tangibles, reliability, responsiveness, assurance, empathy
Alzoubi, Vij, Vij, Hanaysha, 2021	The authors operationalized 4 dimensions of quality using 12 statements on a 5-degree Likert scale and assessed their impact on customer satisfaction and loyalty.	tangibles, reliability, responsiveness, assurance
Ali et al., 2021	With the SERVQUAL method as a starting point, the authors offered their own operationalization of the constructs with 15 statements. The analysis ignored the gap between service expected and service received, and focused solely on assessing the impact of the quality dimensions on customer satisfaction.	tangibles, reliability, responsiveness, assurance, empathy

Source: author.

As previously stated, the authors of the papers covered in the summary above overwhelmingly used the quality dimensions included in the SERVQUAL/ SERVPERF method as their starting point. The operationalization of the constructs, however, were predominantly original creations of the authors of the cited articles, frequently formed by literature studies, the authors' own experiences or – less commonly – qualitative research such as interviews with experts. In one study, a questionnaire was designed from observations of consumer behavior, while in another the most instrumental were depth interviews conducted with customers of hotel facilities. Despite many individual attempts to establish conclusively the dimensionality and operationalization of the service quality concept, the overwhelming sentiment was one of incomplete work, with the outcomes ill-fitting the specifics of hotel services, a selected target group, a certain investigated company or a particular context.

With this in mind, it is possible to conclude that the measurement tools used to date appear to be unreliable, with limited practical utility and questionable validity of the results obtained. It should also be noted that the measurement tools in the SERVQUAL and SERVPERF methods were developed in the 1980s and 1990s. Since then, the service product itself, how services are delivered, how they are organized, and how customers perceive them have all changed. Furthermore, the diversity of industries and service offerings is vast and many services did not even exist at the time the

measurement tools were created. Also, using a single scale to assess quality across the entire service sector in the economy may limit the reliability of the results obtained. The experience of existing customers of hotel companies has also increased significantly, resulting in higher service expectations. Advances in information technology have led to an unprecedented ability to compare offers from different providers, which raises customer awareness even further.

It should be noted that the cited studies were mostly conducted on groups of customers of specific service companies, often limited to residents of a single country. Therefore, these results can have practical applications, for example, for managers of the analyzed companies, but may lack in external validity to accurately extrapolate the findings to other businesses and contexts. Such research contributes a valuable voice in the debate over the quality of hotel services and its dimensions, but is not conclusive or representative. To address this research gap, this study employs an innovative approach by sourcing data not from self-administered surveys of consumers but rather from spontaneous comments of hotel guests left by them on online booking portals.

In comparison with the traditional survey method, collecting data from content created by internet users is, in most cases, less cumbersome and is free from the difficulties associated with face-to-face interactions with people. In addition, user-generated content provides an opportunity to learn about the service experience, as

it reflects customers' emotions and gives qualitative expression to their assessments of service quality. In addition, opinions published online are more relevant, reliable, detailed and timely (Lu, Stepchenkova, 2015).

Online intermediary platforms provide tourists with tools to express their degree of satisfaction with their hotel stay, as well as to criticize unsatisfactory operations (García-Pablos, Cuadros, Linaza, 2016). Researchers seem to be getting more appreciative of the value of the data contained in Internet user comments. Nevertheless, there are still relatively few publications showcasing results of research on hotel service quality based on customer reviews especially in comparison to the rapidly expanding dataset generated by Internet users every day. Authors of previous studies have used various datasets, sourcing them most often from platforms such as TripAdvisor, Yelp or Airbnb. There have also been studies using comments from online travel agency (OTA) platforms, such as Agoda, Booking.com or Hotels.com.

In the literature, the most widely represented is research from the computer science perspective with the main focus on evaluating data acquisition techniques or sentiment analysis tools, rather than investigating hotel service quality within the framework of management science and marketing (e.g. Ray, Garain, Sarkar, 2021; Sodanil, 2016; Zvarevashe, Olugbara, 2018). Also, some authors looked for the most frequently commented topics by hotel guests (Akhtar et al., 2017; Kiatkawsin, Sutherland, Kim, 2020), but there was no in-depth analysis of the components of hotel service quality and their consequences for the overall satisfaction of consumers.

A different approach was presented by researchers from management science. Zhang et al. (2021), for example, conducted an in-depth analysis of the various aspects that can have the greatest impact on customer satisfaction. Xu and Li (2016), on the other hand, examined published reviews in terms of the determinants that contribute to customer dissatisfaction. However, they focused mainly on the differences found between facilities in different categories.

A few previous studies based on on-line customer comments are also not without limitations: one major weakness is a general disconnect with previous theoretical considerations on key dimensions of service quality.

3. Research method

The main objective of the study was to identify the factors that most determine hotel customers' satisfaction and dissatisfaction, i.e. those that have the greatest impact on perceived service quality.

Using an indexing robot prepared in Phyton, more than 600,000 comments on 3, 4 and 5-star hotels located in Warsaw were downloaded from Hotels.com and Booking.com platforms. It was decided not to include data from lower category facilities in the analysis due to the different levels of customer expectations and therefore a different approach to the quality aspect. The survey was conducted on a sample of Warsaw hotels due to the wide variety of offerings in the top categories of facilities and the high number of tourists visiting the Polish capital also from abroad. The oldest review included in the analysis was from July 1, 2017, and the most recent from September 9, 2020. To standardize and allow for further analysis, all downloaded content was lemmatized and translated into English. After preliminary analysis and reduction of incomplete, erroneous, illegible or untranslatable data, 156,000 reviews from Booking.com and 11,700 from Hotels.com were accepted for further analysis. The study employed both qualitative and quantitative content analysis methods using Excel, SPSS 27 and MaxQDA 2020.

4. Findings

In order to determine the most important quality factors, opinions posted on both reservation services were quantitatively analyzed, identifying the topics most frequently commented on. As a first step, the frequencies of all words used in the comments were counted, and then a dictionary was developed that allowed for grouping related terms, near terms or close synonyms of the same terms (e.g. location, localized, placed, situated, near etc.). This made it possible to obtain a shortened list of terms with enhanced readability. The results achieved at this stage are presented by the word clouds below, where the font size corresponds to the frequency of the term in the comments.

Figure 1. The main themes of hotel reviews on Booking.com
Source: author

Figure 2. The main themes of hotel reviews on Hotels.com
Source: author

Similar issues – room, location, breakfast, cleanliness and staff – come to the fore in the opinions of customers on both analyzed platforms. Following that, comments were divided into positive (1–5) and negative (6–10) based on point scores (scale of 1–10). As in the first stage, major themes were identified, and the results are presented in the table below.

By comparing the reported results, some similarities can be observed between the two groups. In both cases, room, cleanliness, breakfast (and food services) or factors related to staff – their approach, competence

and behavior – are of similar importance. This confirms the significance of the identified factors in shaping the perceived service quality. An analysis of the comments in the dissatisfied customer subgroup revealed the issue of not providing the value and benefits that were promised in promotional materials. Pertinent comments mentioned published photos and descriptions that did not correspond to reality, failure to provide requested provisions (e.g. an extra bed or a particular bed size) or hidden costs not included in the quoted price (e.g. extra charge for a parking space). The preceding evidence supports the importance of prior expectations in shaping the final level of satisfaction and the validity of treating the difference between expected and delivered service as a measure of service quality. The factor most frequently commented on in both subgroups was location of the facility. However, it was not the key reason for dissatisfaction among unhappy customers, while satisfied visitors indeed stressed the importance of the hotel's convenient location. This may reflect the fact that customers, having complete, verifiable information, are already aware when choosing accommodation with a subpar location and do not feel disappointed by it. On the other hand, a prime location seems to be a great convenience during a stay at a travel destination, which can actually enhance the initial positive attitude and the final impression of the stay.

The next step involved an in-depth analysis of the most important themes identified. Word trees were created for this purpose, allowing for a qualitative, deeper evaluation of the descriptions used in the consumers' opinions, as well as the identification of detailed issues determining the evaluation of the main

Table 2. The main themes identified in positive and negative reviews

Main themes among dissatisfied customers	Main themes among satisfied customers

Source: author.

Figure 3. The *room* word tree created from the content of reviews posted on Booking.com and Hotels.com
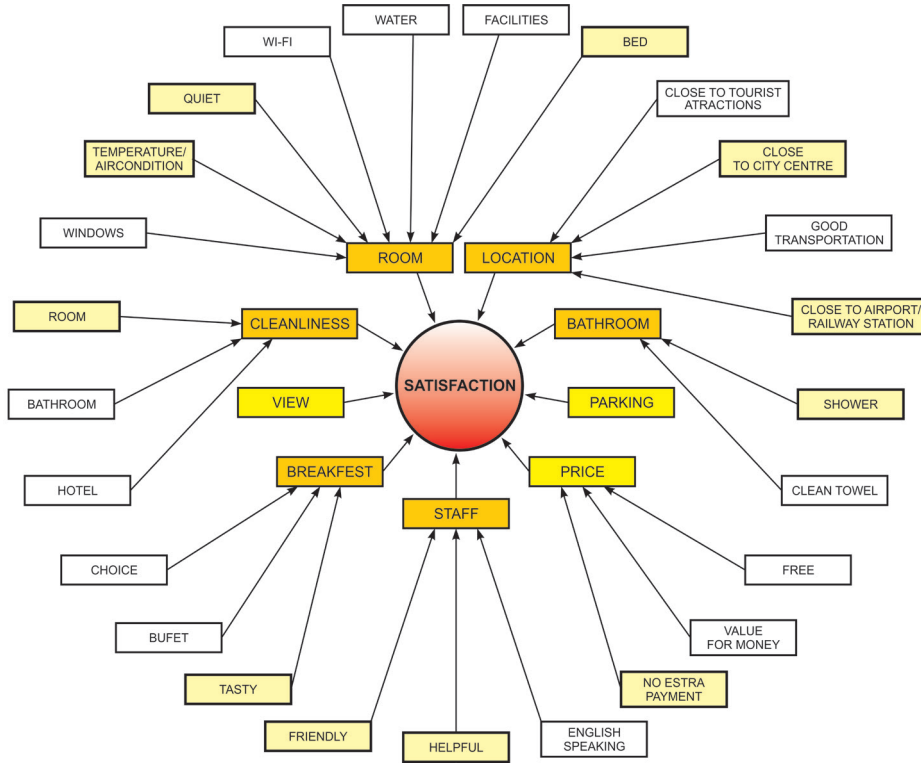Source: author

Figure 4. Determinants of customer satisfaction of hotel companies: a summary of qualitative content analysis of comments from Booking.com and Hotels.com
Note: the importance of a given factor indicated in the analyzed reviews was marked with a tone of color – the more a given factor was commented on the darker the color is
Source: author

identified factors. Due to a large volume of obtained results, only one example of a word tree in the subgroup of dissatisfied customers is presented below, relating to the room, which was one of the most frequently referenced aspects (Figure 3).

A summary of the qualitative content analysis of the comments is presented in the chart below (Figure 4). The darker color highlights topics that, due to their higher frequency of occurrence in the comments, can be considered more important in affecting perceived service quality.

Another major finding is the confirmation of strong relationships between quality determinants, which suggests that one weaker quality aspect can be offset by other quality drivers with more positive consumer evaluations. For example, a convenient location, cleanliness, or positive attitude and competence of the staff can compensate for room deficiencies or outdated decor. Consequently, service quality is best assessed with a comprehensive approach, simultaneously accounting for multiple determinants.

The obtained results can be related to quality dimension of the SERVQUAL/ SERVPERF methods. All the dimensions of quality included in these methods are also reflected in internet users' comments. However, the operationalizations of the constructs proposed by the authors of the SERVQUAL/SERVPERF methods differ from the themes and topics found in the hotel clients' statements. Internet users also pay attention to somewhat different aspects of quality dimensions. This suggests that the measurement scales used in the study of quality of hospitality services, or quality dimensions themselves, should be revised, and new measurement tools developed. A summary of the themes raised in the comments (extracted with the qualitative and quantitative text analysis), along with a suggested reference to the quality dimensions from the SERVQUAL/ SERVPERF method, is presented in Table 3.

5. Conclusions and discussion

The conducted study made it possible to identify the main factors influencing the evaluation of hotel service quality by customers (Figure 4). The most important and most frequently commented factors were room, cleanliness, location, staff and food services, and cost of the stay. Other authors of studies using web user-generated content also presented similar

Table 3. Key themes raised in comments published on Booking.com and Hotels.com

Quality dimentions – SERVQUAL	Operationalization of constructs – SERVQUAL	Key themes found in comments
Tangibles	Up-to-date equipment Physical facilities are visually appealing Employees well-dressed/neat Appearance of the physical facilities are consistent with the type of service industry	cleanliness, localization, room facilities, temperature/air conditioning, fresh air, quiet place, bathroom, breakfast
Assurance	Employees should be trustworthy Customers should feel safe when transacting with employees Employees should be polite Employees should get adequate support from the firm to do their job well	staff – language skills, professional staff, service-minded staff, staff attitude
Empathy	Firms should not be expected to give each customer individualized attention (negative) Employees should not be expected to give each customer individualized attention (negative) It is unrealistic to expect employees to fully understand the needs of the customer (negative) Firms should not necessarily have to operate at hours convenient to all customers (negative)	customized offers on request, extra bed, extra facilities, staff attitude
Responsiveness	You do not receive prompt service from firm X Employees of X are not always willing to help customers Employees are too busy to respond customer requests promptly	quick check-in, staff response to requests, helpful staff
Reliability	The firm meets their promised time-frames for response The firm is sympathetic and reassuring, when the customer has problems They are dependable They provide their services at the times promised They keep accurate records	no extra payment/hidden costs, descriptions/pictures correspond to reality

Source: author.

conclusions. Barreda and Bilgihan (2013) after analyzing reviews of hotels published on TripAdvisor, found that factors such as cleanliness, location and staff were significant determinants of quality, and were frequently mentioned in reviews. Pacheco (2017) presents similar conclusions, although indicating differences in the relevance of different elements of the service offering. He analyzed customer reviews of Portuguese hotels and indicated that factors such as room, service and cost-benefit ratio were important to all reviewers regardless of region and type of facility. In contrast, location and cleanliness appear to be necessary only for some regions and hotel segments. According to (Zhao Zhang, Hu, Xu, Liu, 2021), the most frequently exposed themes in the reviews were service (related to staff), room, location and sleep (referring to quietness, beds). The importance of cost and price in assessing service quality, indicated in the results, was also confirmed by Ye, Li, Wang, Law, (2014) in their study.

This study confirms postulated by many authors (e.g. Barreda, Bilgihan, 2013; Bertan, Bayran, Benzergil, 2015; Callarisa et al., 2012; Lee, Blum, 2015; Zhu, Yin, He, 2014) the validity of using available online published customer reviews as a credible source of information for management decision-making including in the formation of hotel quality policy.

It should be noted that the comments analyzed were limited to urban facilities located in the capital city of Poland. It is possible that commenters will focus on different aspects of experience in hotels located in smaller towns or tourist resorts, where travel goals, and thus customer expectations and preferences, may differ. Another limitation is the use of aggregate data combining opinions from visitors to markedly different hotels in terms of the quality of services offered and customers' profiles. Regardless of the hotel type, its managers should consider making more regular use of web user-generated content by incorporating this kind of data into their marketing information system. Benefits can be gained by looking not only into own guests' reviews but also by exploring comments left by visitors to competitor facilities. The recurring themes revealed in the comments indicate the most important factors for customers' (dis)satisfaction. Comments on reservation services, unlike traditional questionnaire methods, are generated spontaneously and are not limited to the themes indicated by the researcher. As such, they can be considered a more reliable and objective source of data than questionnaire-based surveys.

The analysis confirmed the postulate made by many researchers regarding the need to revise and adapt service quality survey tools (e.g. SERVQUAL) to better match the specifics of the industry under investigation. The satisfaction factors revealed in the study differ significantly from those proposed in the SERVQUAL

method (Table 3). As a result, it is recommended that, following further in-depth analysis of Internet reviews and comments, as well as survey-based quantitative research, a new measurement scale be developed that could better serve practitioners in shaping service product quality.

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