COMPETITIVE BENCHMARKING ANALYSIS OF ALGERIAN HOTELS WITH THE ANALYTIC HIERARCHY PROCESS (AHP): THE USE OF PERFORMANCE GAP

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ABSTRACT

This study aims to evaluate the performance of Algerian hotels using competitive benchmarking and the Analytic Hierarchy Process (AHP) method, considering various service quality criteria based on the SERVQUAL model. The research explores the most crucial hotel selection factors from the perspective of Algerian customers and identifies potential service quality improvement areas for hotel managers. The study employs the AHP method to prioritize and rank hotel selection criteria based on hotel managers' preferences. A competitive benchmarking analysis was conducted by comparing the performance of Algerian four-star and five-star hotels against a global benchmark five-star hotel. The analysis considered 20 sub-criteria categorized under the five SERVQUAL dimensions: Tangibility, Reliability, Assurance, Empathy, and Responsiveness. The results reveal that Algerian customers prioritize factors such as employee behavior, hotel security, flexible check-in/check-out times, and first aid services. Surprisingly, price is considered a less important criterion compared to findings from previous studies. The competitive benchmarking analysis identifies performance gaps between hotels, with the five-star Marriott Constantine Hotel emerging as the service leader. Practical implications and strategic recommendations for hotel managers are provided to address identified service quality gaps. This study contributes to the hospitality literature by applying competitive benchmarking and the AHP method to evaluate hotel service quality in the Algerian context. The research provides valuable insights into Algerian customers' preferences and offers practical recommendations for hotel managers to enhance service quality and competitiveness.

Keywords: AHP; competitive benchmark; hotel industry; SERVQUAL; performance gap

1. Introduction

The fundamental test of a business' success in the hospitality industry today is its capacity to consistently satisfy clients. Customers are increasingly demanding value for money in terms of both price and the given product or service's quality (Boulding et al., 1993). A variety of hospitality businesses are being forced to examine how they

are currently conducting business in order to secure market success. The hotel sector in Algeria is no exception to this rule.

According to a survey by Oxford Business Group (OBG, 2016a), 2.84 million more Algerians left the country in 2014 than in 2013, a trend that is mostly attributable to Algerians' rising predilection for traveling for vacation. Algerian tourists' favorite foreign vacation spots include Mediterranean nations including France, Morocco, Spain, Tunisia, and Turkey (OBG, 2016a). Since 2014, about 36% more Algerians have visited Tunisia due to price cuts made by local hoteliers to preserve occupancy rates. In the first eight months of 2016, 1.1 million Algerians traveled to Tunisia. Algeria is quickly trying to build its meager hospitality infrastructure (OBG, 2018), and it appears that the government is aware of the dire tourism situation. By 2030, Algeria hopes to become a premier travel destination in North Africa (OBG, 2016b). Due to increased competition, Algerian hotel management will need to upgrade the country's transportation, communication, and reception infrastructures as well as train and certify their workforce. A rising number of hotels are beginning to understand how important service enhancements are in providing a competitive advantage. Benchmarking is one way that hotel management can innovate and learn as they react to their competitive environment. Hotel benchmarking currently comprises assessing client happiness and impressions using conventional methods, such as client comments on complaint registers or formal reports from the hotels' managers. Unfortunately, these methods do not compare the hotel's performance to those of rival hotels.

The Japanese were the first to create benchmarking as a tool for strategic planning and management; Ohno (1988, as cited in Bakar, 2015) and Rank Xerox introduced it to the West in 1979 (Bresada, 1991, as cited in Bakar, 2015). It is a constant process of evaluating goods, services, and business methods against the most challenging rivals or organizations regarded as industry leaders (Phillips & Appiah-Adu, 1998). The three primary types of benchmarking that are currently used in corporate activities are internal, functional, and competitive benchmarking (Yasin & Zimmerer, 1995). As a result, the most active research areas in the literature are multi-criteria decision-making (MCDM) methods, which refer to screening, prioritizing, ranking, or selecting a set of alternatives, typically under independent, incommensurate, or conflicting attributes. These methods have been used in a variety of decision areas in connection with the benchmarking concept (Singh, 2017; Büyüközkan, 2011; Lupo, 2013). Hence, one of the most well-known MCDM methods, the Analytic Hierarchy Process (AHP), has been frequently used to evaluate performance in the hotel sector (Bakar, 2015; Bhattacharya et al. 2023; Min & Min, 1996; Göral, 2020). Whereas the majority of the literature on the hotel industry concentrates mostly on MCDM techniques, in this context, it is important to evaluate customer service quality using the well-known SERVQUAL measuring scale (Parasuraman et al., 1985) in conjunction with the AHP technique.

The choice to work with the SERVQUAL model to assess quality is often based on its established track record and relevance in service industries, including hospitality. SERVQUAL is specifically designed to measure service quality by focusing on the gap between customer expectations and perceptions, making it an ideal tool for sectors where customer service is paramount. However, it's important to acknowledge that there are other models like the SERVPERF (Cronin & Taylor, 1992) which focuses solely on performance rather than expectations, the Kano model (Kano et al., 1984) which categorizes service attributes based on customer

satisfaction, and the Customer Satisfaction Index (CSI) (Fornell, 1992). Each model has its own strengths. For example, this study is primarily concerned with identifying service quality gaps from a customer-centric perspective, so SERVQUAL is more appropriate because of its emphasis on expectation-perception discrepancies.

In this sense, the primary goal of this study is to evaluate the performance of Algerian hotels in light of a variety of SERVQUAL model-classified selection criteria. Determining whether Algerian hotel performance changes in priority when compared to a global benchmark five-star hotel is yet another goal of this study. In another area of our research, managers and customers opinions are both taken into account for this reason. The five SERVQUAL dimensions of tangibility, reliability, assurance, empathy, and responsiveness are considered, and 20 associated sub-factors rather than model scale items have been identified within the context of hotel selection criterion literature. A series of interviews and survey techniques determined that the selection criteria are significant in the choice of Algerian hotels. Then, these elements were categorized using the multi-criteria decision-making method (MCDM), the AHP in light of the data gathered. As a result, the components' relative importance were determined, and the performance ranking is explained.

2. Literature review

Several studies have explored the performance evaluation of hotels using Data Envelopment Analysis (DEA), Content analysis, Stochastic Frontier Approach (SFA), Delphi and the AHP, among other methods. For example, Assaf and Tsionas (2018) applied SFA to assess hotel efficiency, introducing advanced econometric models that take into account the inherent randomness in hotel performance data. Their work is crucial for understanding inefficiencies in hotel operations and how these can be addressed by accounting for random variations that are beyond managerial control. Pulina, Detotto and Paba (2010) emphasized the use of DEA in hotel performance evaluation, highlighting how efficiency can be compared across different hotel units. They applied DEA to distinguish between efficient and inefficient hotels, providing a foundation for further studies on how operational inputs (such as labor and capital) influence hotel performance. Also, Sainaghi, Phillips and Zavarrone (2017) employed content analysis to explore how different factors, such as market conditions and strategic positioning, affect hotel performance. Their work focused on extracting insights from unstructured data, such as customer reviews and management reports, providing a more qualitative understanding of hotel success. King Fung Wong, Kim, Lee and Elliot (2021) integrated the Delphi method and the AHP to identify key performance indicators (KPIs) in hotel operations, offering a structured approach to decision-making and benchmarking. By involving expert judgments in evaluating performance criteria, they contributed to more robust, multi-criteria decision-making frameworks, which are especially useful in highly competitive markets like hospitality.

Despite the increased focus on service quality in recent years, there is currently little literature on benchmarking techniques for the hotel sector. In order to acquire a more accurate evaluation result, we attempted to adapt the hotel evaluation criteria to the SERVQUAL (Parasuraman et al., 1985) service model through a thorough literature review.

2.1. Hotel performance

In the international scientific literature, a wide range of variables/measures and indicators to evaluate hotel performance have been identified and recorded, and two main classifications are highlighted (Zigan & Zeglat, 2010):

- **Financial indicators:** which include ten indicators; sales/revenues, profitability, return on invested capital; hotel occupancy; cost/expenses; growth; productivity/utilization; composite indicator of economic performance; financial liquidity and soundness; and financial market. In each group, a range of indicators are also listed.
- **Non-financial indicators:** which include ten different groups; customer satisfaction; employee satisfaction; employee work performance; continuous improvement; service quality; social responsibility; competitive position; manager's work performance; flexibility; and organizational achievement.

However, based on company features in the hotel business, Fitzgerald et al. (1991) created a special framework for the service context. This system was developed after examining a large number of case studies to investigate how managers in UK service companies evaluate the success of their businesses. Fitzgerald et al. (1991) claimed that the dimensions and measures utilized for this model represented the characteristics of the service industry. Table 1 shows the dimensions of the performance system.

Table 1
Dimensions of performance system

Dimensions of performance	**Types of measures**
Results	
Competitiveness	relative market share and position; sales growth measures of customer base
Financial performance	profitability; liquidity; capital structure
Determinants	
Quality of service	Reliability, responsiveness, aesthetics, appearance, cleanliness, tidiness, comfort, friendliness, communication, courtesy, competence, access, availability, and security
Flexibility	Volume flexibility; delivery speed flexibility; specification flexibility
Resource utilization	productivity, efficiency
Innovation	Performance of the innovation process; performance of individual innovations

Source: Adapted from Fitzgerald et al. (1991)

This method connects financial and non-financial data as well as qualitative and quantitative variables, as shown in Table 1, to implement, regulate, and develop performance in a service organization. The system separates the six dimensions into the following two groups: determinant dimensions, which contain elements influencing overall performance, such as service quality, flexibility, resource utilization, and innovation, and results dimensions, which contain elements indicating whether the chosen strategy was successful (such as competitiveness performance

and financial performance). Use of resources is one factor, but only their productivity and efficiency are assessed.

The group of indicators for service quality includes those proposed by Chen, Hsu, & Tzeng (2011) and Espino-Rodriguez, Haktanir, & Harris (2005). These measures are important since they relate to some aspects of the tourism product's quality (Zigan & Zeglat, 2010). As a result, the SERVQUAL model developed by Parasuraman et al. (1985) is primarily meant for determining the key aspects of service quality and how they affect overall customer satisfaction as seen by both current and former clients of a service organization. In other words, SERVQUAL was not created solely to evaluate a service firm's performance and relative superiority. Hence, SERVQUAL alone may not be able to assess the firm's comparative service performance, which can be a critical metric for determining competitive supremacy, even though SERVQUAL may help to identify the primary determinants of service quality (Min & Min, 1996). This is why introducing MCDM methods like the AHP appears to be appropriate.

2.2. AHP and competitive hotel benchmarking

An organization can assess its internal strengths and weaknesses through benchmarking, evaluate comparative advantages of leading competitors, identify best practices of industry or functional leaders, and then incorporate these findings into a strategic action plan geared toward achieving superiority. Benchmarking is defined as "a continuous quality improvement process by which an organization can assess its internal strengths and weaknesses, evaluate comparative advantages of leading competitors, identify best practices of industry or functional leaders, and incorporate these findings into a strategic action plan geared to gain a position of superiority" (Min & Min, 1996, 583).

According to Furey (1987), the primary objectives of benchmarking are to:

- Establish important performance measurements for each function of a corporate operation.
- Evaluate both one's own internal performance levels and those of the top rivals.
- Compare performance levels that will help to highlight areas where you have an advantage over others.
- Put strategies in place to close a performance gap between internal operations and the top rivals.

Competitive benchmarking, which consists of an organized series of four processes, can be seen as a customer service improvement strategy for benchmarking success. These steps could include the following within the fundamental frames provided by Camp (1989, as cited in Min, 1996) and Balm (1992, as cited in Min, 1996):

1. Identify and prioritize customer service attributes that influence the customer's perception of service quality.
2. Develop service quality standards as benchmarks.
3. Conduct performance gap analysis.
4. Develop strategic action plans for continuous service quality improvement

Hence, benchmarking means comparing similar firms, such as bigger hotels with other businesses in the hospitality sector. Bigger hotels can be used as reference

points because they have similar business aims and objectives as smaller hotels. Since there is no direct competition, benchmarking partners could be more eager to contribute and share ideas for development (Nassar, 2012; Felix, 2006). In fact, benchmarking can be used as a technique for quality improvement to strengthen the hotel industry's competitiveness (Zhu, 2008). It can help a hotel service provider determine where it stands in relation to its rivals and identify the performance gap. Only a few studies in the hospitality industry, according to Nassar (2012), have examined the function of benchmarking in hotel quality and have put forth several strategies and models to raise hotel quality through benchmarking.

The AHP technique is used to support the full benchmarking process in the hotel sector. When employing a combined AHP technique, it is desirable to divide the benchmarking procedure into two main parts. The first stage involves assessing the performance levels of the benchmarking company and its rivals. Hotels can clearly see their performance levels in connection to each specific criterion because of the AHP's ability to condense the complex assessment system into a hierarchy of criteria. The AHP includes the possibility of selecting the improvement option for the second phase, enabling rigorous analysis of each criterion individually to determine the optimal course of action (Felix, 2006).

There are four main processes involved in applying the AHP to competitive benchmarking of hotels (Wind and Saaty, 1980; Zahedi, 1989):

- Reduce the number of criteria and attributes used in the service evaluation process to a manageable quantity (no more than seven), and then arrange these qualities in a hierarchy.
- Conduct a series of pairwise comparisons between the features and standards depending on how clients view the level of service excellence.
- Calculate the relative weights of the criteria and qualities based on a survey of hotel guests. Determine the individual hotel rankings based on the caliber of their services as well as the local priority rankings.
- Combine and synthesize these local priority scores to determine the final evaluation of service performance.

The AHP has been applied in the hotel sector, particularly for benchmarking and MCDM. The AHP, whether used in combination with other MCDM techniques or not, helps hotel managers evaluate and rank different factors influencing hotel performance, often integrating both quantitative and qualitative criteria. For example, Jabar et al. (2019) studied five- and four-star hotels in the Sulaimani, Kurdistan region of Iraq. This study explored hotels providing the best and the worst service. The model can be used to benchmark various aspects of the services. Also, they detected weaknesses and strengths to develop strategic plans accordingly. Furthermore, in a study by Fang, Ou & Fu (2023), the AHP was used to scientifically determine the weights of key performance indicators in the performance appraisal system for hotel management. Fu et al. (2010) used VIKOR for the first time to measure the performance of 26 international hotels to identify the benchmarking enterprise and to analyze strategies for performing a benchmark. During the calculations, the fuzzy Analytic Hierarchy Process (FAHP) was applied to calculate the weights of the individual performance criteria using expert feedback.

To summarize, we conducted a systematic literature review (SLR) using the Scopus database in order to define AHP applications in the hotel industry. This revealed 30 major relevant studies which are presented in Table 2.

Table 2
SLR for Analytic Hierarchy Process applications in the hotel industry

Application	**Details**	**Methods**	**References**
Performance Measurement	AHP, combined with fuzzy logic, is employed to measure the performance of service supply chain management (SCM) in hotels, reflecting the latest views in service science . Additionally, it is used to develop intellectual capital evaluation models to understand their contribution to hotel performance .	AHP; TOPSIS; FAHP-SERVQUAL; FAHP; FAHP-FDM	(Liao et al., 2023) (Nguyen, 2021) (Kaluthanthri & Osmadi, 2020) (Fu et al., 2019) (Liu et al., 2018) (Gil-Lafuente et al., 2014) (Chan et al., 2013)
Customer Satisfaction Assessment	AHP is used to evaluate customer satisfaction by prioritizing different aspects of hotel services, such as rooms, service, and cleanliness. This method helps hotel managers identify areas for improvement and potential business opportunities	FAHP; QFD–AHP ; DELPHI-AHP ;	(Gupta et al., 2023) (Kürüm Varolgüneş et al., 2021) (Alzoubi et al., 2021) (Hsiao et al., 2018) (Chung, 2015)
Strategic Decision-Making	AHP aids in evaluating and prioritizing strategies for hotel management, especially in response to crises like the COVID-19 pandemic. Strategies such as differentiation, service development, and market penetration are assessed for their applicability in different scenarios	FAHP; AHP; FDM-FAHP-TOPSIS-VIKOR;	(Vanegas-López et al., 2024) (López-Cadavid et al., 2024) (Jabeen et al., 2022) (Zaman et al., 2022) (Chen et al. 2021) (Rahman et al., 2019) (Mardani et al., 2016) (Navarro et al., 2015) (Lin & Wu, 2008)

Application	Details	Methods	References
Benchmarking and Competency Evaluation	AHP is used in benchmarking analyses to identify top-performing hotels and in evaluating the competencies required for hotel managers, highlighting critical skills like leadership and crisis management	FDM-AHP; FAHP-VIKOR	(Antonić et al., 2019) (Jeou-Shyan et al., 2011) (Fu et al., 2011) (Min & Min, 1997) (Min & Min,1996)
Corporate Social Responsibility (CSR)	AHP helps in identifying and prioritizing CSR performance indicators, ensuring that hotels can measure and improve their social and environmental impact effectively	AHP ; DELPHI-AHP ;	(Anand et al., 2023) (Wong et al., 2021)
Location Optimization	AHP has been utilized to optimize resort hotel locations by considering various factors like demand conditions and government policies, as seen in a study conducted in Taiwan	AHP ; FAHP	(Juan & Lin, 2011) (Wu et al., 2004)

From Table 2, we distinguish six main AHP applications for the hotel industry:

- Performance measurement, with 7 studies;
- Customer satisfaction assessment, with 5 studies;
- Strategic decision-making, with 9 studies ;
- Benchmarking and competency evaluation, with 5 studies ;
- Corporate Social Responsibility (CSR), with 2 studies ;
- Location optimization, with 2 studies.

In summary, the AHP has been widely used in the hotel industry and mainly for strategic decision and performance measurement purposes. Indeed, its applications were primarily located in Taiwan, the United States and India, and main authors include López-Cadavid and Min who were oriented toward hotel benchmarking and performance evaluation applications. However, a systematic review of AHP applications in operations management identified a research gap in the application of the AHP in areas such as forecasting, layout of facilities, and managing stocks, suggesting limitations in the scope of AHP applications in certain operational aspects of the hotel industry.

2.3. Hotel selection criteria

Soulidou et al. (2018) found that choosing a hotel is a difficult choice for travelers to make. Studies have been done to determine what influences guests to pick a particular hotel, including diverse forms of travel, cultural background, educational attainment, loyalty, prior experiences, and funding sources. Table 3 summarizes these crucial elements.

Table 3
Literature review of most important hotel selection criteria

Study	Sample	Important factors identified
Rivers et al. (1991)	Members and non-members of frequent guest programs	Convenience of location, overall service received
Ananth et al. (1992)	Mature travelers	Price, quality, convenience of location, security
Barsky & Labagh (1992)	Business and leisure travelers	Employee attitude, location and rooms
Weaver & Heung (1993).	Business travelers	Convenience for business, good reputation of the hotel, friendly staff
Chow et al. (1995)	Leisure travelers	Security, dependability, service quality, convenience, reputation
Chu & Choi (2000)	Business and leisure travelers	Service quality, business facilities, room and front desk, food and recreation, value, and security

Study	Sample	Important factors identified
Lockyer (2000)	Business travelers	Room and facilities, staff quality, service facilities, overall facilities, cleanliness of hotel, bath and shower, standard of bedroom maintenance, comfortable mattress and pillow
Lockyer (2002)	Business travelers Accommodation managers	Bathroom and shower quality, standard of bedroom maintenance, comfort of mattress and pillow, courteous, polite, well-mannered staff, enthusiasm, commitment of staff, efficiency of front desk
Lockyer (2005)	People with low hotel or motel use, medium use high use	Cleanliness, price
Jones & Chen (2011)	Literature review	Travelers filter hotels by must-haves (non-smoking, pool, Internet speed, price), then compare shortlisted options via tools (reviews, photos, star ratings, sorting). Critical factors guide each stage, streamlining online selection with fewer, decisive attributes.
Dolnicar & Otter (2013)	Based on literature review	Convenience location, service quality, reputation, friendliness of staff, price, room cleanliness, value for money, hotel cleanliness, security, room standard, swimming pool, comfort of bed, parking facilities, room size
Yavas & Babacus (2005)	Business and leisure travelers	General amenities, core service, security/safety, convenience, room amenities
Chan & Wong (2006)	Frequent individual travelers	Price, convenient hotel location, good service
Hsieh et al. (2008)	Business and leisure travelers	Convenience of reservation procedure, quick problem solving abilities of the service personal, price level, special promotions, sanitary hot spring environment, convenience of traffic route/shuttle, and food and beverages service
Choosric hom (2011)	International travelers	Security and safety, value, staff service quality, location, room and facilities
Sohrabi et al. (2012)	Travelers in Teheran hotels	Hotel comfort factors: Hotel staff and their services, promenade and comfort, pleasure, network services, cleanliness and room comfort, parking Hotel compensatory factors: Expenditure, new and recreational info., security and protection)
Baruca & Civre (2012)	International travelers	Personal experience, recommendation of friends and tourist agencies, advertising, recommendations, hotel facilities, good location, price, value for money
Ady & Quadri-Felitti (2015)	Travelers in US	Cleanliness and comfort, WiFi for business travelers Food for those traveling with friends, rooms for those planning romantic vacations, room, comfort and amenities for family travelers

Study	Sample	Important factors identified
Richard & Masud (2016)	Travelers in Ghana	Religion, cultural values, cultural norms
Naletova (2017)	Business and leisure travelers	Leisure travelers: price, pet allowance Business travelers: hotel facilities, quality of Internet connection, reviews by previous guests
von Oertzen (2017)	Generation 'Y' travelers	Reference room price
Wang et al. (2020)	International travelers: business, couples, families, friends and solo travelers	Staff quality, room quality, cleanliness of hotel, bath and shower,
Göral (2020)	Turkish travelers	Safety and security, pleasure, room facilities; whereas factors which affect the consumers the least are information, parking lots and network services
Nguyen (2021)	Vietnam hotel experts	Employees give guests individualized attention and make them feel special; accurate records; employees understand the specific needs of guests; services consistency; services flexibility to guests' demands
Mahdi & Kiss (2021)	International travelers	Hotel rating, hotel price, Wi-Fi availability, free parking, breakfast availability, free cancellation service

Source: Author's adaptation and update from Soulidou et al. (2018)

While Table 3 lists essential criteria such as cleanliness, price, location convenience, staff quality, and security, evolving traveler demands now prioritize newer amenities like WiFi, parking, swimming pools, and fitness centers; however, price consistently remains the most critical factor (Lockyer, 2005). According to Lockyer (2005), Haque (2013), Stefano (2015), Augustyn and Seakhoa-King (2004), Monteson and Singer (1992) and other researchers, price should be considered in an independent dimension. However, when SERVQUAL is used for service quality measurement, some researchers have integrated the price within the assurance dimension (Hsieh, 2008; Büyüközkan, 2011); others within the empathy dimension (Bhattacharya, 2023) or reliability when considering accurate cost information (Büyüközkan, 2011), or even room value (Min & Min, 1996).

3. Methodology

This study followed the approach used by Camp (1989, as cited in Min, 1996) and Balm (1992, as cited in Min, 1996), which was inspired by Min and Min (1996). Therefore, the present research was conducted with Algerian four and five-star hotels. One international five-star hotel and three four-star hotels were considered. The study was conducted with participation of hotel managers and hotel customers opinions were collected.

Hotel selection criteria proposed in a wide range of literature reviews were combined with those suggested by Min and Min (1996) and Soulidou et al. (2018). Interviews were performed with 12 hotel managers to develop a list of 26 selection criteria that

were categorized into five SERVQUAL dimensions. Mean scores of appreciation using a Likert scale were calculated in Excel, resulting in the 20 selection criteria being used in the present study. Table 4 summarizes the criteria.

Table 4
Hotel selection criteria

Dimensions	Selection Criteria	Reference
Tangible (T)	1. Easy access to the hotel 2. Leisure facilities 3. Hotel exterior and interior design 4. Wi-Fi Internet 5. Room equipment 6. Enough parking for guests	Parasuraman et al. (1988); Min & Mi (1996); Chu & Choi (2000); Soulidou et al. (2018); Rauch et al. (2015); Bilgihan et al. (2018); Ramanathan (2012) ; Pan et al. (2012)
Reliability (R)	1. Price 2. Hotel food services 3. Daily room cleaning service 4. E-banking service 5. Online booking service 6. Laundry services 7. Transport services	Min & Min (1996); Soulidou et al. (2018); Chu & Choi (2000); Ramanathan (2012); Parasuraman et al. (1988); Kim et al. (2020); Liu & Zhang (2014)
Assurance (A)	1. Safes in hotel rooms 2. First aid service 3. Hotel security	Parasuraman et al. (1988); Min & Min (1996); Soulidou et al. (2018)
Empathy (E)	1. Flexibility and special treatment for guests 2. Flexible check-in and check-out times	Parasuraman et al. (1988); Min & Min (1996); Soulidou et al. (2018);
Responsiveness (RE)	1. Ability to provide additional services on request 2. Behavior of hotel employees	Parasuraman et al. (1988); Min & Min (1996); Soulidou et al. (2018);

Next, the selected hotels were assessed for each dimension using pairwise comparisons for AHP weights. The service leader hotel was chosen as the baseline, and the competitive benchmark was then completed. When a hotel's service performance falls short of the performance of the service leader, service quality failure may result. The term "competitive gap" is used to describe this difference. A competitive gap can be divided into three performance gaps, according to Camp (1989, as cited in Min, 1996): positive, negative, and zero ("parity"). A positive gap indicates that the service performance is clearly superior to the performance of the service leader (or benchmark), whereas a negative gap indicates that the service performance is clearly inferior to the performance of the service leader. The performance gap is presented in the following formula:

$$G_i = O_i - B_i$$

where: G_i: Performance gap
O_i: Own performance
B_i: Benchmark performance

We used the AHP to identify a benchmark (i.e., the hotel that best exemplifies each service quality criteria and is the best overall in terms of service performance). The proposed model implementation is shown in Figure 1.

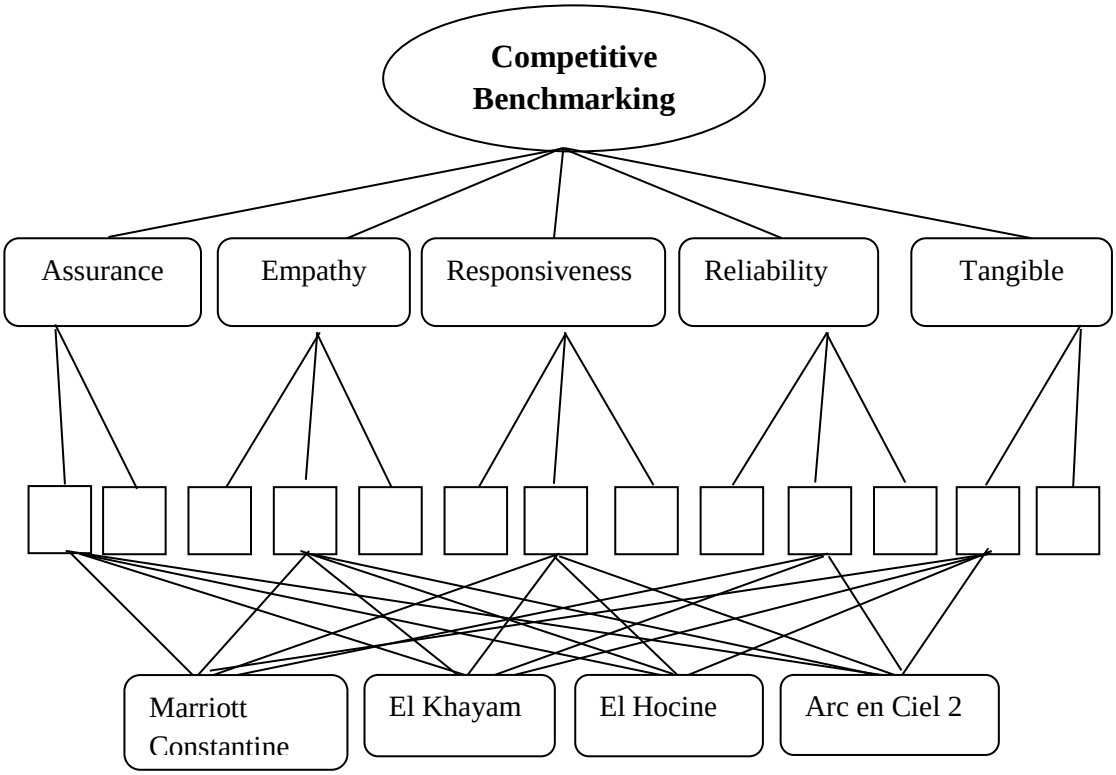

Figure 1 Proposed AHP model

4. Results

The AHP model was performed with the Expert Choice software and the obtained weights, local-weights and rankings are presented as follows.

4.1. Pairwise comparisons

Table 5 presents further information, where local weights give the relative importance of each criterion within a given dimension for the whole model.

Table 5
Local and global weights for the AHP pairwise comparison

Dimensions	Weight	Selection criteria	Local Weights	Global Weight
Tangible	0.132	Easy access to the hotel	0.057	0.008
		Leisure facilities	0.100	0.013
		Hotel exterior and interior design	0.150	0.020
		Wi-Fi Internet	0.164	0.022
		Room equipment	0.281	0.037
		Enough parking for guests	0.248	0.033
Reliability	0.190	Price	0.059	0.011
		Hotel food services	0.171	0.032
		Daily room cleaning service	0.202	0.038
		E-banking service	0.104	0.019
		Online booking service	0.116	0.022
		Laundry services	0.152	0.028
		Transport services	0.196	0.037
Assurance	0.243	Safes in hotel rooms	0.101	0.025
		First aid service	0.298	0.072
		Hotel security	0.601	0.146
Empathy	0.183	Flexibility & special treatment for guests	0.256	0.047
		Flexible check-in and check-out times	0.744	0.136
Responsiveness	0.252	Ability to provide additional services on request	0.223	0.056
		Behavior of hotel employees	0.777	0.196

Note: CR below 10%

The following tables provide further information, where local weights give the relative importance of each criterion within a given dimension. Obviously, the responsiveness dimension is considered the most important with customers' appreciation, followed by assurance, reliability, and finally the tangibility dimension. To go further with this analysis, the selection criteria local and global weights allow a criterion classification, as presented in the Table 6**:**

Table 6
Local and global ranking for selection criteria

Dimensions	Selection criteria	Local Rank	Global Rank
Tangible	Easy access to the hotel	6	20
	Leisure facilities	5	18
	Hotel exterior and interior design	4	17
	Wi-Fi Internet	3	15
	Room equipment	1	9
	Enough parking for guests	2	11
Reliability	Price	7	19
	Hotel food services	3	12
	Daily room cleaning service	1	8
	E-banking service	6	16
	Online booking service	5	14
	Laundry services	4	10
	Transport services	2	7
Assurance	Safes in hotel rooms	3	13
	First aid service	2	4
	Hotel security	1	2
Empathy	Flexibility & special treatment for guests	2	6
	Flexible check-in and check-out times	1	3
Responsiveness	Ability to provide additional services on request	2	5
	Behavior of hotel employees	1	1

Relative weights represent hotel guests' judgments of the relative importance, while the priority scores represent the relative service performance of the hotel. The five most important criteria to Algerian customers are ranked as follows:

1. Behavior of hotel employees;
2. Hotel security;
3. Flexible check-in and check-out times;
4. First aid services;
5. Ability to provide additional services on request

Notice that these five criteria belong to the assurance, empathy and responsiveness dimensions. The five least important criteria to Algerian customers are ranked as follows:

1. Easy access to the hotel
2. Price;
3. Leisure facilities;
4. Hotel exterior and interior design;
5. E-banking service

These five criteria belong to the tangibility and reliability dimensions.

4.2. Hotel performance benchmarking

The hotels performance in the responsiveness dimension is presented in Figure 2.

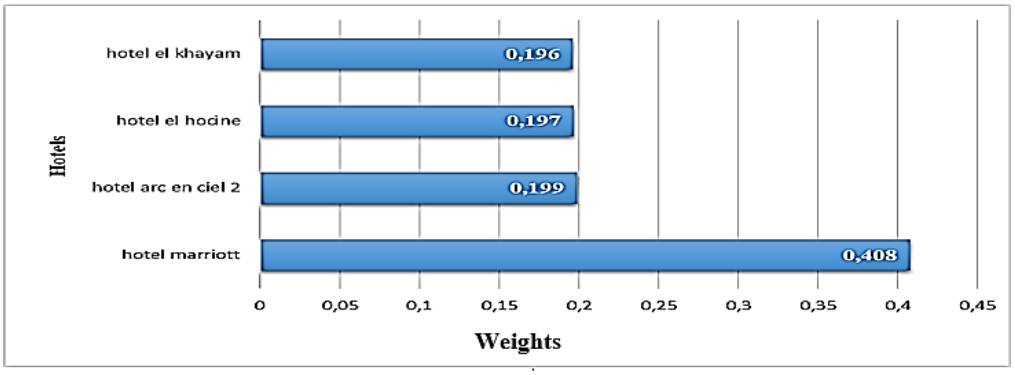

Figure 2 Synthesis with respect to responsiveness dimension

The Marriott Constantine five-star hotel performed the best with a weight of 0.408 compared to the four-stars hotels considered in this study, whose weights ranged from 0.196-0.199. The Marriott Constantine performed far better than the four-star hotels in this dimension. The hotel's performance in the empathy dimension is presented in Figure 3.

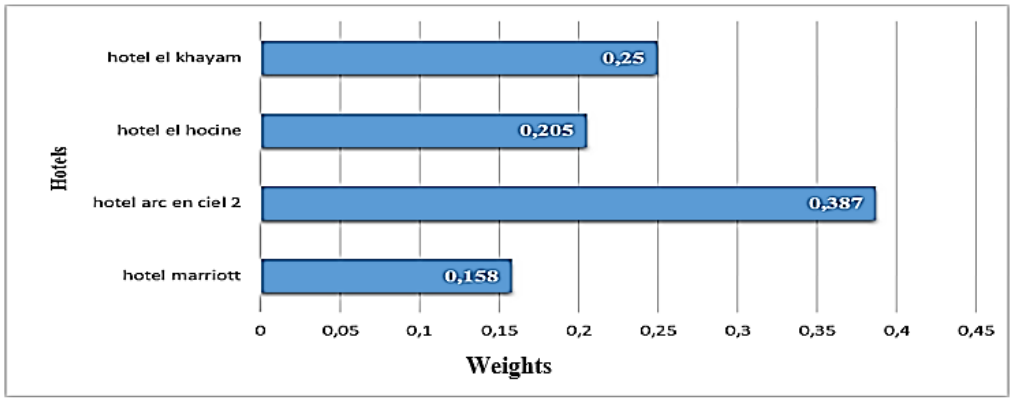

Figure 3 Synthesis with respect to empathy dimension

For this dimension, the Marriott Constantine performed contrary to the responsiveness dimension, and ranked the lowest among the rest of the hotels with a weight of 0.158 compared to the four-star hotels which performed better, and whose weights ranged from 0.205-0.387. The Arc en Ciel 2 performed far better than the Marriott Constantine in this dimension. The hotel's performance in the assurance dimension is presented in Figure 4.

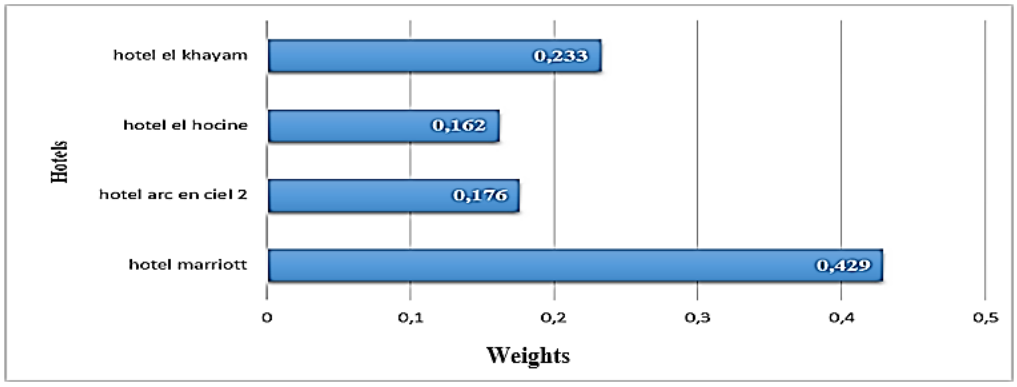

Figure 4 Synthesis with respect to assurance dimension

The Marriott Constantine performed the best in this dimension with a weight of 0.429 compared to the four-star hotels whose weights ranged from 0.162- 0.233. The Marriott Constantine performed far better than the four-star hotels in this dimension. The hotel's performance in the reliability dimension is presented in Figure 5.

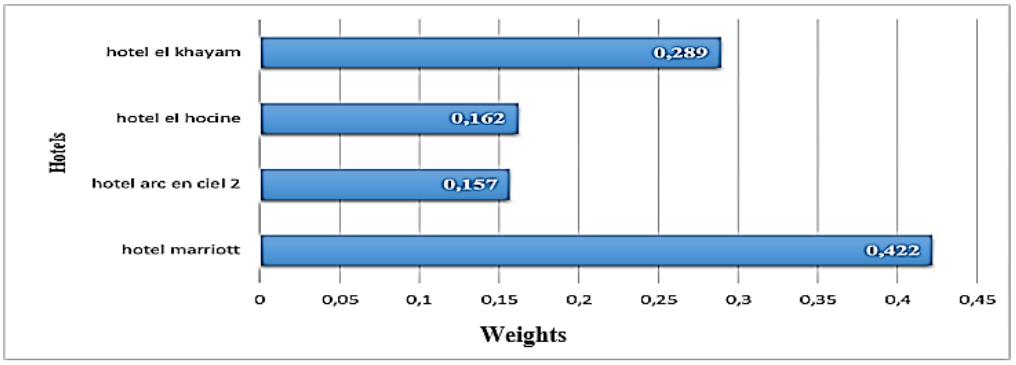

Figure 5 Synthesis with respect to reliability dimension

The Marriott Constantine performed the best with a weight of 0.422 compared to the four-star hotels considered in this study whose weights ranged from 0.162-0.289. The Marriott Constantine performed far better than the four-star hotels in this dimension. The hotel's performance in the tangibility dimension is presented in Figure 6.

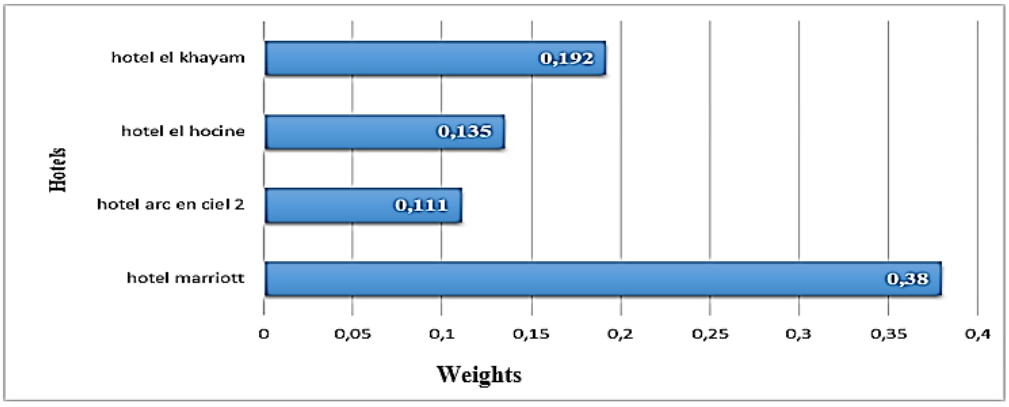

Figure 6 Synthesis with respect to tangibility dimension

The Marriott Constantine performed the best with a weight of 0.562 compared to the four-star hotels considered in this study whose weights ranged from 0.111-0.192. The Marriott Constantine performed far better than the four-star hotels in this dimension. Finally, the final rankings for the given hotel's performance are presented in Figure 7.

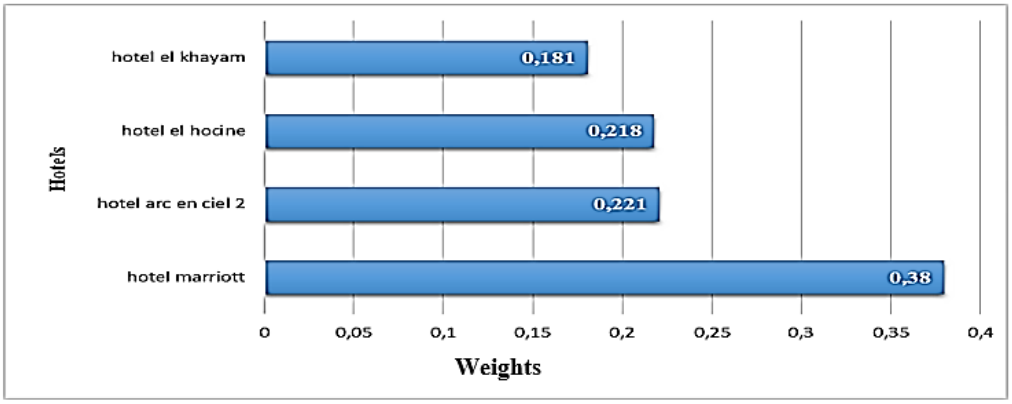

Figure 7 Combined instance-synthesis with respect to competitive benchmarking of hotel's service quality

Clearly, the Marriott Constantine had the best performance scores for the responsiveness, assurance, reliability and tangibility dimensions, and only showed a less strong performance for empathy. Therefore, this hotel is considered the benchmark (service leader).

4.3. Competitive gap

Table 7 summarizes the competitive analysis with a performance gap calculation.

Table 7
Competitive benchmarking analysis outputs

Selection criteria	**Benchmark**	**Competitive benchmark**		
	Marriott Constantine	El Khayam	El Hocine	Arc en Ciel 2
Easy access to the hotel	0.382	- 0.163	- 0.105	- 0.260
Leisure facilities	0.515*****	- 0.374	- 0.386	- 0.300
Hotel exterior and interior design	0.634*****	- 0.431*****	- 0.539*****	- 0.566*****
Wi-Fi Internet	0.529	- 0.335	- 0.414*****	- 0.366
Room fittings	0.570	- 0.353*****	- 0.419*****	- 0.508*****
Sufficient parking for guests	0.628*****	- 0.461*****	- 0.522*****	- 0.529*****
Price	0.080	- 0.347	- 0.305	+ 0.444*****
Recreational facilities	0.515*****	- 0.374*****	- 0.386	- 0.300
Daily room cleaning service	0.498	- 0.293	- 0.293	- 0.410
E-banking service	0.309	- 0.125	- 0.201	+ 0.030
Online booking service	0.434	- 0.271	- 0.224	- 0.241
Laundry services	0.424	- 0.146	- 0.217	- 0.332
Transport services	0.438	- 0.278	- 0.247	- 0.227
Safes in hotel rooms	0.403	- 0.178	- 0.160	- 0.178
First Aid Service	**0.240**	**+ 0.111**	**- 0.118**	**+ 0.047**
Hotel Security	**0.594***	**- 0.457 ***	**- 0.419***	**- 0.530 ***

Selection criteria	Benchmark	Competitive benchmark		
	Marriott Constantine	El Khayam	El Hocine	Arc en Ciel 2
Flexibility & special treatment for guests	**0.292**	**- 0.08**	**- 0.079**	**- 0.009**
Flexible check-in and check-out times	**0.088**	**+ 0.182**	**+0.113**	**+ 0.354**
Ability to provide additional services on request	0.280	- 0.04	- 0.058	- 0.023
Behavior of hotel employees	**0.469**	**- 0.284**	**- 0.294**	**- 0.298**

Notes: The (*) represents the first five gap absolute values for selection criteria to a given hotel. The bolded values represent the five most important hotel selection criteria scores.

Table 7 shows that four out of five of the Marriott Constantine's highest performance scores do not match the five most important selection criteria from customer's perspective, with only the hotel security criterion being met. However, this hotel is considered the leader because it ranked so far above the rest of hotels in terms of performance within almost all of the criteria, except for "Flexible check-in and check-out times" and "First aid service".

Indeed, the Arc en Ciel 2, El Khayam and El Hocine were ranked second, third, and last place, respectively after the leader, with four out of five of their highest performance scores not matching the five most important selection criteria from the customer's perspective. Only the 'Hotel security' criterion was met. However, Arc en Ciel 2 exhibited three positive gaps, and 17 negative gaps; El Khayam exhibited two positive gaps, and 18 negative gaps; and El Hocine exhibited one positive gap and 19 negative gaps. The 'Hotel security' criterion is one of the most important gaps for the hotels when compared with the leader.

Finally, the last step according to Balm (1992, as cited in Min, 1996) involves developing strategic action plans for continuous service quality improvement for hotel managers. First, it is important to measure the sensitivity of the results, which is possible with the AHP. Figure 8 summarizes the performance sensitivity analysis by slightly changing the dimensions' properties.

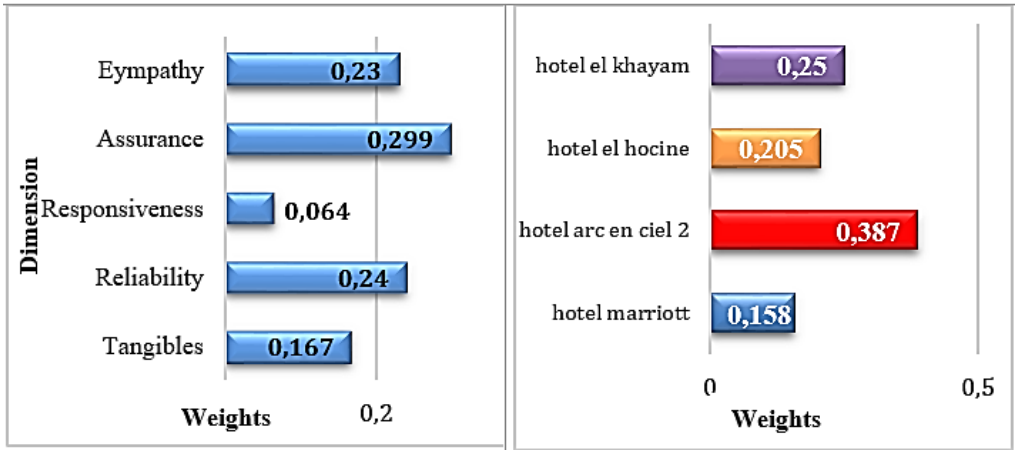

Figure 8 Performance sensitivity analysis outputs

The dimension properties were changed to give more importance to the security criteria (with 29.9% instead of 24.3%) at the expense of the responsiveness criteria

(6.4% instead of 25.2%). The hotel rankings did not change, as the Marriott Constantine hotel was still the leader. The finding was maintained, as long the benchmarked hotels do not enhance their security attributes.

5. Discussion

This article aimed to discuss the hotel selection criteria with Algerian hotel customers, and to compare the obtained rankings with the literature in order to discover the potential specific features of customers' preferences. We also aimed to discuss each hotel's performance to assist hotel managers in developing appropriate and successful strategic actions. In fact, when considering the selection criteria ranking, the customers' most important criteria matched almost completely or partially with numerous previous studies (Lockyer, 2000; Choosrichom, 2011; Sohrabi et al., 2012; Wang et al., 2020; Göral, 2020; Nguyen, 2021; Barsky & Labagh, 1992; Weaver & Heung, 1993; Chow et al., 1995). Security in the hotel and hotel staff quality are the most important attributes noted in the previous literature and our study. However, contrary to numerous research findings (Ananth et al., 1992; Lockyer, 2005; Jones & Chen, 2011; Chan & Wong, 2006; Hsieh et al., 2008; Naletova, 2017), the price was considered as the least important criterion within the selection decision to Algerian customers. Price was considered a less important selection criterion than responsiveness and empathy. In other words, the customers require a quality that matches the price level. Therefore, they do not mind paying a higher price if the desired quality is met. The price of Marriott Constantine ranges from \$126 - \$167 per night; the mean room price of the Arc en Ciel 2 is approximately \$50 per night; while the price for the El Khayam hotel is approximately \$82, and El Hocine is \$74 per night.

6. Conclusion

In today's service-oriented economy, a hotel's capacity to deliver outstanding service that results in client pleasure is crucial to its existence. Customer satisfaction cannot be ensured unless the hotel develops its service performance metrics and uses them to contrast its performance with that of the service leader. This research accomplishes this by using competitive benchmarking. Although competitive benchmarking has generally been used to evaluate the quality of products, this research is the first to apply competitive benchmarking to the evaluation of the quality of hotel services. Also, this study showed that using the AHP and competitive gap analysis are effective instruments for assessing a hotel's competitiveness. In summary, the Marriott Constantine hotel received the highest selection criteria scores; therefore, the hotel is considered the leader among the listed hotels. In the benchmarking process and following the Balm (1992, as cited in Min, 1996) approach, interesting strategic actions may be delivered to the hotel managers in order to enhance the proposed quality.

Therefore, Marriott Constantine managers should focus their efforts on maintaining their high performance compared to the rest of hotels. It may be easy to achieve the top ranking, but it is hard work to maintain this high level of performance. However, they may consider the price/quality combination and concentrate their efforts on offering first aid services, and reviewing the check-in operations. The check-in process may suffer from prolonged waiting times, and reservations might not be accurately honored by the front-office team, resulting in situations where guests

experience delays in accessing their rooms or encounter errors in their booked accommodations. Indeed, they should offer much more flexibility with checkout times when occupation rates are low.

For the Arc en Ciel 2, besides price competitive advantage and flexibility with check-in and checkout, managers should pay attention to the tangible and intangible hotel criteria. Particularly the security in the hotel needs to be attended to. They also need to consider hotel exterior and interior design; room fittings; sufficient parking for guests; and daily room cleaning service criteria. With regard to El Khayam, managers should focus on enhancing their quality, especially the hotel exterior and interior design; room fittings; and sufficient parking for guests. Finally, the El Hocine hotel managers should focus on enhancing their quality, especially with regards to the hotel exterior and interior design; Wi-Fi Internet; room fittings; and sufficient parking for guests.

In conclusion, the Arc en Ciel 2 is the worst in this selection criterion with the most important negative gap with benchmarked hotels. This finding may be discussed with regard to hotel's online reviews *Google Travel* booking platform. In fact, according to some reviews, the hotel is considered isolated from the city. The hotel has the lowest ranked score of (2.6) among the rest of studied hotels (3.0; 3.4; 3.2) with regards to its location. This point should be further researched.

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