Journal of Hospitality Financial Management

The Professional Refereed Journal of the International Association of Hospitality Financial Management Educators

Volume 29 | Issue 2 Article 3

2021

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Recommended Citation
Shafiee Roodposhti, Maysam; Behrang, Kiandokht; Mirghafoori, Habibollah; and Mehrjoo, Khadijeh (2021) "Pricing in the Hotel Industry Based on the Simultaneous Realization of Cost Management and Service Quality Efficiency Using Tanaka Technique," *Journal of Hospitality Financial Management*: Vol. 29 : Iss. 2 , Article 3.
DOI: https://doi.org/10.7275/4y9z-9s24
Available at: https://scholarworks.umass.edu/jhfm/vol29/iss2/3

THE JOURNAL OF HOSPITALITY FINANCIAL MANAGEMENT
2021, VOL. 29, NO. 2, 57–69
https://doi.org/10.7275/4y9z-9s24

Pricing in the Hotel Industry Based on the Simultaneous Realization of Cost Management and Service Quality Efficiency Using the Tanaka Technique

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ABSTRACT
This research seeks to utilize a technique (the Tanaka technique) in which, while focusing on quality improvement, costs will be managed and tourism organization and companies can benefit from various incomes. The statistical population of this study was hotels in Isfahan, and using the opinions of experts of this industry, five cost-effective quality indicators were achieved. This technique has eight steps, and for data gathering, questionnaires and interviews were used. This study identifies the amount of deviation of the actual cost from the target cost for each of the indicators. The results showed that ancillary facilities, structural architecture, service, manpower, and hotel amenities, respectively, are the priority of attention.

Keywords: Tanaka technique, target costing, hospitality industry, hotels of Isfahan, hard and soft functions of hotels

Introduction

Hospitality and tourism are the world's largest industries that create a tremendous range of economic benefits (Jones & Wynn, 2019). The export income generated by international tourism has been allocated fourth rank after fuel, chemicals, and automotive products (Vij, 2012). The tourism industry has grown surprisingly fast, outstripping manufacturing, finance, and retail. As a matter of fact, since tourism is a "non-smokestack" industry and is a key source of foreign exchange, countries all over the world view tourism as a vital focus for economic development (Kot et al., 2019; Cho & Wang, 2018).

Reorganizing and redesigning cost processes are among the important factors in gaining and using cost information and also for attracting more customers to the hotels, all costs need to be effectively controlled, because by minimizing costs through control, hotel businesses will obtain competitive advantage (Sevim, 2020). The hotel industry is taking on challenges to find a variety of effective solutions to cut down on cost without sacrificing quality. However, even when the economy of the country is robust, it is a good idea to have a clear policy for cost management. One of the main factors which affect the profitability of the hospitality sector is cost competitiveness. In a highly competitive hospitality industry, both services and cost factors have affected the key challenges and the primary area of focus (Vij, 2016).

Without effective and sufficient pricing practices, any firm, whether offering products or services, will not be lucrative or competitive in the long run, which is applicable to the hotel industry, where pricing practices can arguably become more complicated (Pohland & Kesgin, 2018). In the hotel industry, pricing is one of the most vital factors in establishing profitability (Seal & Mattimoe, 2011, p. 504), and it can be indicated as the way of finding out an optimum price for products and services offered. Pricing strategies help organizations to determine prices that maximize revenues, profits, and shareholder value while pondering consumer and market

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demand. All pricing concepts suggest to add value to both products and services. Value is something for which the customers are eager to pay. As opposed to services, products are tangible and visible. Therefore, customers have a good perception of what they can buy. Services are intangible and variable, so that certain factors have to be involved while defining the appropriate pricing strategy. In the hotel industry, guests feel satisfied when the presented services exceed their expectations (Radojevic et al., 2019). In this regard, in order to fulfil guests' expectations, guests should clearly see the difference between room features. Thus, managers have to differentiate them with different benefits and characteristics and also, they have to try to discover the needs and wants of their guests (Helmold, 2020, p. 13).

Iran has rich history among other Middle Eastern countries. In Iran, the main source of income is still the petroleum products. However, tourism is also one of the high earning industries for such a country (Arash & Baradarani, 2014). Unfortunately, in recent years, the Iran tourism industry has not been in a desirable situation because of the political circumstances and the imposition of international sanctions. Nevertheless, it has continued to attract tourists. Due to the 1979 revolution, many foreign hotels withdrew from the country to be replaced by local companies. Consequently, a shortage of accommodation has emerged, which often fails to meet international standards in terms of physical condition and services. These issues influenced the hotel operation, which has led to inefficiencies and financial difficulties (Ghaderi et al., 2019).

Around the 1990s, many firms have adopted Target costing as a management accounting technique. Target costing was originally developed in Japan after the first oil crisis (in 1973) and since then, it has been widely improved and used (Bock & Pütz, 2017). Target costing is an efficient cost management tool for declining the cost of products in which the cost of the product is determined prior to design and guarantees the profitability of the company (Pennanen & Ballard, 2008; Ansari et al., 2006; Kádárová et al., 2015). In this way, the Tanaka technique is one of the conventional methods in cost management of new product design, and the inventor of this method is Masayasu Tanaka who holds a PhD in cost management of new product design (Mirghafouri et al., 2013).

Literature Review

Basically, cost and quality are two interrelated, strategic, and influential components. In this way, they have a disproportionate impact on one another and control each other without trying to strengthen the other one (Kaipia & Turkulainen, 2017; Kim & Kim, 2010). The principles of quality and cost from the perspective of manufacturing and service companies are contradictory and almost inconsistent. In other words, when a complex wants to increase its quality, it has to increase its costs in parallel with the quality improvement (Brandon, 1984; Scarpin & Brito, 2018; Laszlo, 1997). Generally, quality for businesses is costly. On the other hand, when businesses want to manage their costs, they have to reduce their quality. The tourism industry is a competitive industry and costs are of utmost importance in this area (Alglawe et al., 2019). On the other hand, quality is a very important factor for the tourist because the cost-quality challenge in this area is a very significant one and many tourist attractions will be damaged by this challenge. Given that we were looking to find an approach that could simultaneously guide or manage costs optimally and increase quality, we selected the Tanaka technique. Tanaka is a technique that generally considers both components of cost management and quality management at the same time, and tries to provide a model through hard and soft components and matching methodology to manage costs and reduce cost deviations and also increase the quality of services. This technique in its operation process not only focuses on reducing costs or increasing quality, but tries to optimize cost, like many Japanese methods, while considering quality improvement. Costs are optimized as well as increasing the effectiveness and efficiency, which is an innovative aspect of this research. This research is trying to synergize these two concepts of cost and quality together. It offers a practical model for theorists in terms of opening new doors in the cost management structures of the tourism services sector, and a practical model for the audience and users of the tourism sector; they both can make use of it to reduce their costs in the operational areas. Due to the rapid and amazing advances in services, as well as the continuous and increasing competition in global markets, managers have been forced to produce high quality products, providing good

customer service simultaneously at the lowest possible cost. Cost management can be effective in the development of the tourism industry. Since income and costs are in competition in any business, it is clear that there is a close relationship between limiting costs in the service sector, especially tourism, and its development, practical principles of cost management can be used to develop this industry.

After reviewing various research related to tourism, it was concluded that there is a gap in providing a model that can reduce customer costs without compromising the quality of services and products. The difference between this study and previous research is the use of the Tanaka cost management technique in the service sector (tourism industry). The cost of accommodation of tourists in hotels in Isfahan is the focus of the current study. Finally, we intend to provide this model to set an optimal limit for the cost, increase customer satisfaction, and consider a reasonable profit for tourism centers.

According to Cho and Wang (2018), a key competitive issue for hotels is evaluating cost management efficiency and determining factors which affect cost productivity performance. Pohland and Kesgin (2018) during their study concluded that according to the hotel managers' point of view, profit maximization, customer satisfaction, and sales maximization are the fundamental pricing objectives. Also, luxury hotels placed higher importance on customer-related and service-quality-related objectives instead of stability in the market and competition-related objectives. Sanjeev et al. (2012) suggested that financing (high financing costs and difficulty in raising finance) are the main issues that should be pondered. The result of Yazdifar and Askarany's study (2012) revealed that according to the statistics, service firms, compared with the manufacturing firms, have shown more interest in the adoption and implementation of TC (target costing). In line with Park et al.'s research (2016), when the automation of the manufacturing environment now restricts companies from reducing their processing costs, most manufacturers are in need of a cost management system to help them decrease the material costs that account for a large part of the product costs.

Given that we didn't find any research on cost management and pricing model in the hospitality industry, and due to the positive and significant role of hospitality industry in economy and the multitude of historical and tourist attractions in Iran, the authorities could ponder this industry as a golden opportunity. Furthermore, thanks to the lack of ideal and efficient cost management model in the hospitality industry, the researchers have tried to conduct research into pricing in the hotel industry based on the simultaneous realization of cost management and service quality efficiency using the Tanaka technique. According to what was mentioned, this research intends to manage the quality in order to achieve the desired tourist's price, and to provide an approach in the field of hospitality in which the optimum level of quality services can be provided. Thus, in line with what was mentioned, this research seeks to answer the following questions:

1) According to Tanaka's model, what are the desired soft indicators in hotel services pricing?
2) According to Tanaka's model, what are the desired hard indicators in hotel services pricing?
3) What is the appropriate pricing model of hotel services based on the net cost and the Tanaka model?

Materials and Methods

Tanaka's Technique Usage in the Hospitality Sector and Indicators

As mentioned earlier, despite the many advances that the tourism industry has made in improving financial performance, there is still no practical and valid model that can be used to improve the financial performance of this industry and use it as a suitable model for cost management. Therefore, in this section, the Tanaka technique is discussed, and it is determined how this technique is used in order to manage costs in the hotel sector. Tanaka claimed that the eight steps are as follows:

Step 1: Determine the cost of the service. (The service refers to each of the services provided in the hotel.)

Step 2: Define service as a set of hard and soft functions.

Step 3: Allocate some parts of the target costs to hard functions and parts of it to soft functions.

Steps 4 and 5: To each hard performance—based on the relative importance of other hard performance, define a Function Importance Value (FIV) and repeat the process for soft functions.

Step 6: Determine the relative importance of each service for each function.

Step 7: For each service, calculate the total JIV (Join Importance Value) for all hard functions and multiply JIVs at the target cost allocated to hard performance. Repeat the process for soft functions.

Step 8: Calculate the target cost and value index (Value Index) of each service (Noori & Radford, 1995).

During surveys conducted with hotel industry experts, the service sectors that can be provided to tourists among hotels were identified. The importance and application of these five indicators is that in the next stage, the importance of hard and soft hotel functions will be evaluated using these five indicators, and in the last stage, each of these indicators will be prioritized using the eight stages of the Tanaka technique, and we will answer the research questions.

These five costing quality indicators are: 1. structural architecture (hotel space); 2. amentities; 3. service; 4. ancillary facilities; and 5. manpower.

Population, Sample, and Sampling

In the present study, the statistical population consists of three parts. The statistical population of the first stage, due to its form, includes experts and university professors related to the subject of tourism that was used for credibility and type of the research and use them in significant interviews and surveys and make use of them for credibility and identification of the process. In the second stage of the statistical population of this research are experts and hotel builders, and the third statistical population and quantitative dimension of the research is for examining the functions and indicators that were collected and validated in the first and second stages; consumers of hotel services and travelers were questioned. The examples in this study are hotel experts and builders for hard functions and travelers for soft functions. In this study, convenience sampling was used.

According to Morgan's table, the number of samples was set at 300 for both consumer and expert groups, and the same number of questionnaires were distributed to each group. Finally, the number of samples related to experts, managers, and hotel builders is 222 people with a return rate of 74% and for users of hotel services, 268 people with a return rate of 89%. It should be noted that the validity of the questionnaires was based on the approval and diagnosis of experts; the current study has content validity and also its reliability is valid according to Cronbach's alpha coefficient.

Data Collection Tools

In the first stage and qualitative phase, in-depth interviews and open questionnaires were used to gather the opinions of experts and professors. In the second and third stages of the quantitative phase of the research, a structured questionnaire was used to identify the main indicators and the soft and hard functions of the hotel. In the questionnaires, each component was measured on a five-point Likert scale.

Data Analysis Method

In this study, convenience sampling has been used. Descriptive statistical analysis and inferential statistics were used to analyze the data. Therefore, in this study, in order to analyze and review the data using descriptive statistics, tables, and percentages, we examined the impact of indicators on costs in the questionnaires. This data is available in the next section. In this study, researchers used sampling and selected a small group called the sample (Aseman & Abbasi Hotel) from a larger group of hotels in Isfahan (called the statistical community) deals with the main population and using data and information; using the data and the information from the sample, the results will be estimated and predicted. As it is shown in Figure 1, first the relevant components to the hotel have been identified in consultation with experts, and according to their recommendations, the five main indicators of the hotel were determined as its main indicators. Then hard and

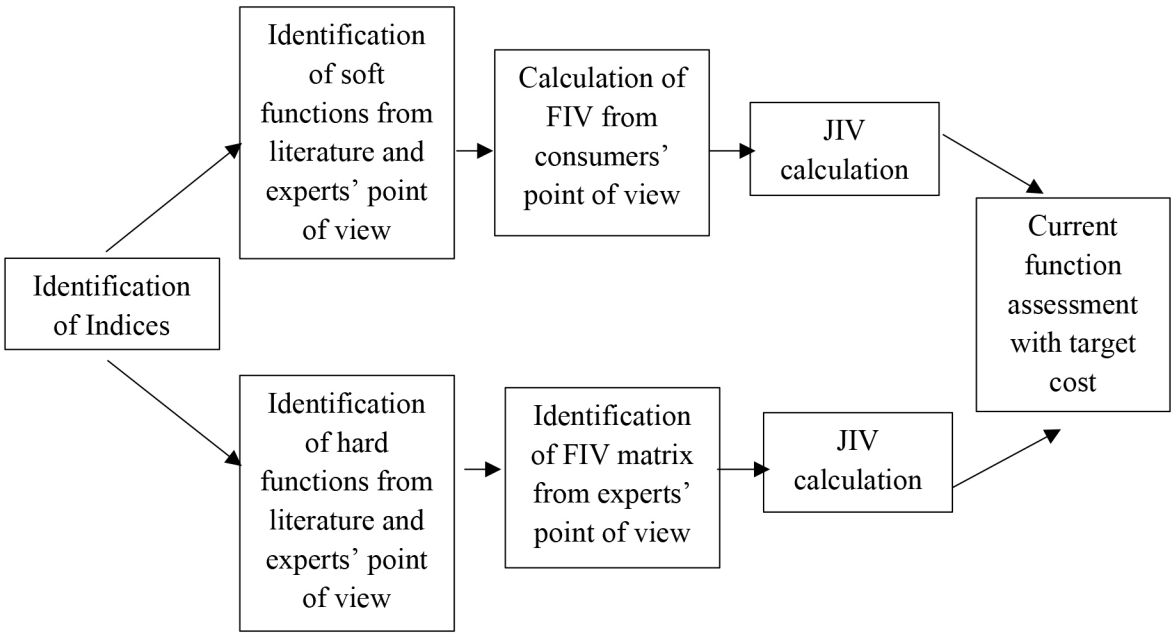

Figure 1. The process of conducting research.

soft performances were identified with the advice of relevant experts. In the next step, by analyzing the questionnaires, the importance of each index was identified both in the hard and soft functions based on the opinions of experts and hotel builders, as well as the importance of each feature for travelers (soft features) and builders (experts for hard features), converting the information of the questionnaires collected from the travelers into the data. After calculating the FIVs and certain JIVs, the evaluation of the hotel's cost performance was done.

Results

Implementation of Overnight Hotel Cost Management Model

In this section, according to the steps mentioned in the previous parts to implement the cost management model, the following steps are performed and the results are presented.

Research Steps

Step 1. Determine the Target Cost of the Services

After reviewing the cost of selected hotels in Isfahan, it was decided that at the time of the research, the actual cost of a night stay in a hotel is equal to 50 USD, which, in conversation with their managers and a survey of some tourists, if reduced to $42.50 would be an acceptable rate of accommodation; this amount ($42.50) will be the target cost of this study.

Step 2. Define Services as a Set of Hard and Soft Functions

At this stage, first by studying the indicators provided by professors and finally discussing with experts, 77 main functions and functional characteristics of hotel design were identified. This is the most important and time-consuming stage of project implementation. After this stage, by repeatedly visiting the hotel and talking and negotiating with experts and finally gaining their consensus, a number of these functions were identified as superior performance. Finally, 69 functions were identified as the main functions to manage the design cost of the hotel. In continuation, these 69 functions are hard and soft, and an explanation of each group of functions is presented as follows.

Introduction of Hard Services Functions Hard functions include the mechanical requirements of the hotel; these features are identified, defined, and analyzed by experts and managers of the hotel industry, such as the suitability of equipment with structural architecture, the strength and durability

of the architectural structure. In order to avoid repetition, we presented hard and soft services functions in steps 4 and 5.

Introduction of Soft Service Functions Soft functions include features such as hotel cleanliness, restaurant food quality, internet speed and quality, or the quality and softness and comfort of the beds in the room. Soft functions are part of the quality of service that is tangible to the consumer. In fact, there are features that, whether they are provided or not in the performance of the hotel, they will determine the level of satisfaction of consumers and travelers with the hotel services. Soft functions are first achieved through library studies, reading catalogs and brochures, and interviews with experts.

Step 3. Allocate Part of the Target Costs to Hard Functions and Part of It to Soft Functions

Determine the Weight of Each Component of the Model After identifying the main components of the hard and soft functions of the hotel services, in the next step, the weight of each component must be determined. To this end, weighting theory is used, in which the weight of each component is determined. Accordingly, in this step, questionnaires were prepared in accordance with the Likert scale of five, for experts in the hotel industry (in order to analyze the performance of hard functions) and hotel service consumers (to analyze the soft functions of the hotel), and it was distributed among experts as well as travelers. After collecting and analyzing questionnaires of these two groups using weighting theory, the coefficient of importance for each function is obtained. Also another questionnaire was designed, distributed, and collected to determine the importance factor of each component in each identified function, for experts. Due to the fact that the previous research and literature did not provide a definite basis for determining the weight, after conducting the necessary consultations with experts, 50% of the costs were allocated to hard functions and 50% to soft functions. Fifty–fifty is a desirable opinion that has been obtained and suggested from the point of view of experts familiar with hotel issues and related indicators.

Steps 4 and 5. Assign a Function Importance Value (FIV) to Each Hard Function—For the Importance of Other Hard Functions, and Do the Same for Soft Functions

As mentioned earlier, 300 questionnaires were distributed to consumers and travelers staying at the hotel to determine the FIV of soft functions, and 300 questionnaires were distributed to determine the importance of the functions among hotel staff, experts to determine the FIV of hard functions. The FIV values for hard and soft functions are shown in following tables (Tables 1 and 2).

Table 1. FIV Calculation of Hard Functions

Number	Hard Functions	FIV
1	Proper design of the structure to strengthen the building and make it resistant to sudden accident	2/10
2	Proper design of the structure in accordance with the standards and observance of safety points and construction principles	2/10
3	Appropriate design of the structure to be matched with the culture and tradition of the people of the region	2/70
4	Appropriate design of the structure to use the scenic scenery	2/50
5	Proper design of the structure in terms of local location and landscape of the place	2/60
6	Suitable design of the structure in terms of interior design-furniture and lighting	3/00
7	Proper design of the structure to increase efficiency	2/10
8	Proper design of the height of the structure to dominate the environment	2/00
9	Proper design of the structure for ease of repair	2/00
10	Proper design of structures with the desired capacity and future workload	3/00
11	Proper design of the structure for timely access to various parts and other parts of the structure	2/10
12	Proper design of the structure for timely service	3/50
13	Proper design of structures for various uses without disturbing other parts	2/00
14	Appropriate design of the structure to classify the structure in terms of level and quality of service related to consumer affordability	2/30
15	Proper design of the structure to have separate paths for staff and passengers	2/00
16	Proper design of the geometric shape of the structure	3/05
17	Proportion of welfare equipment to the architecture and texture of the structure	3/70
18	Having modern and up-to-date welfare equipment, attractive in terms of shape-color-appearance	3/85

Number	Hard Functions	FIV
19	Having safe and healthy welfare equipment	2/30
20	Appropriate design in order to match and coordinate welfare equipment with the structure	2/30
21	Proportionality of service to the type of consumer	3/70
22	Proper design of the arrangement of welfare equipment with the geometric shape of the structure	2/15
23	Proper design of hotel ancillary facilities (structure) with the interior of the structure	2/15
24	Proper design of the central core and access to all interiors	3/05
25	Appropriate design of the structure to allocate part of the structure space to various ancillary facilities	2/30
26	Proper design of the structure to facilitate access to different parts of ancillary facilities	2/00
27	Complete sensitivity with the selection of hotel staff	3/50
28	Training of selected staff and personnel	3/50
29	Ensuring the health and cleanliness of staff	3/45
30	Ensure adherence to hotel customs and rules	2/70
31	Proper design of the structure to use the minimum number of personnel	1/50
32	Proper design of the structure for commuting and buying hotel necessities without disturbing the consumer	1/10
33	Proper design of the structure for the necessary facilities for storage	1/00
34	Proper design of the structure in terms of architecture and interior design to be beautiful, unique, and continuous	3/20
35	Proper design of a very regular reception office in a sufficient and quiet atmosphere	1/80
36	Suitable design for large and comfortable rooms; No noise; Enough light; Living room with attractive decoration	2/50
37	Ability to provide timely services to guests	2/00
38	Proper design of the exterior of the structure	3/60
39	Ability to coordinate and adapt services	1/80
40	Ability to identify problems in a timely manner and resolve them	1/80

Table 2. FIV Calculation of Soft Functions

Number	Soft Functions	FIV
1	Quality of room architecture	2/98
2	Quality and softness and comfort of the bed	3/36
3	Ease of use of room interior furniture	3/26
4	Hotel brands	2/98
5	Shapes and beauty of the hotel	3/43
6	Cleanliness of the hotel environment	4/13
7	Restaurant's quality	4/00
8	Freshness of restaurant food	4/07
9	Internet speed and quality	3/14
10	Ease of access to transportation	3/72
11	Quality of health facilities	3/80
12	Types of hygienic materials	3/57
13	Brands of hygienic products	2/85
14	Proportionality of services that can be provided to domestic and foreign tourists	3/53
15	Easy access to hotel and shopping center—Shopping and city center	3/80
16	Matching the color of the building and the room with the interior	3/19
17	Timely service of rooms and guests	3/70
18	Internet accessibility and Wi-Fi access	3/00
19	Quality of service provided	4/00
20	Quality of heating and cooling equipment and hotel amenities	3/50
21	Interior design	3/14
22	Safe and quiet environment of hotel's location	3/08
23	Ensuring the resilience and internal security of the hotel	3/29
24	Easy access to the surrounding scenery	3/12
25	Ease of troubleshooting, repairing the hotel	3/29
26	Easy access to different sections	3/32
27	Quality of service with the level of affordance of guests	3/65
28	Quality of interior decoration-furniture-lighting-design size and color fit with interior furniture	3/70
29	Ease of travel and communication with different parts of the hotel	3/40

Step 6. Determine the Relative Importance of Each Indicator for Each Performance

According to the previous explanations, the reliability coefficient of each component was obtained from the questionnaire prepared and distributed to the designers and experts. For example, the coefficients of importance related to the indicators in the first feature are 99.37% and 0.63%, respectively. For example, the FIV manpower of 8.19%, ease of travel and communication with different parts of the hotel

(feature 29—soft) is assigned (8.19 * 3.40). The sum of these present the total JIV values for each index.

The JIV in the last row is calculated by first adding the raw JIV values in each column for each index and then the resulting value was normalized. In this way, for each index, the significance coefficient is obtained from 100% of the total, and thus the relative significance coefficient of the relevant index is calculated.

Step 7. For Each Index, Calculate the Sum of the JIVs for All Hard Functions and Multiply the JIVs by the Target Cost Allocated to the Hard Functions. Repeat the Same Process for Soft Functions

Calculation of the total cost of each indicator can be seen in table below (Table 3).

Columns 2 and 4 are from the previous two tables. Twenty-one dollars and 25 cents, 50% of the actual cost ($42.50) for hard and soft functions. In the table above, for example, in hard functions and the structural architecture index (21.25 * 57.47) the corresponding JIV value is multiplied by the target cost and finally the target cost of $12.21 was calculated for the structure architecture.

Column (3) = 21.25 * column (2)
Column (5) = 21.25 * column (4)
Column (6) = column (3) + column (5)

Step 8. Calculate the Target Cost and Value Index of Each Index

The total target cost of each indicator includes the sum of the costs allocated to hard and soft functions. The actual cost of the index should be as close to the target cost as possible. The table below compares the actual cost of each indicator used in the design of the hotel with the target cost. The value index (the last column on the right) is obtained by dividing the target cost by the actual cost. The goal is to bring the value index as close as possible to one. The results of calculation of the value index are shown in Table 4.

Discussion

The present study sought to manage costs in the tourism industry using the Tanaka technique to identify the amount of deviation of the actual cost from the target cost for each of the indicators and increase the quality of services and cost optimization, and to increase guest satisfaction and reasonable profits for centers. In this regard, first, by conducting library studies and using the opinions of experts, cost-effective quality indicators and hard and soft functions were identified, and in the next steps, using eight steps of the Tanaka technique, the true cost deviation from the target cost for each of the indicators was obtained. In this section, we try to examine the various dimensions around this issue. One of these dimensions is to evaluate the FIV rate of the functions that have a higher significance coefficient.

In terms of hard functions, having modern and up-to-date welfare equipment in terms of shape-color-appearance, welfare equipment compatible with the architecture and texture of the structure, appropriate service in line with consumers' needs,

Table 3. Calculating the Total Cost of Each Indicator

Functions	Hard functions		Soft functions		Target cost
Structural architecture (hotel space)	57.47	$12.21	28.06	$5.96	$18.18
Amenities	14.12	$3.00	40.44	$8.59	$11.59
Service	6.7	$1.42	21.31	$4.53	$5.95
Ancillary facilities	3.23	$0.69	3.96	$0.84	$1.53
Manpower	18.48	$3.93	6.23	$1.32	$5.25
Sum	100	$21.25	100	$21.25	$42.50

Table 4. Calculating the Value Index

Functions	Target cost	Actual cost	Value index
Structural architecture (hotel space)	$18.18	$22.50	0.807782222
Amenities	$11.59	$12.00	0.966166667
Service	$5.95	$7.00	0.8503
Ancillary facilities	$1.53	$2.50	0.61116
Manpower	$5.25	$6.00	0.87515
Sum	$42.50	$50.00	

proper design of the exterior structure, sensitive and exact selection of the hotel staff, training the selected staff and personnel, and proper design of the structure for timely service are more important than the other functions. Also in terms of soft functions, cleanliness of the hotel environment, freshness of restaurant food, quality of restaurant food, quality of provided service, quality of health facilities, and ease of access to the hotel and shopping center—shopping and city center are more important than the other functions. Therefore, hotel managers, by investing in the functions with a higher FIV, will satisfy the travelers and ultimately earn more income.

By analyzing the weights obtained by FIV and combining these weights with the weights obtained from the opinions of tourism industry experts according to the steps of the Tanaka technique and the implementation of the technique, we reached the final result. The priority of the importance of each of the main indicators is shown in Table 5.

As it turns out, from the experts' point of view and from the travelers' point of view, amenities are the first priority, and the ancillary facilities of the hotel are the last priority. Hotel managers should invest more in hotel amenities as they can increase the quality of hotel services and ultimately the satisfaction of travelers. Also, the structural architecture index is of great importance to hotel experts, which confirms that hotel managers should pay more attention and invest in this index.

Table 6 ranked the value index to the ideal value (one). This table shows the degree of priority required by experts to pay attention to the indicators in terms of cost and also in terms of the analytical cost according to the value index.

Figure 2 shows the radar chart of functions, target cost, actual cost, and value index.

Analyzing the radar diagram, we conclude that the largest difference between the actual cost and the target cost is related to the structural architecture, service, ancillary facilities, manpower, and amenities, respectively. The amount of priority required to pay attention to the index can be seen in Table 7.

It is worth noting that if we want to compare the difference between the two actual costs and the target cost in terms of difference (radar chart), structural architecture is the most important indicator, but if we compare the value of the two actual costs and the target in terms of value, amenities is the most important indicator.

Conclusion

According to what was mentioned in the previous sections, one of the results of this study is that the use of the Tanaka technique in order to manage foreign exchange costs can play an important role in controlling foreign exchange. Another result is that by providing this model and setting an optimal limit for the cost price, the client satisfaction will be increased. In addition, presenting this model and determining the optimal limit for the cost price indicates that it considers a reasonable profit for service centers.

According to the prioritization of cost-effective quality indicators and cost analysis of indicators, in

Table 5. Ranking the Importance of Indicators

Priority of indicators' importance	From experts' point of view		From travelers' point of view	
1	Structural architecture (hotel space)	57.47	Amenities	40.44
2	Manpower	18.48	Structural architecture (hotel space)	28.06
3	Amenities	14.12	Service	21.31
4	Service	6.7	Manpower	6.23
5	Ancillary facilities	3.23	Ancillary facilities	3.96

Table 6. Cost Analysis of Indicators

Functions	Target cost	Actual cost	Value index	Deviations	Explanations
Structural architecture	$18.18	$22.50	0.807782222	Negative deviation	Necessity of cost reduction
Amenities	$11.59	$12.00	0.966166667	Negative deviation	Necessity of cost reduction
Service	$5.95	$7.00	0.8503	Negative deviation	Necessity of cost reduction
Ancillary facilities	$1.53	$2.50	0.61116	Negative deviation	Necessity of cost reduction
Manpower	$5.25	$6.00	0.87515	Negative deviation	Necessity of cost reduction

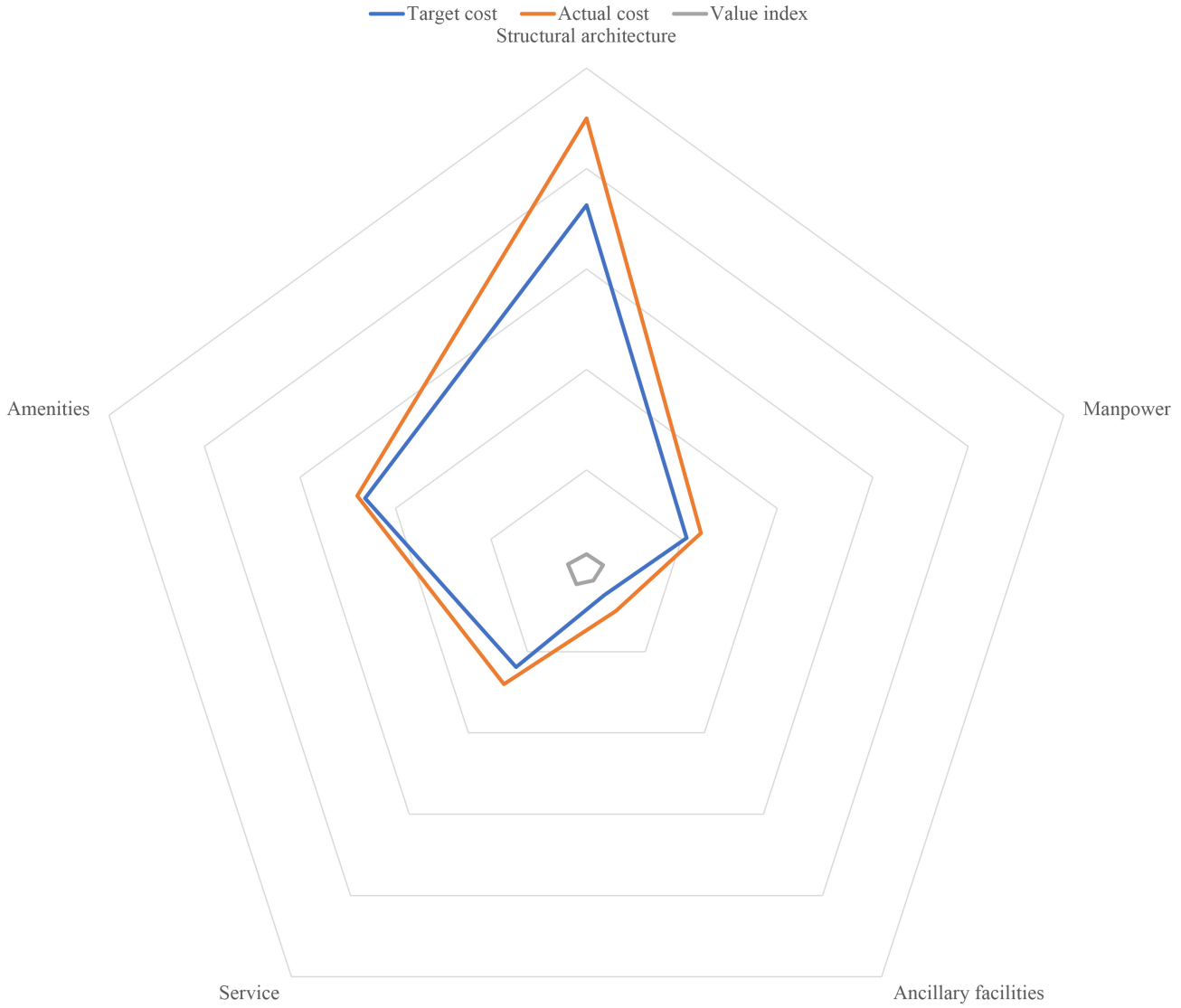

Figure 2. Radar chart of functions, target cost, actual cost, and value index.

Table 7. Amount of Priority Required to Pay Attention to the Index

Indicators (in order)	Needing attention
1	Amenities
2	Manpower
3	Service
4	Structural architecture
5	Ancillary facilities

order to increase guest satisfaction, it is necessary to focus on these five dimensions (amenities, manpower, service, structural architecture, and ancillary facilities, respectively). Although there were other costly quality indicators, based on experts' opinion, only the five dimensions mentioned were the main concern of researchers. It should be noted that indicators that are in priority (amenities and manpower) are costlier and need more attention. If the hotel managers focus on these five cost-effective quality indicators and invest in priority order, while eliminating the cost deviation and bringing the target cost closer to the real cost, travelers' satisfaction will increase and they will earn more profit.

If we want to compare this study and the similar ones, we can mention that Moro et al. (2020) concluded that transportation, service provided by staff, and food and drink are the most influential dimensions that affect the guest satisfaction. Also, our research proved all of these dimensions as soft functions. Wilkins et al. (2007) indicated that there are three factors that affect the consumer perspective:

physical product, service experience, and quality food and beverage. Our research proved all these factors. According to Mey et al. (2006), reliability, responsiveness, assurance, empathy, and tangibility are the service quality dimensions. Except reliability and assurance other dimensions are mentioned as hard and soft functions in our research. The result of Tsaur and Lin's research (2004) showed that HRM role has positive effect on service quality at hotels, which is proven in our study. Dortyol et al. (2014) carried out research in Antalya and their findings included ten dimensions associated with service quality in hotels. These ten dimensions are friendly, courteous, and helpful employees; room amenities; food quality and reliability; interaction with Turkish culture; entertainment opportunities; tangibles; level of prices; transportation; climate; and hygiene and security. In comparison with our study, climate and security dimensions are not supported, but others are proven as soft functions.

According to the steps performed in the previous sections and through research, the following suggestions are presented.

- Considering the comparison of the results of this research with other cost management models in the tourism industry

Due to the novelty of using this technique, it is suggested that the present study be conducted with other cost management models, including activity-based costing (ABC), and then compare the obtained results with the results of this study.

- Considering the application and development of the model to the service department

Considering that studies has been conducted in relation to cost management in the field of tourism industry, it is suggested that the implementation and application of this technique in the field of services be given special attention and its effectiveness in controlling cost deviations in the tourism services sector needs further study and analysis. In this case, its results should be considered with other cost control and cost-based costing techniques.

- Pay more attention to the correct and efficient management of the costs of each department

According to the analysis of the results in the previous section, as well as the review of the allocated costs, which are relatively evenly divided, it is suggested that designers and hotel experts focus more on managing the costs.

- Implementing this technique on other elements of tourism and a subset of indicators

It is suggested that the implementation of this technique can be applied to the components of indicators and other services that can be provided to customers in the tourism industry as well as elements (transportation, food, services, and attractions) of tourism to measure customer satisfaction and the obtained results and compare it with the results before the implementation of cost management in tourism.

- Calculating the amount of undesirable deviations and the amount of its impact on the total cost of the organization

According to researchers, the sum of undesirable deviations can be a good measure of the direction of fiscal policymaking. Therefore, it is suggested that the amount of undesirable deviation in exchange for each hotel that is ready to provide services to customers in a given period of time (month and year) can be calculated. And it should be mentioned that considering the reduction of the deviation, how much the cost of the provision and the cost of the system can be reduced. Also, the calculation of the reduction of the cost of the provision and the cost of the system can be used as a favorable accounting index.

Practical Suggestions

- Since amenities in guests' group and structural architecture in the group of experts and engineers and policymakers was of utmost importance, the design of these two features should be done with more accuracy and sensitivity and quality.
- Similarly, as stated in the results section, by increasing the target cost, the rate of deviation from the cost index for the indicators increases, and it shows that by increasing the total cost, the total deviation of the cost allocation is

not improved. As a result, according to the researchers, the best way to improve the specific cost allocation is to use the optimal cost allocation and cost management tools.

- Due to the economic potential of travelers today, it is understood that tourism service providers try to expand the ancillary facilities of tourism in hotels and implement happy and diverse plans to make tourists happier and attract more tourists to their services. It is possible to make arrangements for attracting consumers and travelers so that both they can benefit and customers and travelers can feel satisfaction, joy, and happiness.

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