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Dynamic pricing and perceived fairness: a case study at a hotel on the West Frisian island of Vlieland, The Netherlands

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ABSTRACT: The use of dynamic pricing strategies can have a tremendous impact on the hospitality industry. Understanding the variety in the type of customers and the perceptions of customers concerning the fairness of dynamic pricing is essential. This study aimed to investigate how a dynamic pricing strategy could positively affect the demand for a hotel located on the West Frisian island of Vlieland. This research was divided into four topics: determining segments and corresponding booking processes, the importance of price when booking, perceived fairness of price change and how to influence booking behaviour. This research used a survey that was presented to customers of the hotel in this case study for six weeks. Three hundred and sixty-eight customers completed the survey. The evidence suggests that implementing a more elaborate pricing strategy would positively affect the demand for this hotel. While price is still an essential factor when booking, it is concluded that this is not the most important consideration for consumers. If a pricing strategy is implemented, the hotel can improve the occupancy rate and generate more hotel revenue while simultaneously keeping the consumers satisfied. Relevant managerial implications include implementing peak load pricing to influence demand.

KEYWORDS: consumer behaviour, implementation pricing strategy, pricing strategies, reference price

Introduction

This article focuses on the possible implementation of a dynamic pricing strategy at a hotel on the West Frisian island of Vlieland. Pricing is one of the four elements of marketing (Kotler & Armstrong, 2016). Some frequent pricing strategies are customer value-based pricing, cost-based pricing and competition-based pricing. These strategies set a base price for the product or service. Companies adjust their prices to customer differences and the changing environment. Strategies that respond to those differences and changes are called price adjustment strategies. Dynamic pricing falls under the umbrella of these price adjustment strategies.

Dynamic pricing revolves around adjusting prices when the market circumstances change (Abrate et al., 2019). This has the sole purpose of maximising revenue by implementing the ability to sell the product to the right customer for the right price at the right time (Kimes, 1989). It also gives an insight into the current demand and, when used properly, creates a higher level of demand (Lacalle, 2021). In addition, dynamic pricing impacts customers who purchase a product or service of that company. Customers might perceive changing prices for the same product or service as unfair (Kimes, 1994; Sahut et al., 2016). This perceived unfairness might result in the spreading of negative information about the company.

Numerous factors influence market demand, like seasonality, competitor pricing, current occupancy and consumer demand. The hotel in this case study currently recognises some of these factors and tries to assimilate them when determining the price for their services. The most prominent factor used is the difference in price according to season. The year is divided into pre- and post-season, low season and high season. Each of these seasons has its corresponding price, which is set a year beforehand.

However, the pricing strategy currently used at this hotel is not perceived as adequate. Problems that occur are, for example, booking services that are not synchronised with each other. Potential guests who notice the discrepancy, for example, call the hotel for a discount because they have found a lower price on another website. Looking at the current situation at the hotel in this case study, it could be profitable to investigate specific pricing strategies and implement such a strategy.

The primary study, on which this article is based, focused on the extent of a positive effect on the demand for this hotel caused by the implementation of a dynamic pricing strategy.

For this study, four research questions were defined:
- RQ_1: How do we determine the different customer segments in the hotel in this case study as well as the variances in the bookings process for different segments?
- RQ_2: What is the importance of price in regard to a consumer's decision to book a hotel room at this hotel?

- RQ₃: How do the guests of this hotel perceive the price changes between seasons and days of the week?
- RQ₄: How can this hotel influence the booking behaviour of their consumers?

Dynamic pricing is a broad subject with many (practical) implications for the field. The hotel in this case study is currently at the very beginning of exploring whether practical implementation could be applicable for a smaller-sized hotel in a fairly secluded environment. To make decisions regarding possible implementation of dynamic pricing for any hotel, it is necessary to understand what is essential to successfully implement such a strategy. By answering the above research questions, we have made an exploration in understanding the implications for implementation.

Literature review

According to Abrate et al. (2019, p. 224), dynamic pricing is "… the practice of integrating intertemporal price variations over the booking horizon". Or, in other words, setting the right price at the right time for the right customer. Studies available on dynamic pricing can be categorised into at least four separate streams (Abrate et al., 2019). They are intertemporal price discrimination, inventory controls, price fairness and organisational culture. The first three streams mentioned are addressed in this study.

Price discrimination

Price discrimination is selling the same product or service at different prices. The price difference is caused either by a difference in purchasing time or consumer behaviour. The former is known as intertemporal price discrimination, the latter as behaviour-based price discrimination (Abrate et al., 2019). Furthermore, the concept of behaviour-based price discrimination distinguishes two types. The first type charges a higher price to its previous consumers than to new consumers because previous consumers have already shown a preference for the company (Caillaud & De Nijs, 2014). The second type sets a lower price for its existing consumers than it does to new consumers as a loyalty reward to their customers. Colombo (2018) offers a more in-depth model of this pricing strategy and adds the concept of consumer characteristics. This model considers consumers' tastes and price sensitivity to heterogeneous conditions. After the first purchase by customers, the hotelier can distinguish one type from the other and adjust the price discrimination accordingly. This line of thinking is in line with Stanley (2020), who explains the different types of price discrimination based on, among others, consideration of the income of the consumers and their ability or willingness to pay.

Pricing policies in intertemporal price discrimination are of two types: price reductions far from the arrival date of the customer, or reductions in price in the period immediately preceding arrival (Alderighi et al., 2015). This study found that late bookers are less willing to change their time and date of arrival. Thus, the price reductions far in advance of the arrival date would be more profitable for a company to implement, as late bookers are willing to pay a higher price to arrive on the time and date of their choosing. However, Su (2007) proves that deciding on a pricing strategy is more complex, and designed a model that divides consumers into four segments, based on the same principle as Abrate et al. (2019). However, the factors influencing this division are the consumer's value of the product or service and the consumer's patience (Table 1). Consequently, four customer segments arise: patient high-value customers, impatient high-value customers, patient low-value customers and impatient low-value customers. Each segment has a different effect on the seller, and thus every segment demands another type of pricing strategy. This will result in an interplay of markup and markdown strategies instead of using one pricing policy for the entire market.

Another division can be made when dividing the market into segments for price discrimination between leisure and business guests (Abrate et al., 2012). This study supports the assumption of Su (2007) that using an interplay of markup and markdown strategies is the best approach. To conclude, Abrate et al. (2012) assume business guests will mostly arrive during the week, while leisure guests will arrive on the weekend. Business guests are mostly inflexible because these guests have a specific day of arrival in mind and a strong preference for a particular hotel. Therefore, they are inflexible in booking a hotel room. In this situation, it would be beneficial to implement a markdown strategy. First, sell the service for a high price to business guests, and fill the last rooms with leisure guests by reducing the price when their arrival date is approaching. When the type of guests is mainly leisure related, the pricing policy should be the other way around. When booking early, guests receive a "discount", but as the date of arrival approaches and the occupancy is already high, the price could be increased.

Inventory controls

Another system to use concerning dynamic pricing is controlling the "inventory". Hotel rooms are perishable goods; if a hotel room is empty for a night, this night cannot be sold at a later time. This calls for the need to manage capacity in such a way that the most revenue can be generated. Weatherford and Bodily (1992) characterised a pricing strategy based on inventory controls. This strategy divides the inventory into buckets where each bucket has a limited number of rooms for a particular price. Once one bucket is sold out, the next one is opened. And thus, not only does the number of days before arrival influence the room rate, but the number of rooms left for a particular date is also essential. Weatherford and Bodily (1992) define how high the availability should be set on specific units and in which price ranges these units should be placed. The pricing strategy described in their research has, however, become outdated. Szende et al. (2021) describe a strategy with the same principle but a more elaborate strategy for dividing the rooms. Instead of simply dividing the inventory into buckets, it is allocated to different types of guests. According to Szende et al. (2021), the leading market segments that classify the types of guests can be divided into transient, group, special contract and negotiated

	High value	Low value
Patient	Patient high-value customers *increasing*	Patient high-value customers *decreasing*
Impatient	Impatient high-value customers *decreasing*	Impatient low-value customers *increasing*

TABLE 1. Interplay of markup and markdown strategies, based on Su (2007) and Abrate et al. (2019)

rate. Different types of hotels will have different customer mixes, and the forecast that is made can be imprecise. If so, the forecast must be changed. This practice is called "peak-load pricing" (Bilotkach et al., 2015). Bilotkach et al. (2015) explain that peak-load pricing is most important when the forecasted demand is lower. If the price is not adjusted to the lower, actual demand, the hotel would be left with many unsold rooms. Prices are lowered when demand is not as high as expected, but prices can also be increased when demand is higher than expected (Kim et al., 2016).

Price fairness

As the practice of dynamic pricing hinges on adjusting the price of the product or service when the circumstances of the market change, customers might receive benefits because of the reductions in price during the low season. However, the opposite is also true in that the markup during the high season might be perceived as unfair because customers pay a higher price for what appears to be the same product or service (Viglia et al., 2016). The consumer perception of these practices has been studied (Sahut et al., 2016) to analyse which practices are perceived as unfair and if this perceived unfairness applies to all consumers, or if it varies between different customer profiles. Additionally, Sahut et al. (2016) explored whether this perceived unfairness can be reduced by presenting dynamic pricing practices differently. This study found that consumers perceived the price difference caused by the change in season as fair.

In a recent study (Alderighi et al., 2022), instead of looking at what scenarios might be perceived as unfair, hotel customer evaluations were used to study the influence of rate variability due to different room types, the variation in the periods of stay and the variation in the different periods. Additionally, the overall perception of the rate variability was tested. This study found that dynamic pricing negatively affects consumers' perceptions of price fairness, meaning that when the rate variability increases, the perception of price fairness decreases. While these two studies researched different impacts of dynamic pricing, one finding is the same in both studies, i.e. variety in price based on different periods for making a reservation is seen as unfair.

Reference price

Consumers' perceptions of the fairness of a price do not come out of thin air. They are based on other factors, whether consciously or unconsciously. One of these factors is the reference price, which affects the demand for a certain product or service (Chen et al., 2020). This reference price effect is based on the consumer's value judgment of the product or service at some reference point or price. A higher reference price is better for the seller, as having high valuations should result in higher profits for the company. Moon et al. (2006) explain that there are three different types of mechanisms to compose a reference price: the memory-based reference price (based on experiences in the past), the stimulus-based reference price (based on current prices) and the no reference price (takes the price information as given). The research by Moon et al. (2006) was later expanded by Viglia et al. (2016) and studies which factors have the most significant influence on the different types of reference prices Moon et al. (2006) mentioned in their research using a lab experiment and a field study.

Furthermore, when two or more competitive hotels increase their prices simultaneously, consumers tend to lower their reference prices. These reference prices, whether based on past experiences or current prices, help determine if the customer will see the price as a gain (lower than the reference price) or as a loss (higher than the reference price). The gains and losses do not have the same weight for consumers, according to Mazumdar et al. (2005). Consumers show a higher sensibility to a loss than to a gain.

Consumer strategic behaviour

Along with the rise of the use of dynamic pricing in the hospitality industry and the reference price effect, consumer strategic behaviour has also increased. When a consumer behaves strategically, decisions about purchasing a certain product or service are in response to the pricing tactics used by a firm. They are anticipated in the future price of the product or service (Chen et al., 2020). Masiero et al. (2020) connect consumer strategic behaviour and risk aversion. They state that choosing one alternative over the other – and the resulting consequences of such a choice – is evaluated by consumers. This can be compared to the sensibility consumers show to the perceived gains and losses based on their reference price. Ignoring this kind of behaviour can have a significant, negative impact on the company's revenue, Chen et al. (2020) warn, because it is focused on optimising the consumer's valuation. Optimising one's own valuation can be accomplished by putting off the purchasing of the product or service to a later time when prices have been lowered and/or sales are offered.

Although strategic customers can have negative impacts, a framework has been developed in which they can positively affect the revenue as well (Dong & Wu, 2019). This framework uses differentiated value periods in which markdown prices are used. By decreasing the price over an established period, the demand could increase, which could increase the revenue. However, if strategic customers put off their purchases even longer when the prices are even lower, these customers still tend to harm the profit.

Use of dynamic pricing

While a considerable amount of literature is available on every aspect of the "dynamic pricing spectrum", the question raised in some of these studies is whether dynamic pricing is as widespread as implied. Melis and Piga (2017) study the propensity for applying these techniques, whether in the whole market or in specific companies. They gathered data for six months in two different seasons to answer this question. This data tracked the differences in the prices of hotels available on Booking.com. Their study found that the practice of dynamic pricing is not as widespread as the literature often suggests. There are many different reasons for this lack of implementation. For example, the managerial costs that come with implementation could be high and the risk of antagonising consumers, or the quality of the hotel is too low to implement these techniques (Melis & Piga, 2017).

The findings of Melis and Piga (2017) are supported by Abrate et al. (2019). Their study examined whether the dynamic pricing techniques positively affect revenue and concluded that "[o]ur results suggest that hoteliers are not applying dynamic price variability enough and increasing the extent of the variability of prices would be helpful in terms of revenue maximisation"(Abrate et al., 2019, p. 231). Not only does Abrate et al. support the findings of Melis and Piga, but Mitra (2020) also comes to the same conclusion. Mitra (2020) studied the long-run

equilibrium relationships between tourist arrival and dynamic pricing, more precisely, the relationship between tourist arrival, room price and other outcome variables, such as RevPAR (revenue per available room), occupancy rate and total revenue. Mitra (2020) concludes that hoteliers react when tourist arrivals are low by lowering prices. However, when the opposite is true and tourist arrivals are high, prices are not increased. Therefore, Mitra confirms previous research by stating that hoteliers are not making enough use of dynamic pricing techniques.

To conclude, many different strategies exist to make dynamic pricing for a hospitality company a profitable undertaking. The most important ones discussed are intertemporal price discrimination, the difference in price based on purchasing time and inventory control, i.e. placing inventory in specific "buckets" which determine the selling price. These strategies are a continuous response to the circumstances of the market. The use of dynamic pricing could elicit responses from consumers, either by the unfairness they perceive when the price changes, or by using strategic behaviour. Not only could consumers oppose the profitable outcome, but the organisation could also harm a positive result. The organisation's structure should be ready for the change in pricing policy, otherwise the ultimate goal will be lost in the process.

While many aspects of dynamic pricing have been covered in the literature, the question remains about the actuality of the widespread implementation of these strategies and, in particular, whether lower star-ranked hotels could also make use of this.

Research approach and method

Quantitative data were gathered using a survey. This survey consisted of three parts. First, the introduction gathered general information on the guest, such as age and gender and the booking process for the guest. Second, hotel customers were presented with statements about factors influencing their booking behaviour. Finally, four statements regarding the perceived fairness of price change based on various factors were given. Part three, the perception of the price difference, is based on the research of Sahut et al. (2016). The second and third parts of the survey used a 5-point Likert scale. The study participants were chosen using the non-probability sampling method or "purposive sampling". The data collection occurred at the hotel in this case study, where selected consumers were presented with the survey during breakfast, over a duration of six weeks. The collected data allowed insight into the opinions of consumers of this hotel and their opinions on implementing a dynamic pricing strategy. A total of 384 responses were gathered. Data were analysed in SPSS by creating descriptive tables, frequency tables and performing a t-test on the raw data.

Study findings

Consumers were presented with three statements about the importance of room prices: first, "Before I make a reservation at a hotel, I check prices of similar hotels in the area"; second, "I made a reservation at —Hotel because of the prices they offer": and finally, "The price of a hotel room is the most important aspect for me when making a reservation". In Table 2, the mean, median, mode and standard deviation of the three price-related statements can be found. Tables 3, 4, and 5 give a more detailed overview of every option's frequency.

Looking at Table 3, we see that most of the answers given vary between "agree" or "strongly agree", which is in line with the mean of 3.78 presented in Table 9, which means that most of the guests of this hotel look at the prices of various competing

TABLE 3: Comparing prices before booking

		Frequency	%	Valid %	Cumulative %
Valid	Strongly disagree	42	11.40	11.40	11.40
	Disagree	16	4. 30	4.30	15.80
	Neutral	59	16.00	16.00	31.80
	Agree	114	31.00	31.00	62.80
	Strongly agree	137	37.20	37.20	100.00
	Total	368	100.00	100.00	

TABLE 4: Reservation made because of room price

		Frequency	%	Valid %	Cumulative %
Valid	Strongly disagree	52	14.10	14.10	14.10
	Disagree	26	7.10	7.10	21.20
	Neutral	143	38.90	38.90	60.10
	Agree	100	27.20	27.20	87.20
	Strongly agree	47	12.80	12.80	100.00
	Total	368	100.00	100.00	

TABLE 5: Price most important value for reservation

		Frequency	%	Valid %	Cumulative %
Valid	Strongly disagree	39	10.60	10.60	10.60
	Disagree	74	20.10	20.20	30.80
	Neutral	153	41.60	41.70	72.50
	Agree	67	18.20	18.30	90.70
	Strongly agree	34	9.20	9.30	100.00
	Total	367	99.70	100.00	
Missing		1	0.30		
Total	368	100.00			

TABLE 2: Mean, median, mode and standard deviation for room price-related variables

		Comparing prices before booking	Made a reservation because of the room price	Price is the most important value for reservation
Number	Valid	368	368	367
	Missing	0	0	1
Mean		3.78	3.17	2.95
Median		4.00	3.00	3.00
Mode		5.00	3.00	3.00
Standard deviation		1.30	1.18	1.09

hotels before making the final decision to stay at the hotel in this case study.

The variables "Made reservation because of room price" and "Price most important value for reservation" seem neutral, with a mean of 3.17 and 2.95. However, the standard deviations are also high, with results of 1.18 and 1.09. This means that the answers that were given differ from the mean found. This can also be seen in Tables 4 and 5. When asked if guests made a reservation because of the room price, the most frequently chosen answer (38.9% of the total answers) was "neutral", but with the option "agree" coming in with a percentage of 27.2%. The results are not strong when considering the price as the most important value when booking a hotel room. The option chosen the most is "neutral", with a percentage of 41.6%. The remaining answers are spread out over both sides. Agree and disagree have approximately 20% of the answers, and strongly agree and strongly disagree have approximately 10% of the answers.

In Table 6, the mean, median, mode and standard deviation can be found for the four scenarios regarding the perceived fairness of difference in price based on various factors. Charging for a no-show had the highest mean of 4.02, with a corresponding SD of 1.05. Hence, participants demonstrated a high agreement with the fairness of charging for a no-show. The scenario of charging different prices based on the season was mostly seen as fair, with a mean of 3.87 and a corresponding SD of 1.00. The scenario about different prices based on which day of the week the guest visited was also mostly seen as fair, with a mean of 3.67 and a corresponding SD of 1.08. The scenario about different prices based on how far the reservation was made in advance had a more comprehensive range of answers, therefore, Table 7 was added. This Table shows with what frequencies which answers were selected for this scenario. The mean is 3.16, tending slightly towards agreeing, with an SD of 1.17. Table 6 shows the answers "neutral" and "agree" were selected most, while the remaining answers are almost equally divided over ("strongly") "disagree" and "strongly agree".

The statements used in the second part of the questionnaire focused on what influenced a consumer's decision to book a room at the case study hotel. The six values researched are

TABLE 7: Fairness of changing prices based on how far in advance reservation was made — frequency

		Frequency	Per cent	Valid (%)	Cumulative (%)
Valid	Very unfair	45	12.20	12.20	12.20
	Unfair	49	13.30	13.30	25.50
	Neutral	118	32.10	32.10	57.60
	Fair	113	30.70	30.70	88.30
	Very fair	43	11.70	11.70	100.00
	Total	368	100.00	100.00	

facilities, location of the hotel, social media, the influence of the newsletter, friends and/or family recommendations and whether sales were offered. Sales can be provided through online discount sites, or the package deals offered on the hotel's website.

Table 8 presents the mean, median, mode and standard deviation for the above six values. Social media and the newsletter had almost no influence on consumers' decisions, with means of 1.53 and 1.23. Concerning the newsletter, this was only sent once at the beginning of 2022. Therefore, the chances of people responding to this letter are limited. The influence of recommendations by family and/or friends is also weak, with a mean of 2.02. However, this value has a high SD of 1.58 and thus differs per reservation. The values that scored high were facilities (with a mean of 3.97) and location (with a mean of 3.76).

The value of checking websites for sales before a booking has a mean of 3.05, meaning that, on average, this value is checked as "neutral". However, Table 9 shows that every option has been selected almost the same number of times. Thus, this value varies based on different reservations.

The results of these scenarios were combined with the variable genders to research whether the answers given by males and females were significantly different. Three out of four scenarios do not have a significant difference between males and females, meaning one scenario does. As can be seen in Table 10, the scenario focused on varying prices based on days of the week shows a significance of 0.007, thus males and females have different interpretations about the fairness of changing

TABLE 6: Perception of changing prices — mean, median, mode and standard deviation

		Different prices based on season	Different prices based on booking in advance	Charging for a no show	Different prices based on days of the week
Number	Valid	368	368	367	368
	Missing	0	0	1	0
Mean		3.87	3.16	4.02	3.67
Median		4.00	3.00	4.00	4.00
Mode		4.00	3.00	5.00	4.00
Standard deviation		1.00	1.17	1.05	1.08

TABLE 8: Mean, median, mode and standard deviation key indicators

		Checked facilities before booking	Made reservation because of social media	Made reservation because of the newsletter	Made reservation because of recommendation	Made reservation because of location	Checked websites for sales before booking
Number	Valid	368	368	368	368	368	368
	Missing	0	0	0	0	0	0
Mean		3.97	1.53	1.23	2.02	3.76	3.05
Median		4.00	1.00	1.00	1.00	4.00	3.00
Mode		5.00	1.00	1.00	1.00	4.00	3.00
Standard deviation		1.04	1.11	0.70	1.58	1.23	1.40

TABLE 9: Checked website for sales — frequency

		Frequency	Per cent	Valid (%)	Cumulative (%)
Valid	Strongly disagree	74	20.10	20.10	20.10
	Disagree	57	15.50	15.50	35.60
	Neutral	88	23.90	23.90	59.50
	Agree	75	20.40	20.40	79.90
	Strongly agree	74	20.10	20.10	100.00
	Total	368	100.00	100.00	

prices based on which day of the week guests are checking in. According to Table 11, males think this is fairer than females do, with a mean of 3.83 over 3.55.

Discussion

While the literature suggests that many consumers will behave strategically when a dynamic pricing strategy is implemented, keeping in mind the warning of Chen et al. (2020) about the significant and negative influence consumers can have, the results of this study show that the price of a hotel room is by no means the only significant value. In response to the statement "The price of a hotel room is the most important aspect for me when making a reservation" participants of this study rate it as neutral at best, with a mean of 2.95. This does not mean the importance of price can be ignored. With booking platforms like Booking.com, it has become easier for consumers to compare hotels before making a final decision. When analysing the data gathered through this survey, it was noted that guests show a

high agreement with the statement "Before I make a reservation at a hotel, I check prices of similar hotels in the area" with a mean of 3,78. This can be related to the study of Masiero et al. (2020). They explain strategic behaviour of consumers is combined with risk aversion, i.e. consumers will evaluate their options before making a decision. Consumers respond strongly to a perceived loss and by comparing hotels and corresponding prices, the risk of loss can be somewhat reduced.

According to this study, other important values that influence booking behaviour are the location of a hotel, available facilities and sales offered. While not all guests will search for sales online to get a room at the cheapest rate possible, this study has pointed out that about 40% of the guest agrees with checking websites for sales before making a reservation. When consumers anticipate a company's pricing tactic, including sales offered, the consumer behaves strategically, as Chen et al. (2020) has stated. To steer consumers away from booking agents, the package deals offered on the hotel's website could be used and promoted more as participants have pointed out that these package deals influenced their final booking decision.

This study has some differences from the findings of previous studies regarding the perceived fairness of different prices for the same service based on various factors. Sahut et al. (2016) present four scenarios which we also used in this study. The only scenario seen as fair was about the changing room prices based on the season. Meanwhile, this research found that three of the four scenarios are considered fair, especially charging for a no-show, with a mean of 4.019. The only scenario that did not lean towards agreement was about charging different prices based on booking in advance. These results can again be linked to consumers' risk

TABLE 10: Independent samples test sex scenarios

	Levene's test for equality of variances		t-test for equality of means							
					Significance		Mean difference	Std. error difference	95% CI	
	F	Sig.	t	df	One-sided p	Two-sided p			Lower	Upper
Different prices based on season										
Equal variances assumed	0.026	0.871	1.405	366	0.080	0.161	0.149	0.106	−0.059	0.356
Equal variances not assumed			1.389	320.132	0.083	0.166	0.149	0.107	−0.062	0.359
Different prices based on booking in advance										
Equal variances assumed	0.023	0.879	1.493	366	0.068	0.136	0.184	0.123	−0.058	0.427
Equal variances not assumed			1.502	341.170	0.067	0.134	0.184	0.123	−0.057	0.426
Charing for a no show										
Equal variances assumed	0.061	0.804	0.203	365	0.420	0.839	0.023	0.111	−0.196	0.241
Equal variances not assumed			0.202	329.453	0.420	0.840	0.023	0.112	−0.197	0.242
Different prices based on days of the week										
Equal variances assumed	1.541	0.215	2.479	366	0.007	0.014	0.281	0.114	0.058	0.505
Equal variances not assumed			2.493	341.049	0.007	0.013	0.281	0.113	0.059	0.503

TABLE 11: Group statistics sex scenarios

	Sex	Number	Mean	Standard deviation	Standard error mean
Different prices based on season	Male	156	3.96	1.04	0.08
	Female	212	3.80	0.97	0.07
Different prices based on booking in advance	Male	156	3.27	1.14	0.09
	Female	212	3.09	1.19	0.08
Charging for a no-show	Male	156	4.03	1.07	0.09
	Female	211	4.01	1.04	0.07
Different prices based on days of the week	Male	156	3.83	1.05	0.08
	Female	212	3.55	1.09	0.08

aversion, as Masiero et al. (2020) explained. When prices are adjusted downwards after they have already made a reservation, this is perceived as a loss. These kinds of experiences will influence the future reference price for consumers. As the study of Moon et al. (2006) already showed, one of the mechanisms of composing a reference price is based on experiences from the past, the "memory-based" reference price. If the prices drop significantly after the reservation has already been made, the future reference price of a consumer will be adjusted downward.

Conclusion and recommendations

This research indicates that implementing a dynamic pricing strategy would positively affect the hotel in this case study. As previous studies have pointed out, a significant disadvantage of using a dynamic pricing strategy is the possibility of consumers behaving strategically, which could harm the company because of the negative impact on revenue. However, while results show price plays a significant role in consumers' decisions, it is not the most important or only factor for consumers when making a decision. By implementing a clear pricing strategy, consumers and the hotel in this case study could create a competitive advantage. For this hotel, this can include a better overview of the type of guests that are welcomed, with rooms allocated to each type of guest beforehand and a resulting higher occupancy rate. When rooms are sold to the right customer at the right time for the right price, the effect on the revenue will be positive. An essential part of this pricing strategy should be "peak load pricing", because it keeps accurate track of the occupancy rate for the future and helps to set the right price at the right time.

Furthermore, it is indicated that differences in price regarding season and days of the week are not received negatively by consumers of the hotel in this case study, which reduces the risk of consumers' negative word-of-mouth, or "word-of-mouse".

Based on the findings of this study, the following recommendations can be made for the hotel in this case study on Vlieland:
- Package deals offered by the hotel should be expanded and have more variety. These deals should be promoted on both the website and social media to attract attention; and
- The occupancy rate should be tracked more accurately with a corresponding plan for when the occupancy is lower than expected. Additionally, it would be helpful to implement a system to keep track of the type of guests that visit the hotel to categorise guests according to their preferences and price sensibility.

Forty per cent of guests looked at promotions on websites before booking a room, therefore promotions offered on the hotel's website could be used as an advantage. First of all, package deals can be further expanded by offering more variety, instead of offering one or two package deals per season. These promotions should be promoted both on the website and social media to attract attention. This is most applicable in the seasons when occupancy is low, because the rooms are in high demand in the high season.

The most important aspect for the implementation phase is peak load pricing. This means keeping accurate track of the occupancy rate in the future and having a standard operating procedure for when the occupancy rate is not as high as desired and the rates need to be changed.

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