

How does dynamic pricing affect airline customers?

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Abstract

This study establishes that dynamic pricing impacts airline customers' behaviour, perception and experience in a remarkable way. A popular practice which has become more common especially in the airline industry is dynamic pricing which sees tickets being sold at different prices depending on the time of booking, their popularity and other factors. However, this is a strategy that can be used to maximize the revenues of airlines but when it comes to customer's trust, satisfaction and loyalty, there are some issues that may arise. Many prior researches have mainly examined the aspects of operational effectiveness and financial performance of dynamic pricing. Nevertheless, there is limited understanding of how customers behave in response to price volatility and how they perceive fairness and value of pricing schemes. This literature review examines the impact of dynamic pricing on customers' decision making, fairness and satisfaction.

These results show that customers feel psychological pressure while facing price changes and may lose trust in airlines if they feel that they are being manipulated. This research also shows that there is a possibility for price differences for the same flight which might raise customers' suspicion and affect their view of the airline as being honest. Further, consumers' reaction to dynamic pricing is different depending on the age, income, and the reason for travel, which points to the need for more segmental pricing strategies. Though dynamic pricing is beneficial in increasing revenues, the airline companies should not forget the importance of being honest and offering a fair deal especially in the eyes of the consumers. Therefore, it is vital for the airline companies to adopt a moderate approach to dynamic pricing by being more transparent and fair in order to foster good relations with the customers and hence achieve long-term success in their revenue management strategies.

Introduction

The concept of dynamic pricing has now evolved to be a key strategic tool in the management of revenue in the airline business as it deals with the manipulation of ticket price to suit the fluctuating market conditions. This type of pricing strategy entails varying pricing of tickets in each of the flights depending on many factors which include but not limited to demand and supply, competition, time of booking and the type of seats available. The dynamics in the market due to the increased use of digital platforms and data analytics has favored the use of dynamic pricing by the airlines in order to increase revenue while at the same time managing capacity. In the words of Kimes, dynamic pricing can be described as a procedure that mirrors the value of a product at a certain time, bearing in mind the customers' willingness to pay for the product (Kimes 10).

The following research objectives are set for this literature review: To understand the effects of dynamic pricing on the airline customers with emphasis on their behaviors, perception and satisfaction. Hence, as dynamic pricing strategies continue to be adopted by many airlines, it is important to look at the impact it has on the consumers because it is a direct determinant of consumer loyalty, trust and the sustainability of airlines in the long run. Chen and Schwartz are of the view that even though dynamic pricing is capable of generating more revenue, it also

tends to annoy the customers and make them lose trust in the airline which is not good for the airline's brand equity (Chen and Schwartz 247).

This study is particularly warranted in the current highly competitive airline industry where the customer experience is a major factor. To this end, this review seeks to present the current state of knowledge on how dynamic pricing strategies influence consumer decision making, perceived fairness, and psychological well-being as a way of identifying the difficulties and opportunities of dynamic pricing. In the current and foreseeable future, the struggle for the airline companies between the profit and the passengers' satisfaction is more acute. Therefore, this literature review not only investigates the economic aspect of dynamic pricing but also stresses the importance of the customer oriented approach in managing and improving the customer relationship.

It is therefore crucial to identify the effects of dynamic pricing to customers so as to formulate better strategies that will reflect the goals of the airline companies as well as the needs of the consumers. Through the analysis of these dynamics, the review aims to advance the literature on how the airline industry can transform its pricing models without affecting the customers' trust and loyalty.

Methodology

This literature review uses a narrative approach to synthesize academic articles which have studied the effects of dynamic pricing on airline consumers. The research materials include the Peer-Reviewed Journal Articles, Industry Reports, and Academic Books published within the last two decades thus making the information sourced to be up-to-date.

Research was conducted using academic databases like JSTOR, Google Scholar, and ProQuest. Search terms included "dynamic pricing," "airline industry," "customer behavior," "pricing fairness," and "revenue management." Boolean operators refined the searches, allowing for specific combinations like "dynamic pricing AND airline customers."

Only studies that examined the effects of dynamic pricing on the customers' behavior, perception and satisfaction in the airline industry were included in the analysis. Research which was confined to other industries or which was theoretical in nature was omitted.

As a result of the analysis of the articles, key findings and themes were identified based on customer decision-making, fairness perception, transparency perception and psychological effects. Thematic analysis was conducted and the result revealed the areas that are lacking information and therefore needs further study.

For each source the credibility was evaluated with respect to the reliability of the publication, the number of participants, and the research method used. Emphasis was made on the research that had employed sound research designs in order to provide credible and generalizable results.

Understanding Dynamic Pricing

Dynamic pricing is a process through which airlines change the ticket prices depending on several factors such as demand, competition, time of booking and space availability. This approach enables the airlines to price the same seat in different manners depending on when and how it is sold. The practice employs complex computational tools and statistical models to identify market patterns and consumer buying behavior and therefore, optimally price products and services in a manner that generates the highest possible revenue (Smith 478). The

economic principle of supply and demand is central to dynamic pricing, because the prices vary depending on the demand where they are.

External/best factors also affect dynamic pricing which include competitive factors. Airlines keep an eye on their rivals and change their ticket prices to match the competition and at the same time, improve their profit margin. For example, if another competitor offers lower fares on a certain route, the other airlines may also follow suit so as not to get a smaller share of the market. This can be seen with the promotional fares offered during off-peak time to encourage traffic demand. This is something that shows the dynamic nature of dynamic pricing as it is able to change and meet market conditions within no time.

Dynamic pricing cannot exist without technological advancements especially from machine learning and artificial intelligence. These technologies help airlines to fine-tune the pricing models and strategies, as the latter become more and more efficient throughout the time. This helps in anticipating certain factors that include sales volume, cancellations as well as no-shows in order to arrive at better pricing strategies. This predictive capability makes sure that airlines can set their prices according to the real-time market changes, thus achieving a high seat load factor while increasing their revenue. Moving forward in this review, the next area of interest will be to explore the effects of these pricing strategies on consumers' buying behaviour and perception, thus giving a holistic view of the application of dynamic pricing in the airline industry.

Factor	Effect on Ticket Prices	Example
Demand	Prices increase with high demand and decrease with low demand	Higher ticket prices during holidays or peak travel seasons due to increased demand
Time of Booking	Prices generally lower with early booking and increase closer to departure	Early-bird discounts months before the flight, higher prices a week before the flight
Seat Availability	Limited seats lead to higher prices, while excess availability reduces prices	Last-minute seats are expensive; excess seats lead to discounts to fill the plane
Competition	Prices adjusted based on competitors' pricing strategies	Matching or lowering prices in response to a rival airline's sale on the same route
Technological Factors	Use of machine learning and AI for real-time price adjustments	Real-time pricing changes based on consumer behavior - such as their device and search history - and market trends
Special Events	Prices increase during events that boost travel demand	Higher prices during major sporting events, concerts, or conventions

Economic Conditions	Economic downturns may lead to lower prices to encourage travel	Airlines may lower prices during a recession to maintain passenger numbers
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Table 1: Factors that Define Dynamic Pricing

Impact on Customer Behaviour

Dynamic pricing has a direct impact on the customers' behaviour and their buying pattern in the airline industry. It has also greatly affected the time of ticket purchasing especially since the availability of tickets can only be determined through the app. The customers are usually informed that the price of a service is not fixed and they may compare shops before settling on the price they are willing to pay.

This behavior referred to as fare-watching results in higher customer interactions with airline pricing platforms and may result in customers waiting to make the purchase until such a time as a favorable price is set (Smith 480). This passive strategy creates apprehension and ambiguity on the part of the clients given that they do not always find a logical reason for the price changes (Brown 157).

Other consequence of dynamic pricing is the change in the loyalty of customers and the perception of brands. This causes customers to lose trust in the airline and affect the aspect of brand loyalty as stated by Jones and Taylor 127. Thus, the airlines that do not apply clear pricing policies may suffer from the customers' perceptions, as the customers are likely to feel that they are being tricked by the random price changes. This perceived unfairness thus results in negative word-of mouth and low customer retention, a big blow in an industry where competition is high and customers are valuable assets (Wirtz and Kimes 219).

Dynamic pricing also impacts the perception of the customers in regard to the various elements of the travel experience. Price conscious travelers may make decisions based on price regardless of other factors which may include comfort or flexibility, thus they may prefer flying with budget airlines or booking for basic economy tickets (Chen and Schwartz 249). On the other hand, the customers who are not much concerned with the prices may be ready to pay a premium for extra services such as free cancellation or more leg space, which shows how dynamic pricing can segment the market based on the customers' price tolerance. This segmentation strategy enables the airlines to meet the needs of different customers but at the same time, it requires a lot of attention to balance the treatment of the different segments in order to avoid a situation where some of the segments feel neglected.

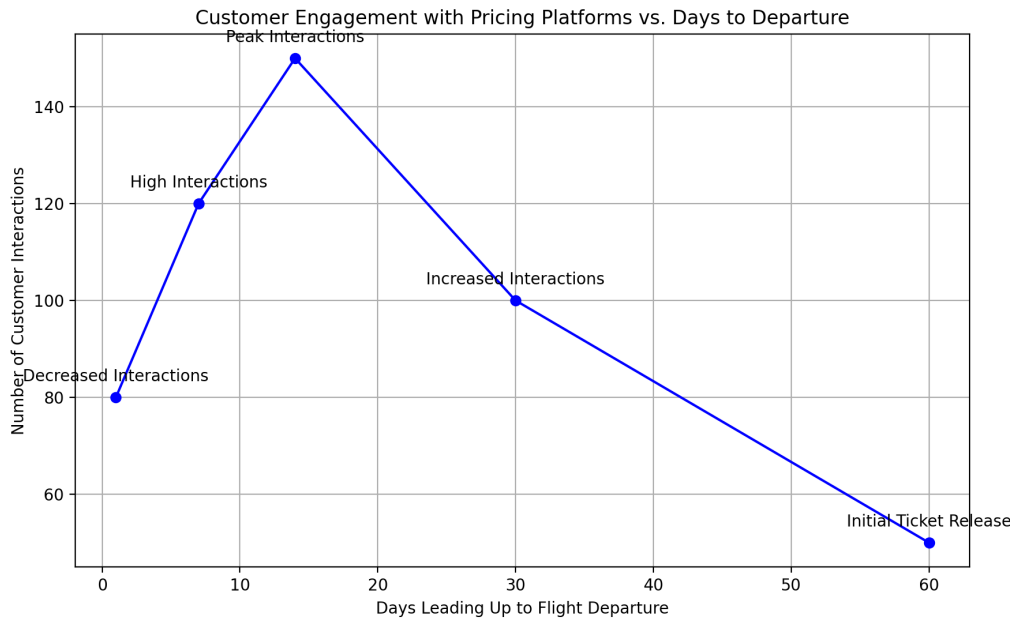


Fig 1: Customer Engagement with Pricing Platforms vs. Days to Departure

Perception of Fairness and Transparency

Focused on the airline industry, dynamic pricing directly affects the customers' perception of the fairness and the level of transparency of the company. It may also make the customers feel that the changing prices are unjust, mainly when they are not well understood. As consumers are not aware of the factors that lead to frequent changes in the prices, they may feel that the airline is trying to manipulate them, which will lead to loss of trust in the airline's pricing strategies (Huang and Miao 45). To prevent these problems from occurring, transparency has to be a major concern. Airline companies that share their pricing policies and reasons behind the variation in prices with their customers are likely to create a better perception among the customers (Nguyen and Nassar 88).

The literature review shows that dynamic pricing with a high level of transparency has a positive impact on customers' attitudes. This is because when airlines give an account of how they come up with their prices, for instance through the fluctuations depending on the demand or competitiveness of the market, the customers are more likely to find the prices to be reasonable (Kimes and Wirtz 223). For instance, airlines that provide fare details or clear pricing strategies can assist the consumer to know why there are price differences thus minimizing the perception of unfairness. However, the problem of dynamic pricing mechanisms is that they are rather complex and can not be easily understood by customers, which results in more confusion and dissatisfaction of the customers (Choi and Mattila 182).

The fairness of dynamic pricing is also linked to the ability of airlines in handling customers' expectations. Lack of proper information as to why prices have been raised, particularly if the change is rather abrupt, may be regarded as exploitation. On the other hand, airlines that provide price guarantees or timely information on price drop can assist in managing the customers' expectations and thus enhance their perception on fairness (Kim and Kim 104). It is thus important for customers to feel they are getting their money's worth even when prices are constantly changing so as to retain customers and the good image of the brand.

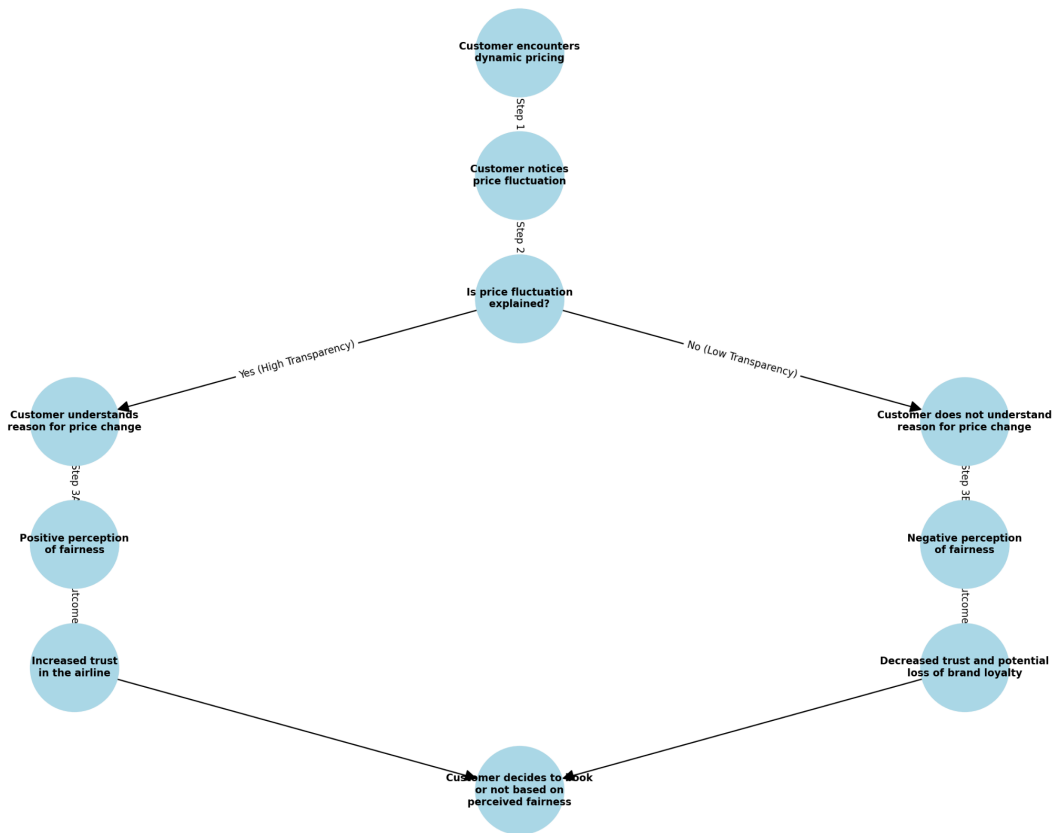


Fig 2: Impact of Dynamic Pricing on Perception of Fairness

Psychological Impact on Customers

Emotion and decision making of airline customers can also be impacted by dynamic pricing in a quite dramatic manner. Another Psychological effect is price anxiety. In this case, price fluctuation causes stress and anxiety to the customers as they may not be sure of getting the best price (Kimes and Wirtz 226). Such anxiety may result in the protraction of decision making and customer dissatisfaction; this is especially the case where customers feel that they are unable to influence price volatility (Smith 481). The stress that comes with dynamic pricing may still affect the level of satisfaction since clients may fear losing on better prices.

As seen in Figure 3, perception of value and fairness also have an important effect on the psychological aspects of dynamic pricing. This leads to frustrations that arise from unexpected price hikes, or, what many people consider as deceptive pricing mechanisms, this in turn affects customer trust and satisfaction with the airline company (Huang and Miao 50). If the customer feels that the price that has been set is not fair then it reduces the value perception of the customer and he or she may develop angry feelings. On the flip side, price transparency that involves the airlines explaining the factors that make prices fluctuate can help in mitigating these negative feelings and hence increase the satisfaction levels of the customers (Nguyen and Nassar 90).

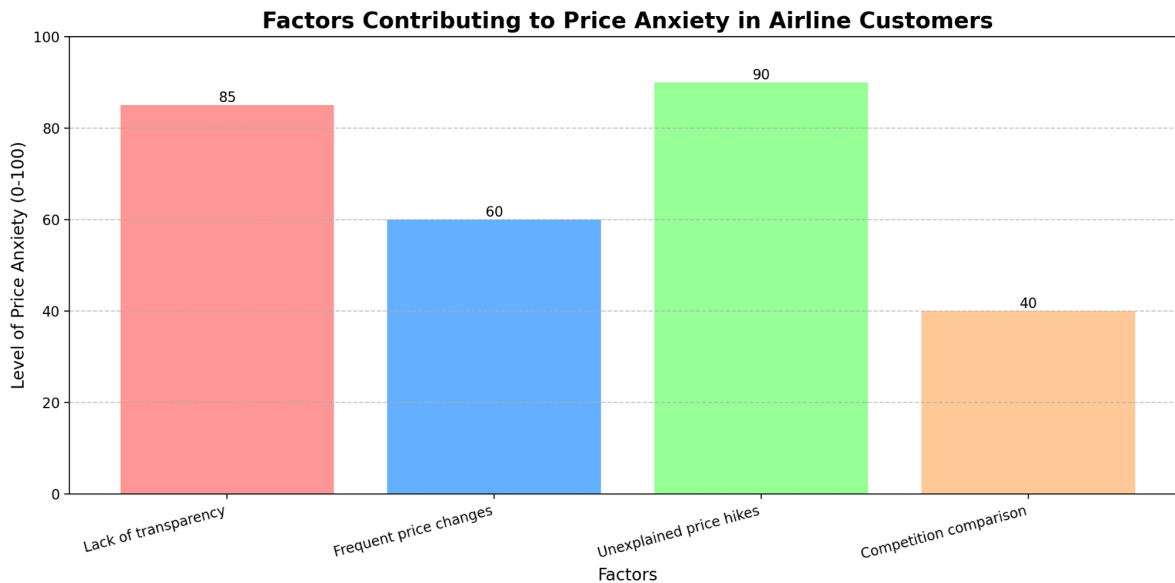


Fig 3: Factors Contributing to Price Anxiety

Another aspect that is related to dynamic pricing is customer loyalty. Frequent changes in prices mean that the buyers may not be rewarded for their loyalty and hence would not feel the need to stick to a particular brand (Choi and Mattila 186). The customers who feel they are not being offered what is right for them or they are getting the right value may search for the other services. In order to win and retain customers' loyalty, the airlines need to ensure that their customers have a sense of fairness when it comes to pricing and value delivery even where prices vary (Kim and Kim 107).

Demographic Variations in Response to Dynamic Pricing

As much as demographic factors affect the perception of the dynamic pricing in the airline industry, different groups will respond based on their demographic characteristics. Age, income and level of education all influence people's perception and response to fare changes. For example, the younger and high income consumers are known to be more price sensitive and responsive to price changes. It is often easier for them to understand the contracts of dynamic pricing and they may aggressively look for offers using their comfort with technology and online booking platforms (Sweeney and Soutar 335).

Thus, based on the study, the older travelers and those with low income levels might get stressed and be dissatisfied with dynamic pricing strategies. The older consumer may not be as well versed in the technology that is used in the monitoring and booking of the varying fares which may increase the feelings of confusion and irritation among the consumers (Kumar and Shah 207). Those travelers who are generally of low income status and are likely to be more sensitive to price changes may feel cheated due to price increase because these changes may affect them more significantly in terms of their financial ability to travel (Nguyen and Nassar 91).

Understanding of dynamic pricing also depends on educational background since people who are educated will respond differently from those who are not. The level of education may also be an important factor that determines the consumer's ability to grasp the concept of dynamic pricing, as well as their ability to search the Internet in order to get the best deal (Choi

and Mattila 190). As seen in Figure 4, people with low academic achievement levels are likely to be overwhelmed by the complexity of dynamic pricing and therefore lead to frustration and negative perception concerning fairness (Smith 483).

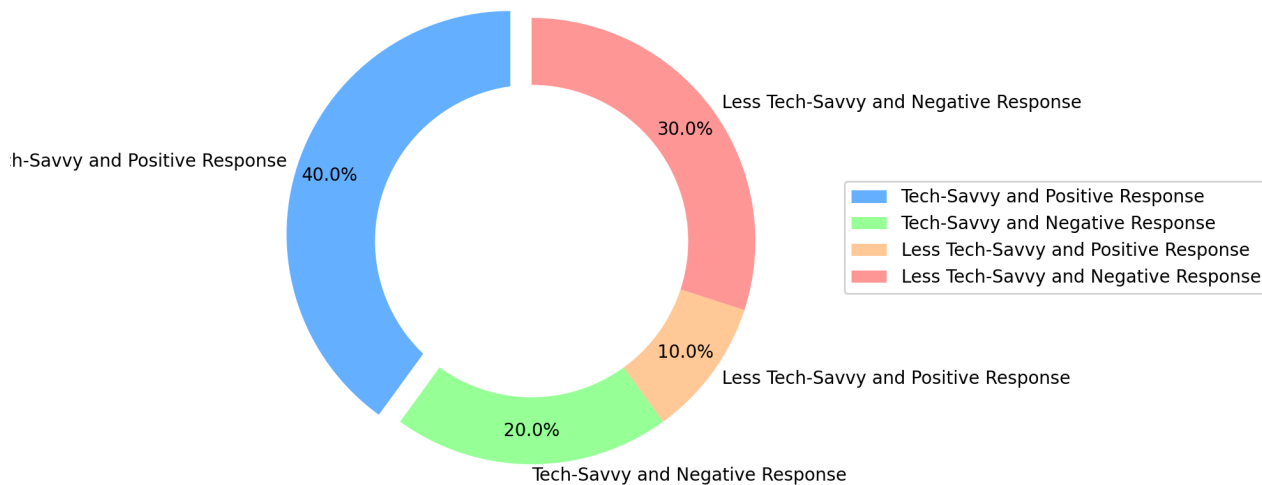


Fig 4: Technology Comfort and Response to Dynamic Pricing

Balancing Profitability and Customer Satisfaction

Thus, one of the major issues that airlines face while adopting dynamic pricing models is how to attain profitability with customer satisfaction. On the one hand, dynamic pricing allows airlines to get the highest revenue possible by changing fares according to the supply and demand, competition and other factors. However, it is important that airlines should avoid applying these pricing strategies in a way that will have negative impacts on the customers and their satisfaction (Chen and Schwartz 254).

A possible way of realising this balance is the adoption of clearer price structures. These include explaining the reasons for price change and providing instruments that would enable consumers to comprehend their bookings and meet their needs. For instance, dynamic pricing can be explained through fare comparison tools and price alerts and therefore enhance the satisfaction of the customers despite the volatile fares (Kimes and Wirtz 229). Transparency is also about explaining how prices are set and which aspects are taken into consideration when it comes to setting prices so that the customer does not develop the wrong impression and build trust (Nguyen and Nassar 95).

Another approach is to put in place price models that give the consumer a certain level of expectations that can be met. Thus, for instance, airlines can offer price assurances or price caps to the customers to ensure that the price does not shoot up after booking. Also, the use of loyalty programs and reward system may also hold the customers' satisfaction since this offers extra features that are not limited to ticket prices (Smith, 485). Not only do these programs help

retain customers but also to get more frequent flyers, which in turn will help businesses gain more revenue from its customers.

Last but not the least; it is also important for the airlines to monitor the effects of dynamic pricing on customer satisfaction and change the strategies accordingly. Besides, analyzing customer feedback and satisfaction metrics can be helpful for understanding the impact of certain pricing strategies on customers' opinions and loyalty. Airlines that attend to matters and alter prices according to the perceived value by the customers are in a better place to sustain a balance between the profits they generate and the satisfaction of the customers (Brown 164).

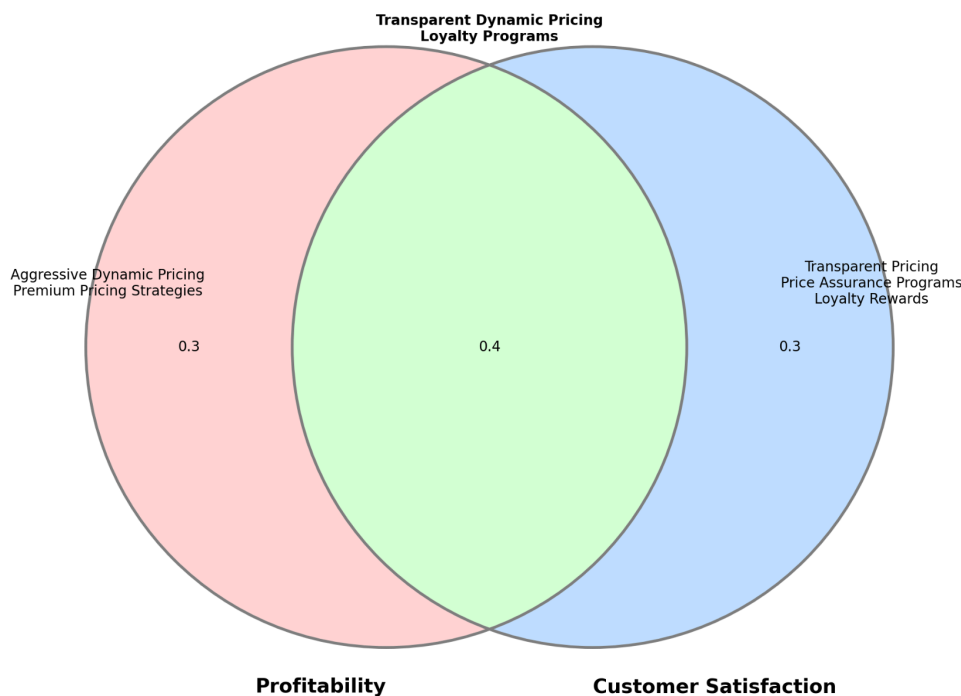


Fig 5: Profitability vs Customer Satisfaction in Airline Pricing Strategies

Conclusion

The use of dynamic pricing in the airline industry raises a challenging dilemma between the need to increase revenues and to meet the needs of the customers. This paper has shown that while dynamic pricing is useful for airlines to maximize their revenue through controlling fares by real time demand and supply factors, it has major implications on customer perception and behaviour.

The results of the research show that dynamic pricing is a powerful tool that influences the customer's actions in terms of the time and manner in which they shop. This paper has identified some factors that include fare-watching, price sensitivity and perceived fairness of pricing strategies as the ones that largely determine the customer's reaction. Besides, the psychological impact of dynamic pricing, including price anxiety, and changes in the perception of value of the product or service, highlight the significance of clear and reasonable pricing strategies. The findings also show that the responses of the customers differ greatly depending on their demographic characteristics, including age, income and education levels, which determine how the customers understand and respond to price changes.



Thus, to meet both the financial and customers' needs, airlines need to follow the pricing policies that are easy to comprehend and not ambiguous. Thus, it is possible to reduce negative perceptions and improve customers' trust by explaining the reasons for price changes and offering price guarantees and loyalty programs. It is therefore important to continuously measure the effectiveness of price strategies and make changes to them based on the customers' perception.

In conclusion, therefore, in order to answer the research question, that is, how dynamic pricing works on the airline customers, one has to look into different effects it has. Dynamic pricing strategies have to be very effective in revenue generation but at the same time should not compromise the satisfaction of customers. Thus, the strategies of fully disclosing prices and customer-friendliness can help the airlines to find the appropriate pricing equation that will be profitable for both the company and the passenger, thus ensuring sustainable development in a rather competitive sector.



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