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Dynamic Pricing in the Airline industry: Balancing Short-Term Revenue Potential and Brand Loyalty

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ABSTRACT:

Dynaaminen hinnoittelu on muodostunut keskeiseksi osaksi lentoyhtiöiden tuottojohtamista, sillä sen avulla yritykset voivat mukauttaa hintoja kysynnän, kapasiteetin, kilpailutilanteen ja varaustilanteen mukaan lähes reaaliaikaisesti. Vaikka tällainen hinnoittelu voi tukea lyhyen aikavälin tuottojen optimointia, se voi samalla vaikuttaa siihen, miten kuluttajat arvioivat hintojen oikeudenmukaisuutta ja miten he suhtautuvat lentoyhtiöön sekä välittömästi että pidemmällä aikavälillä. Tämän tutkimuksen tarkoituksena oli tarkastella, miten lentoyhtiöiden dynaaminen hinnoittelu vaikuttaa kuluttajien kokemaan hinnan oikeudenmukaisuuteen ja miten nämä arviot ovat yhteydessä lyhyen aikavälin ostoaikomukseen sekä pitkän aikavälin brändiuskollisuuteen.
Tutkimuksen teoreettinen viitekehys rakentuu dynaamisen hinnoittelun, koetun hinnan oikeudenmukaisuuden, ostoaikomuksen ja brändiuskollisuuden kirjallisuudelle. Aiempi tutkimus on osoittanut, että kuluttajat eivät arvioi hintaa pelkästään sen absoluuttisen tason perusteella, vaan suhteessa odotuksiinsa, aikaisempiin havaintoihinsa ja käsityksiinsä hinnoitteluprosessin hyväksyttävyydestä.

Tutkimuksen empiirinen osa toteutettiin kvantitatiivisena, skenaariopohjaisena verkkokyselynä ryhmien välisellä tutkimusasetelmalla. Vastaajat satunnaistettiin joko staattisen hinnoittelun skenaarioon tai dynaamisen hinnoittelun skenaarioon. Staattisessa skenaariossa lentolipun hinta pysyi samana kahden tarkastelukerran välillä, kun taas dynaamisessa skenaariossa hinta nousi. Tämän jälkeen vastaajat arvioivat väittämiä, joilla mitattiin koettua hinnan oikeudenmukaisuutta, ostoaikomusta ja brändiuskollisuutta viisiportaisella Likert-asteikolla. Lopullinen aineisto koostui 108 käyttökelpoisesta vastauksesta. Aineisto analysoitiin IBM SPSS Statistics -ohjelmalla hyödyntäen kuvailevia tilastoja, Cronbachin alfaa ja riippumattomien otosten t-testejä.

Tulokset osoittivat, että dynaamisen hinnoittelun skenaario johti selvästi matalampaan koettuun hinnan oikeudenmukaisuuteen, ostoaikomukseen ja brändiuskollisuuteen kuin staattisen hinnoittelun skenaario. Tulokset osoittivat, että staattisen ja dynaamisen hinnoittelun skenaariot erosivat tilastollisesti merkitsevästi kaikkien kolmen tarkastellun muuttujan osalta. Näin ollen tutkimus osoittaa, että dynaamisen hinnoittelun vaikutukset eivät rajoitu vain välittömiin ostopäätöksiin, vaan ulottuvat myös kuluttajan pidempiaikaiseen suhteeseen lentoyhtiöbrändiin. Tutkimus kontribuoi kirjallisuuteen tarkastelemalla lentoyhtiöiden dynaamista hinnoittelua markkinoinnin ja asiakassuhteiden johtamisen näkökulmasta pelkän optimointilogiikan sijaan. Liikkeenjohdollisesti tulokset viittaavat siihen, että lentoyhtiöiden tulisi tasapainottaa lyhyen aikavälin tuottojen optimointi kuluttajien oikeudenmukaisuuskokemusten, ostohalukkuuden ja pitkäaikaisten asiakassuhdevaikutusten kanssa.

KEYWORDS: dynamic pricing, airline industry, price fairness, purchase intention, brand loyalty

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1 Introduction

As Adam Smith noted in The Wealth of Nations (1776, p. 17), “the real price of everything... is the toil and trouble of acquiring it.” In modern markets, this “toil” has evolved from physical effort to psychological and emotional investment.

In the airline industry, like others, a strong brand can redefine what consumers perceive as fair or acceptable pricing (Sarker et al., 2021, p. 1-2). Travellers may tolerate higher fares or limited offers because they associate the brand with comfort, or prestige. Thus, brand equity can reduce the perceived “effort” of paying more, and it turns price into a signal of value rather than a barrier to purchase (Chioveanu, 2008, p. 68-69). This kind of modern thinking opens a route for dynamic pricing in terms of short-term revenue potential.

Before the late 1970s, airline pricing was not determined by market forces but by strict government regulation. Fares were standardized based on flight distance, leaving airlines with little flexibility to adjust prices in response to demand or competition (Schiller, 2019, p. 730). The deregulation of the U.S. airline industry in 1978 marked a fundamental turning point, influencing also global airline deregulation, as it began the move to remove federal restrictions and allowed airlines to freely set their own ticket prices gradually across global markets. This shift opened the door in many industries to the development of dynamic pricing.

Over the past few decades, dynamic pricing has become a popular practice throughout the business world (Neubert, 2022, p. 1), and a cornerstone of the airline industry’s revenue management (Škare & Gospić, 2015, p. 518). Airlines have moved from static fare structures toward algorithmic pricing systems, where fares are adjusted in real time based on multiple factors such as booking time, competitor pricing, and predicted demand structures (Škare & Gospić, 2015, p. 520). This means also an increased integration of artificial intelligence (AI) to enable more accurate and faster price adjustment.

1.1 Problem Discussion and Research Gap

This section outlines the main research problem and highlights the existing gaps in current understanding of how dynamic pricing affects consumer perceptions and long-term outcomes in the airline industry. The research problem of this study is that although airline dynamic pricing is increasingly used to optimise short-term revenue, there is still limited understanding of how such pricing practices are perceived by consumers in terms of fairness, and how these perceptions may influence long-term brand loyalty.

While dynamic pricing has increased possibilities for the growth of short-term revenue potential (Narangajavana et al., 2014, p. 28-29), it has also raised challenges regarding managerial and ethical views. Automation and personalization of prices raise concerns in customers regarding fairness. Travelers are now facing constant fluctuation of prices for the same flights, and it may lead to scepticism toward airlines, as well as negative impacts on long-term customer loyalty (Omarli, 2023, p. 1). Dynamic pricing is not just an optimisation tool for companies, but also a strategic issue, influencing brand perceptions and customer experience, which are essential for financial sustainability (Sarker et al., 2021).

Despite the importance of dynamic pricing in the airline industry, limited research has examined how consumers perceive these pricing systems and how such perceptions influence immediate purchase-related responses as well as longer-term loyalty outcomes (Vomberg et al., 2025, p. 1166). The gap between revenue maximisation and relationship management proposes a key marketing challenge for airlines (Shahbudin, 2016, p. 61). While much of the existing research has concentrated on technological and operational aspects of dynamic pricing, such as algorithmic optimisation and revenue management (Narangajavana et al., 2014, p. 29), considerably less attention has been paid to its marketing implications and consumer-level outcomes (Vomberg et al., 2025, p. 1167). As pricing becomes increasingly automated, understanding how these mechanisms influence perceptions of fairness becomes critical (Williams, 2020, p. 1). For

airlines, the key challenge is not only to design effective pricing systems but also to ensure that customers experience them as legitimate and justified in relation to the value received (Lee et al., 2024, p. 12; Narangajavana et al., 2014, p. 29). Addressing challenges between efficiency and perceived fairness forms an essential step toward aligning short-term revenue objectives with long-term relationship value (Neubert, 2022, p. 6-7). This study contributes to existing literature by examining dynamic pricing as a marketing and relationship management issue, connecting the short-term revenue logic to long-term brand loyalty through the lenses of fairness.

1.2 Purpose and Objectives

The purpose of this study is to examine how airline dynamic pricing influences consumers' perceptions of price fairness and how these perceptions are associated with short-term purchase intention and long-term brand loyalty. Rather than focusing on managerial optimisation processes, the study adopts a consumer-oriented perspective and seeks to understand how pricing practices are experienced and evaluated by customers. By doing so, the research aims to clarify how dynamic pricing, while designed to enhance short-term revenue potential, may also shape longer-term relational outcomes through consumers' fairness evaluations. The thesis has three objectives through which the overall purpose is pursued.

The first objective of the study is to develop an understanding of consumers' perceptions of fairness in the context of airline dynamic pricing. This objective is both theoretical and empirical: the theoretical background is built by reviewing current research, while the empirical data is collected through a survey capturing consumers' reactions to pricing situations.

The second objective is to analyse how these perceptions influence behavioural outcomes, such as purchase intentions and loyalty towards the airline brand. This is

addressed through quantitative analysis, examining the relationships between fairness perceptions affecting customer loyalty within the framework of dynamic pricing.

The third objective is to explore the managerial implications of dynamic pricing in the airline industry, focusing on strategic opportunities, challenges, and risk-return trade-offs identified through the literature and supported by the empirical findings. This objective is analytical and interpretive in nature, aiming to connect the theoretical background with the quantitative results to give useful insights for decision-making and sustainable pricing strategy.

1.3 Scope, Limitations, and Structure of the Thesis

This study focuses on dynamic pricing practices in the airline industry, examining them from a consumer-centred perspective to refine them into useful managerial insights. The research scope is limited to individual travellers and their purchase practices, rather than corporate or group travel. First the emphasis is on consumer perceptions, such as fairness, and how these factors influence purchase intentions in the short-term, and brand loyalty in the long-term. After generating insight into consumer perceptions, the study aims to provide managerial implications by examining how different dynamic pricing scenarios influence short-term revenue potential, operationalised through customers' purchase intention, and how these effects compare to changes in long-term brand loyalty, operationalised as likelihood of repurchasing.

The study adopts a quantitative research approach, utilising a scenario-based survey as the method of data collection. Two pricing scenarios are used: a static pricing condition and a dynamic pricing condition. The scenarios differ in whether the observed airline ticket price remains the same or increases between two booking occasions. These scenarios are designed to examine how such pricing characteristics are evaluated in terms of perceived fairness. Respondents' reactions are measured using scales validated in prior marketing and pricing research. This enables an empirical assessment of how

different pricing mechanisms influence potential revenue and brand loyalty through perceptions of fairness.

Certain limitations are present for this study. The use of self-reported survey data may not fully capture the behaviour behind purchase actions. The findings are specific for the airline industry, which may limit the generalizability to other business sectors. The study also focuses strongly on consumer perspective to generate managerial implications, meaning that managerial and algorithmic factors used in pricing decisions are not directly examined.

Continuing forward, the thesis is structured as follows. Chapter 2 presents a literature review offering insight on previous research relating to dynamic pricing, distributive and procedural fairness, purchase intention, and brand loyalty. Chapter 3 describes the methodology regarding data collection, used measures, and analysis procedures of the data. Chapter 4 reports the empirical findings and analysis, and chapter 5 concludes the thesis with discussion, managerial implications, limitations, and suggestions for future research.

1.4 Key Concepts

Dynamic pricing is a term that refers to a certain pricing model that uses altering the price of goods or services based on different factors in real time, such as supply and demand, competitor pricing, or the characteristics of the customer (Neubert, 2022, p. 1).

Price fairness refers to customers' perceptions and related emotional evaluations of how fair, acceptable, and reasonable a price or price difference appears, as well as how the pricing process leading to that outcome is perceived. Consumers make fairness judgements either through explicit comparisons between two or more actual prices, or through implicit comparisons, where the observed price is evaluated against an expected reference price. In the context of dynamic pricing, fairness perceptions play a crucial role,

as frequent and unpredictable price changes can impact consumers' sense of justice and influence their purchase decisions. (Malc et al., 2016, p. 3693)

Purchase intention (short-term revenue potential) refers to the degree to which a consumer is willing to act towards a purchase. It represents a proxy for actual buying behaviour, as intentions typically precede and predict future purchasing actions. Purchase intention is dynamic in nature, as consumers might accelerate or abandon the decision-making process depending on different contextual factors. (Baati & Akrout, 2024, p. 734) In this study, purchase intention serves as an indicator of short-term revenue potential by reflecting how consumers immediate responses to dynamic pricing scenarios translate into likelihood to buy.

Brand loyalty is a consumer's preference for a specific brand and the repurchase of the same brand, despite the circumstances and marketing efforts to induce conversion behaviour. Brand loyalty consists of behavioural and attitudinal loyalty. Behavioural loyalty captures consumers who repeatedly purchase the same brand, and attitudinal loyalty includes consumers psychological commitment towards a brand. Brand loyalty can be operationalised through repurchase intention and likelihood of continued use of the service/product provider. (Bae & Kim, 2023, p. 2415)

2 Literature Review

This chapter reviews the existing academic literature relevant to dynamic pricing in the airline industry. It begins by outlining the development and operational logic of dynamic pricing models, followed by an examination of how short-term revenue orientation connects with long-term brand loyalty. The chapter then explores the theoretical foundations of consumer perceptions, focusing on fairness, and behavioural responses. Finally, it discusses the alignment between brand loyalty and strategic pricing management and concludes with a summary of the theoretical framework guiding this study.

Although dynamic pricing is operationalised and managed at the firm level through revenue optimisation systems, the focus of this review is not on managerial decision-making processes. Instead, the literature reviewed focuses on how consumers perceive and respond to the outcomes of such pricing practices. The managerial and technological mechanisms discussed in this chapter serve as contextual background for understanding how price fluctuations emerge, but the theoretical emphasis remains on consumer perceptions and behavioural responses.

2.1 Dynamic Pricing in the Airline Industry

The airline industry represents one of the most mature and data-intensive applications of dynamic pricing (Abdella et al., 2021, p. 375). While dynamic pricing mechanisms are now common in various sectors, airlines have refined them into a highly systematic and analytically driven form of revenue management (Kohli & Habibi, 2023, p. 158). The industry's operational characteristics: fixed capacity, perishability of seats, and fluctuating demand, make it uniquely dependent on continuous price optimisation (Wittman & Belobaba, 2019, p. 101). By leveraging large-scale computing and data analytics, airlines began to adjust fares on a daily basis for the same flight product, depending on observable market conditions such as demand fluctuations and booking

patterns (Williams, 2020). These algorithm-driven dynamic pricing systems enable airlines to sell the right seat to the right customer at the right time and price, thereby optimising total revenue efficiently.

In literature, dynamic pricing in aviation is often characterised as a hybrid between economic theory and managerial decision-making (Wittman & Belobaba, 2019, p. 100; Shahbudin, 2016, p. 63; Abdella et al., 2021, p. 376). On one hand, it builds upon classical price discrimination and demand elasticity, while on the other, it reflects management principles, where pricing serves as a strategic tool. This dual nature has made the airline industry a focal context (Narangajavana et al. 2014, p. 29) for understanding how analytical pricing frameworks can influence broader marketing and customer relationship outcomes.

The airline market operates in an environment of intense competition and high-cost sensitivity. Even minor fluctuations in load factor, referring to the proportion of available seats sold, or pricing decisions can have measurable effects on profitability. A survey conducted by McKinsey & Company based on Global 1,200 companies shows that a one percent change in price can lead to a disproportionate effect on operating profit, highlighting the strategic importance in price management (Baker et al., 2010, p. 18-19). For airlines, which face substantial fixed costs and limited flexibility in short-term capacity adjustments, effective pricing has become not just an operational necessity, but a key determinant of financial sustainability (Narangajavana et al., 2014, p. 30; Almasi & Bagherian, 2025, p. 2).

From a customer point-of-view, the same mechanisms that allow the airlines to maximise revenue are the same variables that generate uncertainty and negative perceptions (Aslani et al., 2014, p. 57). The trade-off between these effects of a single pricing practice represents a constant challenge in dynamic pricing and price management, especially in markets where consumers actively monitor prices and respond to perceived unfairness. Although the airline industry represents one of the

most advanced applications of dynamic pricing, the concept has been widely examined across different markets. Prior research has explored how price influences consumer evaluations, purchase timing, and perceived value in retail, hospitality, and digital markets (Milman & Tasci, 2023, p. 387; Han et al., 2024, p. 2159; van der Rest & Heidary, 2024, p. 1)

2.1.1 Evolution of Dynamic Pricing Models in Aviation

The evolution of dynamic pricing in aviation is an outcome to the historical transformation of the whole airline industry and the rise of revenue management systems (Burger & Fuchs, 2005, p. 39). Following deregulation, airlines gradually went from fixed mark-ups to market-based pricing mechanisms, allowing managers to adjust fares in response to demand and competition. This shift marked the foundation of dynamic pricing in the airline industry, where prices began to reflect market conditions rather than regulatory control (Kohli & Habibi, 2023). The key developmental stages of these pricing models are summarised in **Table 1**.

Table 1. Evolution of pricing models and integration of customer perspectives in the airline industry (compiled by the author based on Burger & Fuchs, 2004; Wittman & Belobaba, 2019; Almasi & Bagherian, 2025; Shahbudin, 2016; Neubert, 2022; Carrier, 2018)

Period/Model	Model Logic	Technological Basis	Customer / Brand Perspective	Key Focus
1970s- Regulated & fixed pricing	Cost-based fare	Manual, government controlled	Fairness and transparency fully institutionalised (All pay the same)	Price stability
1980s- Early yield management	Seat control and segmentation	Basic forecasting	Focus on load factor and efficiency	Operational optimisation
1990s-2000s- Optimisation models	Probabilistic and network revenue models	Advanced computing and programming	Beginning of perceived unfairness as segmentation	Maximising expected revenue

2010s- Dynamic pricing systems	Algorithmic and real-time pricing	Big Data, Econometrics	Customer experience, perceptions and fairness emerge as managerial issues	Balancing automation and customer experience
2020s- Advanced dynamic pricing	Machine learning, price personalisation	AI, predictive analytics, customer data	Inclusion of consumer perceptions and experiences in pricing models	Data ethics, long-term value

Table 1 illustrates how pricing logic in the airline industry has evolved across different periods, reflecting changes in regulatory structures, technological capabilities, and the increasing role of customer considerations in pricing decisions. Each period represents a distinct stage in the development of pricing models, moving from regulated stability to advanced algorithmic systems.

During the 1970s, pricing was characterised by regulated and fixed pricing structures. Fares were largely cost-based and determined within government-controlled frameworks, resulting in price stability and institutionalised transparency, where customers typically paid the same fare for the same route. At this stage, pricing was primarily administrative rather than strategic, and customer differentiation played a limited role.

In the 1980s, early yield management emerged as airlines began to introduce seat control and segmentation practices. Early pricing models relied on predefined fare rules and segmentation of customers according to observable booking characteristics, such as the timing of purchase or the level of flexibility associated with the ticket. These approaches formed the basis of yield management, which sought to maximise expected revenue from a limited seat capacity on each flight (Jallat & Ancarani, 2008, p. 466). Yield management represented the first step towards dynamic decision-making, enabling airlines to control seat availability across fare classes according to predicted demand (Abdella et al. 2021, p. 376). At this stage, pricing decisions were structured around

predefined fare classes and booking conditions rather than continuous price adjustments.

During the 1990s and 2000s, pricing models became increasingly optimisation driven. As technology developed, rule-based systems evolved into optimisation-driven revenue management models during the 1990s and 2000s (Carrier, 2018, p. 45; Ratliff & Vinod, 2005, p. 302-303). The transition from predefined fare classes governed by fixed booking rules to data-driven optimisation marked a fundamental methodological shift in airline pricing (see Table 1). This period strengthened the focus on maximising expected revenue, supported by advanced computing and programming capabilities. At the same time, more visible segmentation practices gradually introduced concerns related to perceived fairness.

In the 2010s, pricing systems entered a new phase characterised by algorithmic and real-time pricing. The adoption of large-scale data analytics and econometric modelling enabled real-time dynamic pricing. Airlines began to use algorithmic approaches to update fares continuously according to multiple factors such as demand, competitor actions, and market trends (Narangajavana et al., 2014, p. 29). This evolution extended the scope of pricing from operational control to strategic revenue management, allowing airlines to account segmentation, customer satisfaction, and purchase intentions. This change in its own way replaced the idea of price with the idea of value, as marketing strategy became an important part of airline pricing (Narangajavana et al. 2014). During this period, customer experience and perceptions increasingly emerged as managerial considerations alongside revenue optimisation.

More recently, due to the evolution of machine-learning and AI, dynamic pricing has evolved into a new stage (Kohli & Habibi, 2023, p 158). Continuous pricing allows theoretically infinite fare points generated by predictive algorithms responding instantaneously to changes. These systems enhance personalisation which raised concerns of fairness around prices (Seele et al., 2021), which are discussed in-depth in

this literature review. In the 2020s, advanced dynamic pricing systems integrate artificial intelligence, predictive analytics, and extensive customer data, bringing issues such as data ethics and long-term value into the pricing discussion (van der Rest & Heidary, 2024, p. 1).

As illustrated in Table 1, this whole evolution reflects not only technological progress but also a gradual inclusion of marketing and relational considerations into pricing logic. While early models were purely inside focused, later approaches have increasingly acknowledged outside markets such as competitors and customer-side implications such as perceived fairness, transparency, and brand loyalty (Vomberg et al., 2025). The fusion of technological sophistication and customer sensitivity shows the dual role of pricing in modern airline management, as both a revenue optimiser and a potential factor affecting of long-term customer relationships (Pacca et al., 2024).

2.1.2 Revenue Management and Profit Optimisation Logic

Dynamic pricing in the airline industry is largely enabled by revenue management systems that are used in the optimisation of a finite resource: airline seat inventory, under conditions of fluctuating demand and variable customer willingness-to-pay (WTP) (Selçuk & Avşar, 2019, p. 1191). An unsold seat loses all value once a flight departs, airlines must continuously estimate demand patterns and adjust their pricing structure to achieve maximum revenue from each departure. This approach reflects the basic logic of dynamic pricing: the conversion of time, demand variability, and segmentation data into real-time price differentiation that aligns perceived value with available capacity (Mumbower et al., 2014, p. 196-197; Williams, 2022, p. 831).

From a marketing perspective, this optimisation process extends beyond pure profit maximisation, as pricing also functions as a mechanism of value communication, signalling quality and exclusivity to consumers (Sydney-Hilton & Vila-Lopez, 2019, p. 1533). The prices customers observe do not only reflect cost or demand, but also shape

perceptions of fairness and brand values (Lee et al., 2024, p. 2). When pricing aligns with perceived value, it can enhance the legitimacy of the airline's pricing strategy and reinforce brand perceptions. Oppositely, when optimisation focuses too narrowly on revenue extraction, the resulting inconsistency in prices can undermine fairness and long-term customer relationships (Vomberg et al., 2025, p. 1183-1184).

Therefore, revenue management embodies a dual role: it is simultaneously and first of all an economic optimisation framework, but also a marketing strategy that shapes how value is exchanged and perceived in competitive markets (Wang et al., 2015; Noone et al., 2003, p. 8). This duality highlights why modern pricing systems require not only analytical precision but also strategic sensitivity to consumer responses, a balance increasingly enabled through incorporation of marketing logic, advanced data analytics and artificial intelligence (Mathies et al., 2013).

While revenue management and optimisation logic explain why airlines implement dynamic pricing systems, the present study does not examine or measure revenue outcomes directly. Instead, revenue management is discussed here only as contextual background for understanding how dynamic price fluctuations emerge in airline markets. The empirical focus of this thesis is on the consumer side: how observed price changes shape perceived price fairness and how these perceptions relate to purchase intention and longer-term loyalty-related responses.

2.2 Short-Term Consumer Responses to Dynamic Pricing

As discussed, dynamic pricing enables airlines to respond rapidly to shifts in demand, capacity, and competitive conditions, making it a powerful mechanism for short-term revenue optimisation. From a managerial perspective, these real-time price adjustments offer clear financial benefits, allowing firms to capture incremental value from customers with different levels of WTP (Williams, 2020, p. 1). However, a focus on immediate revenue outcomes also introduces strategic challenges. While short-term optimisation

can improve financial performance in the moment, it can simultaneously influence how consumers interpret the intentions behind the airline's pricing practices (Santos et al., 2024, p. 5).

If price movements are perceived as highly volatile or strategically aggressive, customers may adjust their purchase timing, delay transactions, or shift demand to competing airlines (Omarli, 2023, p. 54-55). Conversely, pricing approaches that appear predictable and consistent can stabilise purchase behaviour, improving short-term conversion and reducing demand uncertainty (Neubert, 2022, p. 4).

2.2.1 Purchase Intention and Willingness-to-Pay as short-term revenue proxies

Purchase intention refers to the degree to which a consumer is willing to purchase a product or service in a given situation and is commonly used in marketing research as a predictor of actual purchasing behaviour. Willingness-to-pay (WTP), in turn, refers to the maximum price a consumer is prepared to pay for a product or service based on their perceived value of the offering. In the context of airline markets, both constructs are closely linked to short-term revenue outcomes, as they reflect how consumers respond to price levels and pricing changes during the booking process.

A central mechanism behind short-term revenue optimisation in dynamic pricing is the heterogeneity in consumers' WTP (Kohli & Habibi, 2023, p. 158). In airline markets, travellers differ in their valuation of the same seat due to factors such as travel purpose, time sensitivity, and availability of alternatives (Abdella et al., 2021). Dynamic pricing relies on identifying and converting these differences into price discrimination opportunities, enabling airlines to extract higher revenues from consumers with elevated WTP while still capturing demand from more price-sensitive segments (Narangajavana et al., 2014, p. 28). Because inventory is fixed, even small improvements in matching prices to WTP can generate disproportionately large revenue gains (Vives et al., 2018).

Travellers are also increasingly monitoring how prices evolve over time within the booking window, leading to behavioural patterns such as postponing purchases in anticipation of future price drops (Jerath et al., 2010, p. 430). In addition to price expectations, consumers tend to have cognitive shortcuts when evaluating the attractiveness of current prices, such as comparing the price to previously seen fares or interpreting sudden increases as signals of scarcity (Škare & Gospić, 2015, p. 520). These rational responses contribute to the dynamics between posted prices and consumer reactions, meaning that revenue outcomes depend not only on the mathematical optimality of prices but also on how customers interpret fluctuation (Narangajavana et al., 2014, p. 29). The alignment between price trajectories and consumer expectations therefore plays an important role in determining whether pricing adjustments result in higher realised revenue. Collectively, these mechanisms shape the revenue outcomes of dynamic pricing strategies (Faruqui & Sergici, 2013, p. 64-65).

In broader marketing literature, purchase intention is commonly employed as a behavioural proxy for consumer response (Baati & Akrout, 2024, p. 735). Studies have linked pricing perceptions, including fairness and price attractiveness, to changes in purchase likelihood (Weisstein et al., 2013, p. 501; Heidary et al., 2024, p. 9). This established relationship provides a theoretical foundation for examining purchase intention as an outcome of perceived price fairness in the present study.

2.2.2 Price Sensitivity and Timing

A characteristic of airline dynamic pricing is the substantial variation in when customers decide to purchase tickets. This creates sudden demand shifts, where demand moves across different points in the booking window rather than occurring as predictable (Groves & Gini, 2015, p. 4). Such variation follows from differences in customer behaviour, perceptions, and WTP, making purchase timing a key determinant of purchase intention (Narangajavana et al., 2014, p 30). This also means long-term customer

strategy goals affect short-term pricing, because demand and booking timing are affected by not only the price, but also the perceptions customers have (Škare & Gospić, 2015, p. 517).

Closely related to WTP is price sensitivity, typically conceptualised through price elasticity. Price elasticity reflects how strongly demand responds to price changes; in industries with high fixed costs and limited capacity, such as aviation, even a slight adjustment can shift total revenue (Abdella et al., 2021, p. 382). A modest increase in price levels may improve revenue if demand is inelastic, whereas the same increase in a highly elastic segment may move consumers toward competing airlines or different travel dates (Abdella et al. 2021, p. 382). Dynamic pricing models use these elasticity patterns to determine the optimal fare for each booking window or class, attempting to balance conversion probability against revenue per seat (Mumbower et al., 2014, p. 196).

The literature commonly distinguishes between early bookers and late bookers, each carrying distinct behavioural patterns (Groves & Gini, 2015 ; Williams, 2020). Early purchasers are typically seen as leisure travellers who are more price-sensitive and willing to plan ahead to get lower fares. Late purchasers often include business travellers who have higher WTP due to time constraints and lower flexibility in travel schedules. These structural differences generate some predictable patterns in demand, but the precise timing of purchases remains uncertain at the individual customer level (Groves & Gini, 2015, p. 4).

Price volatility interacts with consumer expectations as some passengers adopt practices such as “prices usually fall last minute,” while others assume that delays will result in higher fares. These informal perceptions influence purchase timing and can either accelerate or delay demand across the booking window (Webb et al., 2022, p. 951). Shifts in purchase timing create uncertainty: late-booking concentration may make optimisation more difficult, while early purchases at low fares may limit revenue potential if high-WTP customers tend to purchase later (Williams, 2020, p. 34). Price

trajectories also function as behavioural signals that influence whether demand materialises early, late, or not at all (Li & Peng, 2020, p. 165029).

The connection between price changes and booking behaviour does introduce a conversion risk (Almasi & Bagherian, 2025, p. 20). If a price correction occurs at a moment when a potential customer is evaluating purchase, even a small increase may shift the decision from “buy now” to “wait” or “abandon,” especially among price-sensitive customers (Škare & Gospić, 2015, p. 523). Whereas well-timed decreases can accelerate conversions but may simultaneously erode potential revenue from customers who would have paid the original price (Nicolau et al., 2023). Because individual purchase decisions differ across thousands of passengers, these timing shifts can produce significant consequences for short-term revenue outcomes while also affecting perceptions and long-term goals (Baati & Akrout, 2024, p. 735). Importantly, these behavioural shifts highlight that short-term revenue outcomes in dynamic pricing depend not only on consumers WTP, but also on whether pricing fluctuations are perceived as fair, which may influence longer-term loyalty responses.

2.3 Psychological Constructs

Understanding how consumers tend to interpret pricing practices requires a theoretical foundation that explains why individuals react differently to identical price changes. Dynamic pricing does not operate in a void; its effects are seen through cognitive and relational mechanisms that shape how customers evaluate fairness, price attractiveness, and the intentions of the firm behind the price (Narangajavana et al., 2014, p. 29). Several theories provide insight into these mechanisms. Literature on relationships and loyalty discusses ongoing interaction quality in shaping customers’ views of a firm’s market behaviour (Pfajfar et al., 2022, p. 46). The concept of perceived fairness helps explain how consumers form judgements about whether a price or pricing procedure is just (Škare & Gospić, 2015, p. 521). Reference price theory explains why individuals evaluate prices relative to their own expectations and past experiences (Wenner, 2015,

p. 60). Together, these theoretical perspectives form the conceptual view through which this thesis examines how consumers perceive dynamic airline pricing and how these perceptions may influence both immediate purchase decisions and long-term relational outcomes.

2.3.1 Loyalty Perspective

Relationship marketing emphasises the importance of developing and maintaining long-term customer relationships rather than focusing solely on individual transactions (Roy et al., 2025, p. 3). Under this perspective, customers remain engaged with the firm due to consistent signals of reliability and fairness built over time, not singular price points (Jeng, 2016, p. 2). Pricing therefore becomes more than a revenue mechanism: it is an ongoing communication with the customer through which firms express their intentions, respect for the customer, and commitment to a continuous relationship (Narangajavana et al., 2014, p. 29).

An important construct in marketing is loyalty, which works as the psychological foundation for a long-lasting customer-firm relationships. Loyalty develops when consumers perceive the firm as reliable, tolerant, and predictable in its behaviour over time (Manis et al., 2024, p. 116). While loyalty is shaped by multiple touchpoints such as service quality, brand reputation, previous encounters, and communication, pricing practices are a highly influential factor in how relational intentions are perceived (Vomberg et al., 2025, p. 1166). Brand loyalty is an important construct in marketing theory and has been widely associated with long-term customer value and firm performance. Prior research across service and consumer goods industries has demonstrated that consumers' evaluations of firm practices, including pricing policies, contribute to the development or erosion of loyalty over time (Bae & Kim, 2023, p. 2415).

In literature, loyalty has been conceptualised both as behavioural loyalty (repeat purchase behaviour) and attitudinal loyalty, which reflects psychological commitment

and preference toward a brand (Dick & Basu, 1994, p. 100 ; Oliver, 1999, p. 35). While behavioural loyalty captures observed purchasing patterns, attitudinal loyalty reflects a deeper relational attachment and willingness to maintain the relationship despite situational influences.

Price-related decisions are shaped by cognitive biases, heuristics, and reference price evaluations (Foxall, 2017, p. 309). Customers base their expectations on previously observed prices, experience loss aversion when prices exceed their own reference prices and are disproportionately sensitive to perceived fairness (Ho et al., 2006, p. 310). These behavioural patterns can amplify or lower the long-term effects of dynamic pricing: small differences from expected price trajectories may be seen as losses, triggering negative affective responses that reduce loyalty, while consistent or justified price adjustments may strengthen acceptance and the possibility of repeat purchases (Gal & Rucker, 2018, p. 499).

In this context, consistency and clarity in pricing decisions help reinforce relationships (Ferguson & Ellen, 2013, p. 404). Conversely, pricing actions that appear opportunistic or not explained can weaken the relationship between the firm and the customer (Shahbudin, 2016, p. 63). Relationship marketing perspectives highlight that the consequences of pricing extend beyond fast economic effects. Pricing shapes the perceived quality of the relationship and influences emotional responses which affect future interactions and in this way the lifetime value of a customer (Dandis et al., 2022, p. 911).

2.3.2 Perceived Fairness and Price Perception

The concept of perceived fairness provides a foundation for understanding how consumers evaluate pricing practices. According to this perspective, individuals assess fairness by comparing the outcomes they receive with those of other individuals and previous encounters, as well as by considering the procedures used to determine those

outcomes, including how transparently and consistently prices are set (Lee et al., 2024, p. 2). In the context of pricing, these dimensions are normally referred to as distributive fairness, which is the perceived equality of price outcomes, and procedural fairness, which concerns the transparency, consistency, and legitimacy of a pricing process (Ferguson et al., 2014, p. 218-219). Beyond the airline context, studies have consistently shown that fairness evaluations influence customer satisfaction and purchase behaviour across a wide range of industries (Vomberg et al., 2025, p. 1168).

Price perceptions can be understood through reference price theories, which explain how consumers rarely evaluate a price in absolute terms. Instead, they judge it relative to an internal reference point formed by past prices, advertised deals, market norms, or expectations about what they think the price should be (Wenner, 2015, p. 60). When the encountered price differs significantly from this reference price, consumers may interpret the difference as unfair, even if the price is economically rational or aligned with market demand (Lee et al., 2024, p. 1-2). Dynamic pricing intensifies these reactions, as fluctuating prices expose consumers to active comparing (Friesen, 2020, p. 404).

Dynamic pricing also reshapes the psychological frame through which fairness is assessed. Unlike fixed pricing, where prices are stable, dynamic price movements create moving reference points that can grow consumers' sensitivity to perceived unfairness increasingly over time (Friesen, 2020, p. 408). Literature shows that individuals tend to react more strongly to upward price adjustments than to downward adjustments, reflecting known behavioural patterns such as loss aversion (Wenner, 2015, p. 60). Moreover, consumers may evaluate not only what the price is currently, but how it was designed to be fair and consistent with reasonable market expectations (Ferguson et al., 2014, p. 220).

These theories suggest that fairness perceptions are not only reactions to price levels but reflect wider interpretations of the pricing system itself (Friesen, 2020, p. 414). Taken together, fairness theory and reference price perspectives suggest that dynamic pricing

is not expected to influence loyalty merely through the price level itself, but through the fairness evaluations that the pricing system triggers. Because dynamic pricing exposes consumers to varying outcomes and to the procedures through which prices are set, consumers are likely to form distributive and procedural fairness judgements regarding both the price and the pricing process (Lee et al., 2024 ; Ferguson et al., 2014). Reference price perceptions and changing price patterns further intensify these evaluations in dynamic settings (Wenner, 2015; Friesen, 2020). These fairness judgements reflect broader interpretations of the legitimacy and acceptability of the firm's pricing practices (Thrane et al., 2024), which can affect repeated experiences and thereby shape longer-term relational outcomes (Vomberg et al., 2025, p. 1183).

2.4 Summary of Theoretical Framework

This chapter has reviewed the literature on dynamic pricing in the airline industry and highlighted the market conditions in which such pricing practices operate, including fixed capacity, uncertain demand, and differences in consumers' WTP. Prior research has shown that airlines use dynamic pricing models to optimise short-term revenue by adjusting fares in response to demand and consumer price sensitivity. The review has also indicated that travellers monitor price movements, form expectations, and vary in their booking behaviour, meaning that consumer reactions are closely linked to short-term pricing outcomes.

The chapter has further discussed how consumers evaluate dynamic pricing practices through perceptions of pricing. In particular, fairness perceptions were presented as a key foundation for understanding how consumers judge whether price changes are acceptable and connecting the long- and short-term outcomes closely together. The literature reviewed suggests that perceived price fairness influences behavioural responses to dynamic pricing, shaping consumers' willingness to pay. Behavioural economics perspective was also discussed, which helps explain how consumers interpret

dynamic pricing through cognitive biases and fairness-related evaluations that may influence both short-term purchase responses and longer-term loyalty outcomes.

In addition, the chapter has examined longer-term implications of pricing practices by drawing on relationship-oriented research. Previous studies discussed in this review indicate that repeated pricing experiences may influence customer relationship outcomes, including brand loyalty, alongside immediate purchase-related responses.

Overall, this chapter supports the focus of this thesis on four main constructs: airline dynamic pricing, perceived price fairness, short-term behavioural outcomes and long-term outcomes. These key constructs are operationalised in the empirical study using measurement scales validated in prior research. The relationships identified in prior research form the theoretical basis for the empirical study.

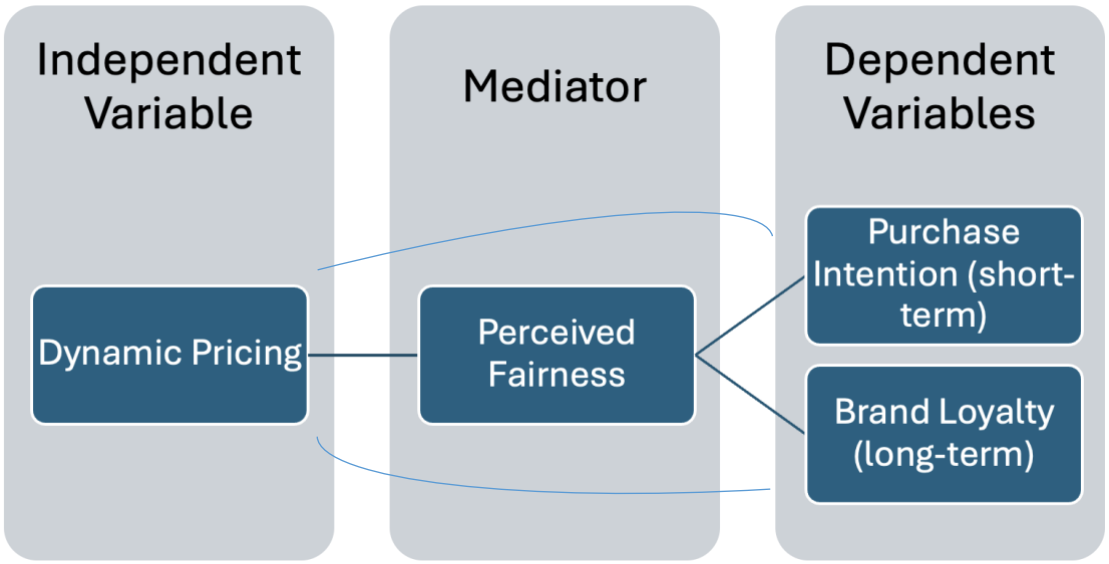

Figure 1. Conceptual model of the study (By author).

As illustrated in Figure 1, the empirical model of this study consists of one independent variable (IV), one central explanatory construct, and two dependent variables (DV). Airline dynamic pricing is conceptualised through pricing scenarios representing the

independent variable influencing consumers' perceptions of price fairness, which functions as the explanatory mechanism in the model. Purchase intention represents the short-term dependent variable, while brand loyalty represents the long-term dependent variable. The model therefore examines how dynamic pricing affects consumer outcomes and how these outcomes relate to perceived price fairness

In line with prior research, the model assumes that consumers' responses to dynamic pricing are shaped primarily through their evaluations of price fairness rather than through price variation alone. Earlier studies suggest that price discrimination and dynamic pricing practices activate fairness judgments, which in turn influence both immediate transactional decisions and longer-term relational outcomes. Short-term behavioural responses, such as purchase intention, are particularly sensitive to perceptions of price acceptability, whereas repeated fairness evaluations may affect brand loyalty. The proposed model therefore puts these relationships into a single framework by positioning perceived price fairness as a central construct in the model rather than as a statistically tested mediator.

3 Research Methodology

This chapter outlines the methodological approach used to examine how airline dynamic pricing influences consumers perceived price fairness and how these perceptions shape both short-term purchase intention and long-term brand loyalty. It presents the quantitative research design applied in the study, describes the data collection process through a scenario-based online survey, and explains how the focal constructs are operationalised using measurement scales validated in prior research. The chapter further introduces the procedures used to test the proposed relationships between the variables. Finally, the chapter discusses the reliability and validity of the chosen measures and research design in order to ensure transparency and credibility in the empirical part of the study.

3.1 Experimental Research Setting

This study adopted a quantitative, scenario-based experimental survey with a between-subject design. A quantitative approach is appropriate when the aim is to examine measurable relationships between constructs and to identify patterns that can be generalised beyond the studied sample (Quick & Hall, 2015, p. 192). In this quantitative research, data was collected by a structured form, allowing the analysis of variation in responses and test statistically significant associations among variables. To use this method, a sufficiently large and representative sample was required. (White 2022, p. 1).

The empirical model tested in this study consisted of one independent variable and two dependent variables. Dynamic pricing serves as the independent variable in the study and is implemented through two alternative pricing scenarios. Perceived price fairness is included as a key explanatory variable. Purchase intention represents the short-term dependent variable, while brand loyalty represents the long-term dependent variable. More specifically, the empirical part of the study applied a between-subject experimental setting in which participants randomly evaluated either a static pricing

scenario or a dynamic pricing scenario. This design made it possible to examine the effect of dynamic pricing by comparing participants' responses to a dynamic pricing scenario with those to a static pricing scenario and helps avoid carryover effects that could come if the same individual evaluated both scenarios.

Overall, the selected methodological approach supports the objective of the thesis by enabling a structured examination of consumers' evaluations of airline pricing practices and their behavioural implications.

3.1.1 Sample

The target population of the study consisted of adult consumers who are potential airline customers and have experience or familiarity with purchasing air travel for personal purposes. The study focused on individual leisure-oriented travellers rather than corporate buyers or travel managers, in line with the consumer-centred scope of the thesis.

Participants were recruited through online distribution channels such as social media, student networks, and personal networks. The survey was anonymous and voluntary, and respondents had to be at least 18 years old to participate. Because the study adopted a scenario-based survey design in which all participants evaluated one of the two pricing situations, the same respondent assessed either the static pricing scenario, or the dynamic pricing scenario. This between-subject design allows comparison of the scenarios and evaluations across the two pricing conditions.

As the study used quantitative statistical analysis, the aim was to collect a sufficiently large sample to ensure reliable results and allow validation of the measurement scales. The target was to obtain at least 100 usable responses.

3.1.2 Procedures

Data collection was conducted through an online survey created in Webropol. After opening the survey link, respondents first read a short introduction describing the purpose of the study and informing them that participation is voluntary and anonymous. Participants were asked to confirm that they are at least 18 years old before continuing. After providing consent, respondents answer a small set of background questions, including age, gender and flying frequency. These questions provide descriptive information about the sample and general familiarity with airline travel.

Following the background questions, participants were randomly be presented with one of two short airline ticket booking scenarios. The scenarios described a realistic flight booking situation involving a preferred airline and fixed travel dates. The key difference between the scenarios was the pricing outcome. In the first scenario, the ticket price remained the same between two visits to the airline website. In the second scenario, the price increased between the two visits, representing a dynamic pricing situation.

All participants evaluated one scenario, which allowed evaluations of the effect of a dynamic situation compared to a static one. After reading the scenario, respondents completed a set of statements measuring perceived price fairness, purchase intention, and brand loyalty. These statements were measured using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

3.1.3 Measures

The constructs examined in this study are perceived price fairness, purchase intention, and brand loyalty. These constructs are measured using multi-item scales adapted from established marketing and pricing literature. Each item is evaluated using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Using multiple items

for each construct allows the measurement of latent variables and improves the reliability of the analysis.

Perceived price fairness was measured using four items adapted from previous research on consumer perceptions of price fairness. The measurement items were based on scales used by Ferguson et al. (2014). In this study, perceived price fairness is operationalized through consumers' evaluations of whether a price or price difference is fair, reasonable, acceptable, or justified. Following this approach, the items used in this study capture respondents' evaluations of the fairness, reasonableness, and justification of the ticket price presented in the scenario.

Purchase intention was measured using adapted items from prior literature (e.g., Dodds et al., 1991; Jeng, 2016). The items capture consumers' likelihood, willingness, and consideration of purchasing in the given scenario.

Brand loyalty in this study refers to attitudinal loyalty, which captures consumers' intentions to continue choosing the same airline in the future. Because the study uses a scenario-based survey rather than observing actual behaviour, loyalty is operationalised through future-oriented intentions such as willingness to choose the airline again, preference over competitors, and recommendation intentions. Brand loyalty was measured with five items that were adapted for Chaudhuri & Holbrook (2001).

The wording of all items was slightly adapted to fit the airline ticket pricing context used in the survey. Table 2 summarises the constructs used in the study, the measurement items associated with each construct, and the literature sources from which the items are adapted.

Table 2. Constructs, items, and sources

Construct	Item	Source
Perceived Price Fairness	PF1 The pricing in this situation is fair. PF2 Considering my expectations for this flight route, the ticket price seems reasonable. PF3 The airline appears justified in setting the price in this way. PF4 The way the ticket is priced in this situation seems acceptable	Ferguson et al., (2014)
Purchase Intention	PI1 I would consider purchasing this ticket in this situation. PI2 I would seriously consider purchasing this ticket. PI3 I would be willing to buy this ticket at the price shown in this scenario. PI4 The probability that I would buy this ticket is high. PI5 I would be likely to purchase this ticket.	Dodds (1995), Jeng (2016)
Brand Loyalty	BL1 I would be as (or more) willing to choose this airline again in the future. BL2 I would still prefer this airline when booking similar flights in the future. BL3 I would remain committed to this airline in the future. BL4 Even if other airlines offered similar flights, I would still consider choosing this airline in the future. BL5 I would be willing to pay a higher price for my preferred airline.	Chaudhuri & Holbrook (2001)

3.2 Data Analysis

The data collected through Webropol was exported to IBM SPSS Statistics for analysis. Before conducting the main analyses, the dataset was screened for incomplete responses, missing values, and other potentially invalid cases. After data screening, composite variables were created for perceived price fairness, purchase intention, and brand loyalty based on the items included in each scale. As the study used multi-item measures adapted from previous literature, the internal consistency of each construct was assessed using Cronbach's alpha. Cronbach's alpha is commonly used to assess whether the items included in a scale measure the same underlying construct in a consistent manner (Taber, 2018, p. 1275).

Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated to describe the sample and the main study variables. Frequencies and percentages were used to report the demographic characteristics of the respondents, including age, gender, flying frequency, and scenario allocation. Means and standard deviations were calculated for perceived price fairness, purchase intention, and brand loyalty under both pricing scenarios.

Because the study applied a between-subject experimental design with two independent groups, independent samples t-tests were used to examine whether the static and dynamic pricing scenarios differed significantly in terms of perceived price fairness, purchase intention, and brand loyalty. Levene's test for equality of variances was examined before interpreting the t-test results. When Levene's test indicated unequal variances, the equal variances not assumed results were reported. A significance level of $p < .05$ was applied in all statistical tests. Effect sizes were reported using Cohen's d.

3.3 Reliability and Validity of the Research

Reliability refers to the consistency and stability of the research results. In quantitative research, reliability means that the measurement procedure produces results that are not random and that similar findings could be obtained if the study were repeated under comparable conditions (Sürücü & Maslakçi, 2020, p. 2696). Reliability may be weakened by different types of errors occurring during the research process, such as mistakes in questionnaire design, data entry, or interpretation of the findings (Aboumatar et al., 2021, p. 2). In the present research, reliability was enhanced by using a structured survey design, identical response scales for all respondents, and clearly defined measurement items based on previous literature. Because this study applied a scenario-based between-subject design, each respondent evaluated only one pricing situation: either the static pricing condition or the dynamic pricing condition. This design helped reduce carryover and demand effects that could have arisen if the same respondent had evaluated both scenarios.

The reliability of the study is also connected to the sample size. In quantitative survey research, a larger number of observations generally improves the stability of the results and reduces the impact of random variation (Sürücü & Maslakçi, 2020, p. 2717). In a between-subject design, comparability between the groups was supported by using identical procedures and measurement scales for all respondents, while varying only the pricing scenario. As stated earlier in this thesis, the target of the study was to obtain at least 100 usable responses, which was considered sufficient for the purposes of this study and for the planned statistical analyses at the overall level. In addition to sample size, reliability is influenced by the representativeness of the sample in relation to the target population (Howcutt et al., 2018, p. 973). Because participants were recruited through online distribution channels such as social media, student networks, and personal networks, the sample was based on non-probability sampling rather than random sampling. As a result, the sample may not fully represent all airline customers, and this should be taken into account when discussing the findings.

The internal consistency of the measurement scales also contributes to reliability. In this study, the focal constructs of perceived price fairness, purchase intention, and brand loyalty were measured using multi-item scales adapted from earlier research. Using several items for each construct improves the reliability of measurement because it reduces the influence of single-item error and allows the assessment of whether the items consistently capture the same underlying concept (Malhotra et al., 2012, p. 836). After data collection, the internal consistency of each construct was examined using Cronbach's alpha, which is a commonly used indicator for assessing the reliability of multi-item scales. If the alpha values were at an acceptable level, this supported the reliability of the measures used in the empirical analysis.

Validity refers to the extent to which a study actually measures what it is intended to measure (Al-Eisawi, 2025, p. 15). In survey research, validity depends especially on whether the questionnaire items correspond to the research problem and the theoretical constructs being examined. In this study, validity was considered at the research design by ensuring that the empirical model, scenarios, and measurement items were aligned with the purpose of the thesis. The purpose of the study was to examine how airline dynamic pricing influences consumers' perceptions of price fairness and how these perceptions are associated with short-term purchase intention and long-term brand loyalty. The survey design reflected this by presenting each respondent with one airline ticket booking scenario and by measuring the three focal constructs after each scenario. The validity of the study was strengthened using measurement items adapted from established previous studies. Another important aspect of validity is whether respondents interpret the questions and scenarios in the way intended by the researcher. If the wording is unclear or ambiguous, respondents may understand the items differently, which would weaken validity. For this reason, the scenarios and statements were formulated as clearly and consistently as possible.

The scenario-based design of the study also supported validity, as it allowed respondents to evaluate realistic airline pricing situations rather than abstract pricing statements. The

two scenarios were similar in content but differed in the pricing outcome: in one situation the ticket price remained the same, while in the other the ticket price increased between the two booking occasions. This made it possible to isolate the effect of the pricing situation on respondents' evaluations. Since the study was based on hypothetical scenarios and self-reported responses, the findings reflected respondents stated evaluations and intentions rather than actual purchase behaviour. Finally, the anonymity and standardisation of the online survey supported both reliability and validity. Participation in the survey was voluntary and anonymous, and respondents were informed of this at the beginning of the questionnaire. This may have encouraged more honest responses and improved the overall quality of the data. However, despite these strengths, it is still possible that some respondents answered carelessly or interpreted the situations differently than intended, which should be acknowledged when evaluating the results.

4 Results

This chapter presents the empirical findings of the study. First, the demographic characteristics of the sample are described. Second, the reliability of the measurement scales is assessed using Cronbach's alpha. Third, descriptive statistics and independent samples t-tests are presented in order to examine if the static and dynamic pricing scenarios differed in terms of perceived price fairness, purchase intention, and brand loyalty.

The final sample consisted of 108 usable responses (Table 3). Most respondents were aged 25–35 years (52.8%), followed by respondents aged 36–50 years (25.0%), 18–24 years (14.8%), and over 50 years (7.4%). The sample included 69 male respondents (63.9%) and 39 female respondents (36.1%). Regarding flying frequency, 46 respondents (42.6%) reported flying 1–3 times, 43 respondents (39.8%) 4–6 times, and 19 respondents (17.6%) 7 or more times. In terms of scenario allocation, 58 respondents (53.7%) were assigned to the static pricing scenario and 50 respondents (46.3%) to the dynamic pricing scenario.

Table 3. Demographic characteristics of the sample

Demographic variable	Category	n	%
Age	18–24	16	14.8
	25–35	57	52.8
	36–50	27	25.0
	50+	8	7.4
Gender	Female	39	36.1
	Male	69	63.9
	Other / Do not want to answer	0	0.0
Flying frequency	1–3 times	46	42.6
	4–6 times	43	39.8
	7+ times	19	17.6
Pricing scenario	Static	58	53.7

Demographic variable	Category	n	%
	Dynamic	50	46.3

The internal consistency of the scales used in this study was examined using Cronbach's alpha. The results indicated that all three constructs demonstrated satisfactory reliability (Table 4). Perceived price fairness showed excellent internal consistency, with a Cronbach's alpha of .912. Purchase intention also demonstrated excellent reliability, with an alpha of .926. Brand loyalty showed good internal consistency, with a Cronbach's alpha of .825. Overall, these findings indicate that the multi-item scales used in the study measured their intended constructs consistently and were good for further analysis. Based on these results, composite mean variables were created for perceived price fairness, purchase intention, and brand loyalty.

Table 4. Reliability of measurement scales

Construct	Number of items	Cronbach's alpha
Perceived price fairness	4	.912
Purchase intention	5	.926
Brand loyalty	5	.825

Independent samples t-tests were conducted to examine whether respondents in the static and dynamic pricing scenarios differed in terms of perceived price fairness, purchase intention, and brand loyalty (Table 5). Before interpreting the t-test results, Levene's test for equality of variances was examined. Levene's test was statistically significant for all three variables, indicating unequal variances between the groups. Therefore, the results reported below are based on the equal variances not assumed row.

For perceived price fairness, the static pricing scenario produced a substantially higher mean score (M = 4.616, SD = 0.301) than the dynamic pricing scenario (M = 2.765, SD = 0.778). The independent samples t-test showed that this difference was statistically

significant, t(61.543) = 15.834, p < .001. The effect size was very large, Cohen's d = 3.230, indicating a substantial difference between the two pricing scenarios.

For purchase intention, respondents in the static pricing scenario also reported a higher mean score (M = 4.503, SD = 0.296) than respondents in the dynamic pricing scenario (M = 3.184, SD = 0.621). This difference was statistically significant, t(67.811) = 13.751, p < .001. The effect size was very large, Cohen's d = 2.782.

For brand loyalty, the static pricing scenario again resulted in a higher mean score (M = 4.228, SD = 0.375) than the dynamic pricing scenario (M = 3.120, SD = 0.629). The difference between the two groups was statistically significant, t(77.479) = 10.896, p < .001. The effect size was also very large, Cohen's d = 2.179.

Table 5. Independent samples t-test results by pricing scenario

	Scenario	n	M	SD	t	df	p	Cohen's d
PF	S	58	4.616	0.301	15.834	61.543	< .001	3.230
	D	50	2.765	0.778				
PI	S	58	4.503	0.296	13.751	67.811	< .001	2.782
	D	50	3.184	0.621				
BL	S	58	4.228	0.375	10.896	77.479	< .001	2.179
	D	50	3.120	0.629				

Note: PF=Price Fairness, PI= Purchase Intention, BL= Brand Loyalty, S= Static, D= Dynamic

Overall, the empirical results show a clear and consistent pattern. Compared with the static pricing condition, the dynamic pricing scenario resulted in significantly lower evaluations of perceived price fairness, purchase intention, and brand loyalty. The strongest difference was observed for perceived price fairness, followed by purchase intention and brand loyalty. These findings suggest that a visible price increase in an airline booking situation can negatively influence consumers' evaluations of the pricing situation, their willingness to purchase, and their loyalty-related responses toward the airline brand.

5 Discussion

This chapter discusses the main findings of the study in relation to the theoretical framework and previous literature. First, the theoretical implications of the results are examined. After that, managerial implications for the airline industry are presented. Finally, the limitations of the study and suggestions for future research are discussed, followed by the main conclusions.

The purpose of this study was to examine how airline dynamic pricing influences consumers' perceptions of price fairness and how these perceptions are associated with short-term purchase intention and long-term brand loyalty outcomes. More specifically, the study approached dynamic pricing from a consumer-oriented perspective and investigated whether a pricing situation in which the ticket price increases between two booking occasions differs from a static pricing situation in terms of perceived fairness and related consumer outcomes. The findings provide support for the idea that dynamic pricing is not only an operational optimisation tool, but also an important marketing and relationship-management issue (Narangajavana et al., 2014; Sarker et al., 2021; Vomberg et al., 2025).

The first objective of the study was to develop an understanding of consumers' perceptions of fairness in the context of airline dynamic pricing. This objective was addressed through both the literature review and the empirical analysis. The literature review highlighted that fairness perceptions are central in dynamic pricing contexts, especially when consumers are exposed to changing prices for the same product over time (Lee et al., 2024; Ferguson et al., 2014; Friesen, 2020). The empirical results strongly support this view. The dynamic pricing scenario produced much lower fairness evaluations than the static pricing scenario. This suggests that when consumers observe that the ticket price has increased between two visits, they are likely to interpret the pricing practice as less fair, less reasonable, and less acceptable. In this way, the results support previous research arguing that dynamic pricing can trigger negative fairness

evaluations if price changes become visible to consumers (Omarli, 2023; Lee et al., 2024; Friesen, 2020).

The second objective of the study was to analyse how consumers evaluated purchase intention and loyalty-related outcomes under different pricing conditions. This objective was addressed by comparing the static and dynamic pricing scenarios. The results showed that respondents in the dynamic pricing condition reported significantly lower purchase intention and lower brand loyalty than respondents in the static pricing condition. These findings suggest that visible upward price changes may have consequences beyond perceived fairness alone, as they were also associated with less favourable purchase-related and loyalty-related evaluations. This interpretation is consistent with earlier literature suggesting that pricing perceptions are closely related to purchase-related responses and longer-term relationship outcomes (Weisstein et al., 2013; Heidary et al., 2024; Vomberg et al., 2025).

The third objective of the study was to explore the managerial implications of dynamic pricing in the airline industry, focusing on strategic opportunities, challenges, and trade-offs between short-term revenue potential and long-term relationship value. The findings clearly show that there is a meaningful trade-off involved. While dynamic pricing may be designed to optimise short-term revenue, visible price increases can simultaneously lower perceptions of fairness, reduce willingness to purchase, and weaken brand loyalty. Because of this, the results suggest that pricing systems should not be evaluated solely on the basis of immediate revenue gains, but also in terms of how they shape customer relationships over time. This supports the argument of the thesis that effective pricing strategy in airline markets requires balancing short-term financial optimisation with long-term customer value (Neubert, 2022; Shahbudin, 2016; Vomberg et al., 2025).

5.1 Theoretical Implications

This study contributes to the literature on airline dynamic pricing by reinforcing the importance of a consumer-centred perspective. Much prior literature on airline pricing has focused on optimisation models, forecasting logic, and revenue management systems (Wittman & Belobaba, 2019; Abdella et al., 2021; Kohli & Habibi, 2023). While these perspectives are important for understanding why airlines use dynamic pricing, they provide only limited insight into how pricing outcomes are experienced by consumers. The present study adds to this literature by showing that dynamic pricing should also be understood as a psychological and relational phenomenon, not just as an economic one (Narangajavana et al., 2014; Sarker et al., 2021; Vomberg et al., 2025).

More specifically, the findings support the relevance of fairness theory in explaining consumer responses to airline pricing. The dynamic pricing scenario led to a sharp decline in perceived fairness, which was accompanied by lower purchase intention and lower brand loyalty. This pattern is highly consistent with the theoretical discussion presented in the thesis, according to which consumers evaluate not only the price itself, but also the legitimacy, transparency, and acceptability of the pricing process (Ferguson et al., 2014; Lee et al., 2024). The findings therefore support the view that dynamic pricing influences consumer responses not only through price level differences, but through the fairness interpretations those differences trigger (Friesen, 2020; Wenner, 2015).

The study also contributes to research connecting short-term and long-term outcomes of pricing practices. In the literature review, purchase intention was treated as a proxy for short-term revenue potential, whereas brand loyalty represented a longer-term relational outcome (Baati & Akrout, 2024; Bae & Kim, 2023). The empirical findings show that the dynamic pricing scenario lowered both. This is theoretically important because it suggests that the effects of dynamic pricing are not isolated to immediate buying decisions. Instead, short-term reactions and longer-term brand responses appear closely linked. In that sense, the results strengthen the argument that short-term revenue logic

and long-term relationship management are not separate pricing concerns, but deeply connected dimensions of the same strategic issue (Narangajavana et al., 2014; Shahbudin, 2016; Vomberg et al., 2025).

Also, the results show that the dynamic pricing scenario produced lower evaluations across all three measured constructs: perceived price fairness, purchase intention, and brand loyalty. This supports the conceptual relevance of examining these constructs together in airline pricing contexts, while also indicating that visible upward price changes may influence both immediate consumer responses and longer-term brand-related evaluations. However, because the study did not conduct a mediation analysis, the results should not be interpreted as evidence that perceived fairness statistically mediates the relationship between pricing scenario and consumer outcomes.

5.2 Managerial Implications

The findings of this study offer several managerial implications for airline companies and for managers responsible for pricing strategy. First, the results suggest that visible upward price changes can create substantial fairness concerns among consumers. For airline managers, this means that the success of dynamic pricing should not be measured only through yield optimisation or short-term revenue gains. If customers perceive pricing adjustments as unfair, the practice may reduce purchase likelihood and weaken future loyalty, which can undermine longer-term profitability. This implication is consistent with earlier literature suggesting that dynamic pricing can improve short-term revenue potential while simultaneously creating risks for customer trust and long-term relationship quality (Omarli, 2023; Neubert, 2022; Vomberg et al., 2025).

Second, the findings imply that airlines should place more strategic emphasis on transparency and justification in their pricing communication. While airlines may not be able or willing to explain every pricing adjustment in detail, clearer communication about why prices vary could help reduce perceptions of arbitrariness. If consumers understand that prices change due to booking timing, seat availability, or demand

conditions, such changes may appear more legitimate than if they are experienced as random or opportunistic. In this way, communication can function as a complement to pricing strategy rather than being treated as a separate issue. This interpretation aligns with earlier literature emphasising the role of procedural fairness, legitimacy, and transparency in shaping pricing evaluations (Ferguson et al., 2014; Lee et al., 2024).

Third, the results suggest that airlines should carefully consider the customer-facing visibility of dynamic pricing mechanisms. The strongest effect in the study was found for perceived price fairness, which indicates that the fairness interpretation may be the first and most sensitive response affected by dynamic price changes. This means that even if algorithmic pricing is effective from a technical revenue-management perspective, its implementation should be evaluated also through the lens of customer experience. In practice, this may involve limiting excessive upward price shifts, improving consistency in displayed fare conditions, or using strategies that make price changes appear more understandable. This is in line with previous research suggesting that consumers are highly sensitive to visible price changes and that such changes can shape both fairness perceptions and booking behaviour (Friesen, 2020; Omarli, 2023; Williams, 2020).

Fourth, the findings indicate that dynamic pricing may influence not only immediate booking decisions but also the long-term relationship between the customer and the airline brand. For managers, this means that pricing policy should be integrated more closely with brand strategy and relationship management. Airlines that aim to position themselves as trustworthy, reliable, and customer-oriented may need to ensure that their pricing practices support these brand values rather than contradict them. Otherwise, the gains from short-term optimisation may come at the cost of long-term brand equity. This managerial implication is also consistent with relationship-oriented literature, which highlights that firm practices, including pricing, influence the perceived quality of the customer relationship and loyalty over time (Jeng, 2016; Dandis et al., 2022; Vomberg et al., 2025).

Overall, the managerial implication of this study is that dynamic pricing should be treated as both a revenue-management tool and a relationship-management tool. The most effective pricing strategies are therefore likely to be those that balance analytical precision with consumer acceptability (Narangajavana et al., 2014; Neubert, 2022; Vomberg et al., 2025).

5.3 Limitations and Future Research

Like all studies, the present research has several limitations that should be acknowledged when interpreting the findings. First, the study is based on a scenario-based survey design rather than real observed booking behaviour. Although scenario-based methods are suitable for examining consumer evaluations and intended responses, they do not fully capture actual behaviour in real purchase situations. Respondents reported how they believed they would react to a given pricing scenario, but real booking decisions may also be influenced by urgency, travel purpose, available alternatives, budget constraints, and other contextual factors.

Second, the study relied on self-reported data. This means that the results reflect respondents' subjective perceptions and intentions rather than objectively observed actions. In particular, purchase intention was used as a proxy for short-term revenue potential, while brand loyalty was measured through loyalty-related intentions rather than actual repeat purchasing behaviour. Although these operationalisations are well justified in the context of a survey study, they still represent behavioural tendencies rather than realised market outcomes.

Third, the study focused specifically on the airline industry. Airlines provide a highly relevant context for studying dynamic pricing because of their established use of revenue management and price adjustment systems (Wittman & Belobaba, 2019; Abdella et al., 2021). However, the specific characteristics of airline markets, such as perishable capacity, booking windows, and high consumer awareness of fare changes, may limit the generalisability of the findings to other sectors. While the results may be

relevant to other industries that use dynamic pricing, such as hospitality, ride-hailing, or e-commerce, the transferability of the findings should be approached with caution.

Fourth, the study examined only one relatively simple representation of dynamic pricing: a situation where the observed ticket price increases between two booking occasions. This makes the scenario analytically clear, but it also narrows the scope of what dynamic pricing can involve in practice. Actual airline pricing systems can include more complex patterns such as personalised offers, algorithmic bundling, ancillary pricing, competitor-based price reactions, and multiple degrees of price volatility (Wittman & Belobaba, 2019; van der Rest & Heidary, 2024). Future research could therefore examine whether different forms of dynamic pricing trigger different kinds of fairness responses and whether some forms are more acceptable to consumers than others.

Future research could also extend the present study in several additional ways. One promising direction would be to test mediation more explicitly by analysing whether fairness statistically mediates the relationship between pricing scenario and both purchase intention and brand loyalty. Another useful direction would be to compare different customer segments, such as frequent versus infrequent flyers, or business versus leisure travellers, to determine whether some groups are more tolerant of dynamic pricing than others. Finally, future research could incorporate longitudinal or behavioural data to examine whether repeated exposure to dynamic pricing changes attitudes and loyalty over time.

5.4 Conclusions

The purpose of this study was to examine how airline dynamic pricing influences consumers' perceptions of price fairness and how these perceptions are associated with short-term purchase intention and long-term brand loyalty. The study approached this question from a consumer-centred perspective and compared a static pricing scenario

with a dynamic pricing scenario in which the observed ticket price increased between two booking occasions.

The findings show that the dynamic pricing scenario led to significantly lower perceived price fairness, lower purchase intention, and lower brand loyalty than the static pricing scenario. In addition, fairness was strongly positively related to both purchase intention and brand loyalty. These results suggest that consumers do not interpret dynamic pricing solely as a technical price adjustment mechanism. Instead, they evaluate it through fairness perceptions, which are strongly associated with both immediate willingness to purchase and longer-term relational responses to the airline brand.

The study therefore concludes that the central challenge of airline dynamic pricing lies in balancing short-term revenue optimisation with long-term customer relationship value. Although dynamic pricing may improve immediate revenue potential, visible price increases can generate negative fairness responses that weaken both conversion intentions and brand loyalty. For airlines, this implies that successful pricing strategy requires more than analytical optimisation: it also requires sensitivity to how customers experience and interpret pricing practices. This conclusion is consistent with earlier literature emphasising the importance of aligning revenue objectives with perceived fairness, legitimacy, and longer-term relationship value (Narangajavana et al., 2014; Neubert, 2022; Vomberg et al., 2025).

Overall, this thesis contributes to the literature by linking airline dynamic pricing, perceived price fairness, purchase intention, and brand loyalty into one consumer-oriented framework. The findings underline that pricing is not only an economic instrument, but also a strategic communication of value, legitimacy, and brand intent (Sydney-Hilton & Vila-Lopez, 2019; Lee et al., 2024). In this sense, the study supports the view that the long-term success of dynamic pricing depends not only on how well prices are optimised, but also on how fair those prices appear to the customer.

Use of Artificial Intelligence

At the start of this writing process, I used ChatGPT, an AI platform, to give me topic suggestions based on my points of interest. After I had my topic and the main questions ready, I used ChatGPT to help me construct my writing process into steps that made it much easier. During the writing process AI was used to refine language and structure decisions, as well as explain previous teacher feedback thoroughly. So, what benefits I got from using artificial intelligence was help with the topic, and then a model to help me start the writing process and give me an idea on whether my approach to different questions was accurate. All in all, artificial intelligence did help me to get the process going and point me into the right direction in the times I was most insecure or thought whether I had gone too far from the purpose of the study. Artificial intelligence was not used to generate text, but rather in a similar role of a teacher helping a student to get a process running.

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Appendices

Appendix 1. Survey questionnaire

Airline Pricing Ticket Scenario

Thank you for participating in this study.

This study investigates perceptions toward airline pricing.

Participation in this survey is voluntary, and all responses will be treated anonymously. Individual respondents cannot be identified from the results. Completing the survey will take approximately 3-5 minutes.

1. Consent *

- ◯ I have read the information above and understand that participation is voluntary and that my responses will be processed anonymously. I confirm I am over 18 years old

2. What is your age *

- ◯ 18-24
- ◯ 25-35
- ◯ 36-50
- ◯ 50+

3. Gender *

- ◯ Female
- ◯ Male
- ◯ Other / Do not want to answer

4. How often do you travel by airplane on average per year? *

- ◯ 1-3
- ◯ 4-6
- ◯ 7+

Next, you will be presented with a short airline ticket booking scenario. Please read the scenario carefully and then evaluate the statements based on the situation described.

Scenario 1:

Imagine that you are planning a personal trip and are looking for a flight on the website of your preferred airline. The travel dates are fixed, and the flight is suitable for your needs.

You visit your preferred airline's website and see that the ticket price for the flight is €212. Other airlines prices for the same route are around 205€-215€
After a week, you return to the website to continue your booking. The ticket price for the same flight, with the same travel details, is still €212. Other airlines prices have stayed around the same.

Please indicate how much you agree or disagree with the following statements.

Scenario 2:

Imagine that you are planning a personal trip and are looking for a flight on the website of your preferred airline. The travel dates are fixed, and the flight is suitable for your needs. You visit the preferred airline's website and see that the ticket price for the flight is €180. Other airlines prices are similar.
After a week, you return to the website to continue your booking. The ticket price for the same flight, with the same travel details, has increased to €230. Other airlines prices have gone up to around 210-215€

Please indicate how much you agree or disagree with the following statements.

5. Were you presented with Scenario 1 or 2? *

◯ 1
◯ 2

Answer the following statements with these options.
1= Strongly disagree
2= Disagree
3= Neither agree nor disagree
4=Agree
5= Strongly agree

6. To what extent do you agree with the following statements about pricing in this scenario?

	1 (strongly disagree)	2.	3.	4.	5 (strongly agree)
The pricing in this situation is fair.	○	○	○	○	○
Considering my expectations for this flight route, the ticket price seems reasonable.	○	○	○	○	○
The airline appears justified in setting the price in this way.	○	○	○	○	○
The way the ticket is priced in this situation seems acceptable	○	○	○	○	○

7. To what extent do you agree with the following statements about your decision in this situation?

	1(strongly disagree)	2.	3.	4.	5 (strongly agree)
I would consider purchasing this ticket in this situation.	○	○	○	○	○
I would seriously consider purchasing this ticket.	○	○	○	○	○
I would be willing to buy this ticket at the price shown in this scenario.	○	○	○	○	○
The probability that I would buy this ticket is high.	○	○	○	○	○
I would be likely to purchase this ticket.	○	○	○	○	○

8. To what extent do you agree with the following statements about your future choices?

	1 (strongly disagree)	2.	3.	4.	5 (strongly agree)
I would be as (or more) willing to choose this airline again in the future.	○	○	○	○	○
I would still prefer this airline when booking similar flights in the future.	○	○	○	○	○
I would remain committed to this airline in the future.	○	○	○	○	○
Even if other airlines offered similar flights, I would still consider choosing this airline in the future.	○	○	○	○	○
I would be willing to pay a higher price for my preferred airline.	○	○	○	○	○