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DYNAMIC PRICING STRATEGY, IMPACTS OF FAIR PRICING  
PERCEPTION ON CONSUMER REACTION

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**Doctoral Dissertation  
Sevinj Omarli**

**Budapest, 2023**



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## CHAPTER I. INTRODUCTION

### I.1: Overview of the topic

Dynamic pricing is now commonly applied and has been more feasible as online purchase behaviour has grown very fast. It is the most essential and effective marketing method that has an impact on a company's profitability. As a result, the dynamic pricing concept has been investigated in various fields of literature. The primary objective of this thesis is to investigate the effects of perceived fair pricing on consumer reactions in the context of dynamic pricing. Fair pricing has a significant impact on consumer behaviour and purchasing decisions. When consumers perceive pricing to be fair, they are more likely to be satisfied, demonstrate loyalty, spread positive word-of-mouth, and ultimately have a greater propensity to purchase. Conversely, if consumers perceive pricing to be unfair, or exploitative, it can result in negative outcomes for businesses, such as dissatisfaction, decreased loyalty, and negative word-of-mouth.

In our study the subdimensions of dynamic pricing we measured are the trend of price changes and volatility. The trend of price changes is either an increase or decrease, volatility is in either high or in low value. Furthermore, we investigated the moderating role of price position, price sensitivity, industrial norm, reference price and brand image.

Overall, this thesis aims to contribute to the existing body of knowledge by examining the relationship between dynamic pricing, fair pricing perception, and consumer reactions. By conducting empirical research, the study seeks to shed light on the underlying mechanisms and identify the factors that influence this relationship. The findings will provide valuable insights for businesses in formulating effective pricing strategies that consider the importance of fair pricing perception and its impact on consumer behaviour. It will require a massive amount of research. The results will help us understand consumer perceptions of fairness, their reactions to sellers' dynamic pricing strategies, and the causes of those reactions, which may influence sellers' long-term profitability.

## I.2: Research questions

The main research question of the dissertation is:

What factors affect the relationship between dynamic pricing and consumer's fair pricing perception and how customer's willingness to buy is affected by them?

The research questions has been divided into the following investigative questions, which will help answer the research question itself:

- What is the role of dynamic pricing in consumer perception of fair pricing?
- Is distributive fairness the same as procedural fairness?
- What kind of moderator and mediator factors can play a role in the relationship between dynamic pricing and fair pricing perception?
- Does price position moderate the relationship between dynamic pricing and fair Pricing Perception
- Does internal reference price moderate the relationship between dynamic pricing and Fair Pricing Perception
- Does brand image moderate the relationship between dynamic pricing and fair pricing perception?
- Does the industrial norm moderate the relationship between dynamic pricing and fair pricing perception?
- Does price sensitivity moderate the relationship between fair pricing perception and consumer willingness to buy?

The purpose of the study is to investigate and validate the connections between the constructs that were covered in the literature review and distilled into the research model. The study's findings will advance the fields of marketing in the setting of dynamic pricing by providing a comprehensive framework to explain customer perceptions of fairness how it effect on consumer's willingness to buy behaviour.

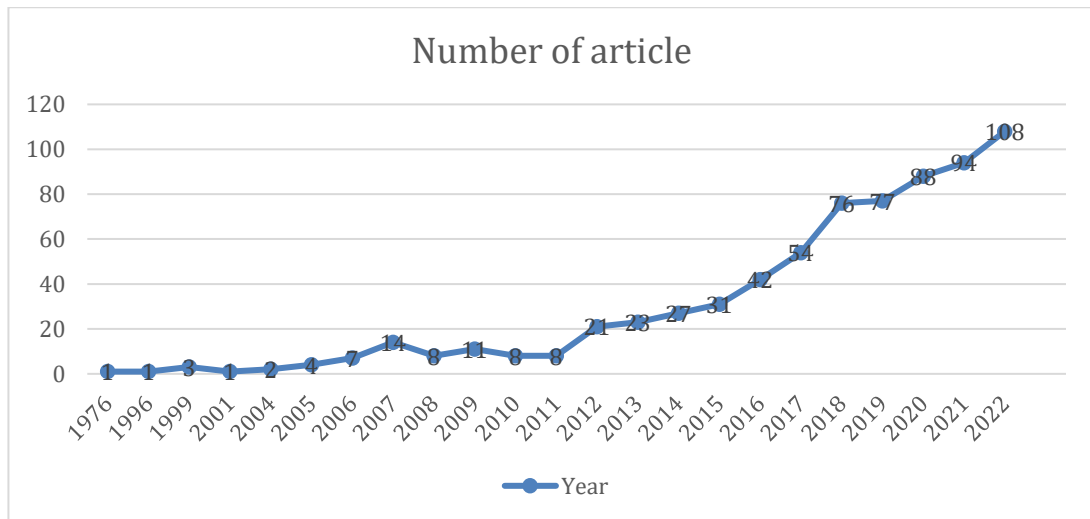
### I.3. Relevancy

With the expansion of e-commerce, businesses are increasingly turning to dynamic pricing to maximize revenue and maintain a competitive edge. Although dynamic pricing has been in use for nearly 40 years, it only started to spread in the last 10-15 years, mainly in the field of tourism, due to complicated calculation models and limited computer capacities (Danyi, 2019). As a growing number of businesses adopt dynamic pricing strategies, researchers are attempting to comprehend their implications for consumers and markets. With the development of new data analytics tools and machine learning algorithms, businesses are now able to collect and analyze vast quantities of information regarding consumer behavior and market trends.

This has allowed for more sophisticated pricing strategies, such as dynamic pricing and real-time pricing, which have attracted the interest of academics. Researchers are increasingly interested in how consumers respond to various pricing strategies and how pricing influences consumer behavior. This has led to a greater emphasis on pricing psychology, which has implications for a variety of industries outside of e-commerce. With the proliferation of digital transactions and sensors and other data collection devices, businesses now have access to vast quantities of data on consumer behavior and market trends. This has provided researchers with new opportunities to examine pricing dynamics and consumer behavior in real time.

Figure 1 depicts the growth in publication between 1976 and 2022. The annual growth rate is 7.18 percent, and the number of publications appears to be on the rise. Between 2017 and 2022, the number of publications increased significantly from 54 papers to 108 papers. The study demonstrate the significance of dynamic pricing as a critical topic in the field of pricing strategies.

**Figure 1. Yearly Growth Trends in Dynamic Pricing by Article Number**



**Source: own elaboration based on RStudio**  
(as of March 2023)

The global objective of the present research is to examine the relationship between dynamic pricing and consumer reaction. First, we must look into moderator and mediator factors that can affect the relationship between dynamic pricing and consumer response.

Second is the impact of price fairness perceptions on outcome variables such as willingness to pay, search intents, customer satisfaction, and other consumer reactions. There needs to be more agreement about how consumers feel about how fair prices are, especially regarding dynamic pricing.

This topic has immense relevance within the broader context of consumer behavior and pricing strategy. Pricing dynamics and perception have significant implications for the marketing strategies of businesses and the purchasing behavior of consumers. In an era where prices fluctuate in real time due to factors such as supply and demand, it is crucial to comprehend how dynamic pricing affects consumers' perceptions of fairness. Under the practice of dynamic pricing, consumers pay different prices for the same product. Because consumers perceive dynamic pricing as a particular case of price differentiation, it may cause them to feel uncomfortable paying more than others. On the other hand, comparisons with other consumers will have a more significant



effect on a consumer's perception of price fairness than comparisons with other sellers or self-references (Xia et al., 2004).

If customers face unethical issues or unfair treatment, it can affect their lives and negatively impact society. Also, customers can affect companies. For example, they can spread the negative word of the mouse, change their relationship with the company, hurt the service provider's reputation and income, and cause some denied customers to lose much money.

This research on dynamic pricing, perceived fairness, and willingness to buy offers practical and theoretical contributions to the fields of marketing and consumer research through its comprehensive understanding of the complex interplay between these factors. It lays the groundwork for future research and practical strategies in this field, making it a highly important thesis topic

#### I.4: Structure of the thesis

The **Chapter I** of the thesis provides an overview of dynamic pricing and its impact on consumer fair pricing perception. It introduces the relevance of the research and presents the research questions that will be addressed in the thesis. In **Chapter II**, a comprehensive literature review provides as the thesis's foundation. It begins by establishing the conceptual framework for dynamic pricing and investigating its associated concepts and components. Introduces the concept of fair pricing, emphasizing the significance of procedural and distributive fairness. The chapter then examines relevant pricing theories, including the equity theory, the social comparison theory, the dual entitlement principle, the attribution theory, and the range frequency theory. Examining the causes and effects of fair pricing, with a focus on consumers' cognitive reactions, such as satisfaction and loyalty, and behavioral reactions, such as word-of-mouth and purchase intent. In addition, moderating factors including price position, price sensitivity, reference price, industry norm, and brand image are examined. The empirical research conducted to address the research questions and hypotheses developed in the previous chapters is presented in **Chapter III**. The chapter begins with a summary of preliminary research, including two pilot studies.

The sampling techniques, data analysis methods, and results of each experimental study are discussed, contributing to the development of the final research model. The final research model is then presented, and hypotheses are formulated based on the relationships between dynamic pricing, perceived price fairness, purchase propensity, and the moderating factors identified. Included in the description of the research design are the target population, sampling frame, and sample size. Self-developed and referred measurement scales are described, encompassing concepts such as fair pricing, price perceptions, price sensitivity, purchasing propensity, brand image, industrial norm, and internal reference price.

The primary focus of **Chapter IV** is on the analyses and findings of the empirical research. The section commences with a description of the ultimate sample used for analysis. Confirmatory factor analysis (CFA) is performed to validate the research model's measurement scales. The principal structural model is then evaluated to determine the associations between variables. Additionally, the chapter investigates the moderating effects of the identified factors. A summary of the tested hypotheses and a comprehensive overview of the findings are provided. In **Chapter V**, the empirical research findings are discussed in depth. In relation to the extant literature on dynamic pricing and perceptions of fair pricing, the implications and contributions of the results are analyzed. This chapter analyzes the significance and prospective impact of the findings on theory and practice. In **Chapter VI**, the thesis concludes by summarizing the research findings and their theoretical and practical implications. The significance of the study is highlighted, limitations are acknowledged, and suggestions for future research are provided. This chapter serves as a comprehensive synthesis of the thesis, offering insights and recommendations for further exploration in the field.

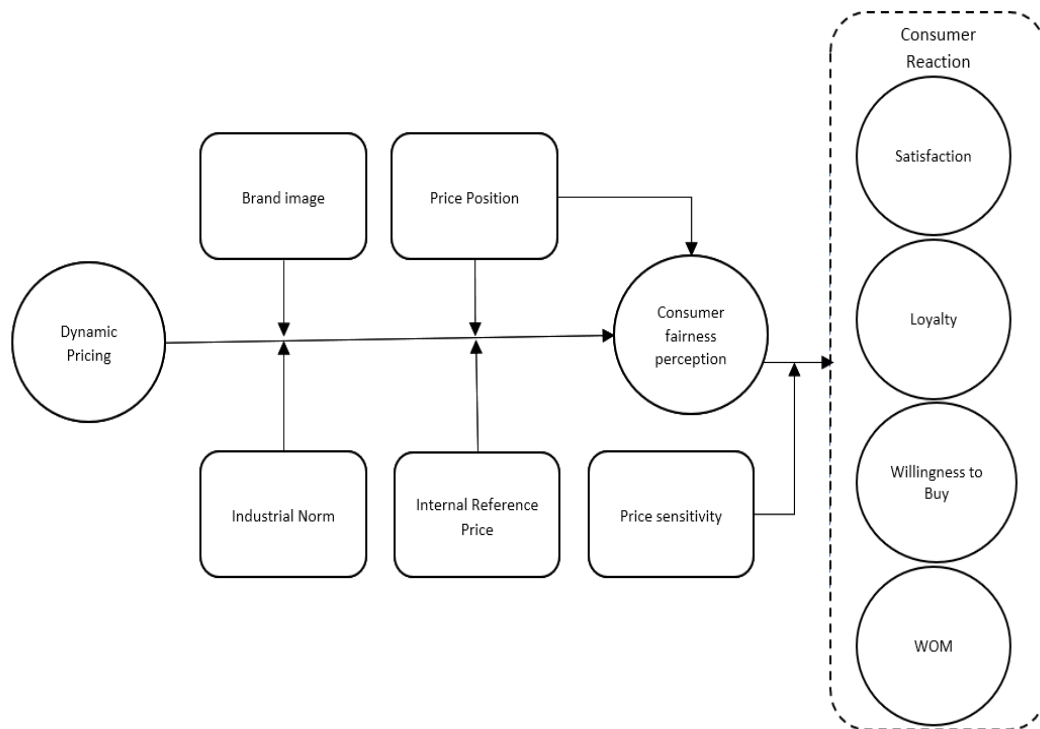
## **CHAPTER II. A LITERATURE REVIEW**

In Chapter II, a comprehensive literature review provides as the thesis's foundation. It begins by establishing the conceptual framework for dynamic pricing and investigating its associated concepts and components. Introduces the concept of fair pricing, emphasizing the significance of procedural and distributive fairness. The chapter then examines relevant pricing theories, including the equity theory, the social comparison theory, the dual entitlement principle, the attribution theory, and the range frequency theory. Examining the causes and effects of fair pricing, with a focus on consumers' cognitive reactions, such as satisfaction and loyalty, and behavioral reactions, such as word-of-mouth and purchase intent. In addition, moderating factors including price position, price sensitivity, reference price, industry norm, and brand image are examined.

### **II.1. Conceptual Framework**

The present research examines the dynamic pricing strategy and its effects on consumer reaction, with a particular emphasis on the perception of fair pricing. By examining the moderating factors of price position, brand image, price sensitivity, and industrial norms, this research aims to shed light on the complex interplay between these variables and their influence on consumer behavior. The main goal is to investigate how consumers' willingness to buy is affected by their perception of fair pricing in the context of dynamic pricing strategies. Understanding the fundamental processes and the extent to which these moderating factors influence customer reactions will contribute to the development of effective pricing strategies and provide valuable insights for marketing literature and businesses operating in dynamic and competitive markets.

**Figure 2. Conceptual Framework**



**Source: own research, own construction**

## II.2. Concepts of Dynamic Pricing

Today, dynamic pricing is the most important and effective way for a company to increase its profits through marketing. Dynamic pricing is used by a lot of businesses, especially hotels and airlines. This is in part because of online tools that let hotels and airlines set prices in real-time based on the number of available rooms, flight tickets, the inventory and prices of close competitors, and other factors. For example, when airline companies want to sell the same class seat to a customer, they determine prices differently depending on the available seat inventory and flight time. When the flight nears, and there are many empty seats left, airline companies can offer promotional sales services to the customer. The question is: What exactly is dynamic pricing? Different authors construe it from distinctive perspectives. Dasci and Huang (2017) say that one of the most important tools for managing revenue is dynamic pricing. Other authors, such as Kramer, Friesen, and Shelton (2017), mention revenue management (RM) and claim that dynamic pricing is a feature of many RM systems (Kramer, Friesen, and Shelton, 2017). First, we must know what the RM is. (...) and

*"allocating the right type of capacity to the right kind of customer at the right price, at the right time, and through the right distribution channel in order to maximize revenue or yield"* (Kimes, 2010; Hayes & Miller, 2011; Ivanov, 2014; Anderson, Xie, 2010). According to some authors, "dynamic pricing" is a pricing strategy that implements frequent changes in the selling price of a product in order to maximize sales and profit (Chenavaz et al., 2011; Lii & Sy, 2009). From this point of view, the primary purpose of dynamic pricing is to maximize revenue through different pricing practices based on demand and current inventory levels. On the one hand, when sellers apply a dynamic pricing strategy, they monitor the demand in real-time; on the other hand, they can adjust the product's or service's price dynamically based on different individual patterns. It could be the competitors' prices or individual customer preferences (Levin et al., 2009). In one of the review papers, Kimes (2003) studied RM. They classified it into three main research streams: The first is descriptive research explaining the application of RM concepts to various industries. The second one is pricing control research, which is the basis for improving pricing strategies and managing them. The third and last one is inventory control research. If we accept this classification, we can say that dynamic pricing is the most critical and dominant area of revenue management.

In the first instance, we should understand the meaning of price discrimination. In the literature, dynamic pricing is sometimes explained as price discrimination (Haws & Bearden, 2006; Hinz et al., 2011; Rekettye, 2020), and it is said that dynamic pricing is not a new idea. Since the 1970s, economists have talked about how customers are treated based on their sensitivity to prices. Haws and Bearden (2006) explained that "dynamic pricing, frequently referred to in economic terms as individual-level price discrimination (...), is a strategy in which prices vary over time, consumers, and circumstances" and defined it as a strategy in which prices change with the progress of time, consumers, and conditions.

Price discrimination is one of the most general topics in microeconomics and marketing practices. According to Stigler (1987), "Price discrimination is present when two or more similar goods have been sold at prices that are in different ratios to marginal costs." As an example, the author compared hardcover and paperback books. A hardcover book costs ten dollars more than a paperback book. With this example,

the author shows that there is a presumption of discrimination because the difference in prices can't be explained by the difference in binding costs. If we look at the nature of price discrimination, we have to check the traditional classification of the forms of price discrimination, which Pigou explained in 1920. First-degree is also called "perfect price discrimination." In the first degree, all customers can get the product at a different price (Rekettye, 2020). The actual meaning of first-degree price discrimination is that the sellers can adjust the price for each unit of goods and extract the maximum amount. It involves the seller giving a maximum price that every consumer is willing to pay (Pigou, 1920; Varian, 1989).

Second-degree price discrimination depends on the quantity of demand. It is also called nonlinear pricing (Varian, 1989). The sellers do not differentiate between different types of consumers because every consumer gets the same price program, but the program involves different prices. For instance, airline companies can suggest wine, beer, and spirits for first-class customers and juice, pop, and water for economy-class customers. The company can put varying prices on the groups and take a more significant portion of the total market surplus.

The most common form of price discrimination is third-degree discrimination, which means that different prices are applied to other customer groups. Still, each customer within the group pays a constant price for each unit of purchased goods (Varian, 1989). It is mainly applied for group discounts for children or adults. When Garbarin and Lee (2003) define price discrimination as a form of special group pricing, valued-customer deals, geographic price differences, etc., it is obvious that the authors only focused on third-degree price discrimination and took no account of the first and second degrees.

They define the meaning of "price discrimination" as "offering different prices according to the time of day, day of the week, month, or year." It is related to supply and demand.

Another pair of authors, Armstrong and Kotler (2000), used the term "differential pricing" as a definition and explained: "It is the practice of charging customers varied prices for essentially identical goods; it is the adjustment of prices according to the customer, location, product, or time." Although price discrimination involves different

prices for identical goods, differential pricing may also affect product differentiation, which allows for greater variety in the products being sold and the prices being offered.

The concept of dynamic pricing has been studied in different streams of literature. For instance, intertemporal price discrimination and behavior-based price discrimination. Those two concepts are considered part of a dynamic pricing strategy by Abrate, Nicolaub, and Vigliac (2019).

When the seller changes the price dynamically based on the time of sale, demand information, and supply availability, a different price occurs for the same product or service. It is called "intertemporal price discrimination" (Abrate, Nicolau, and Viglia, 2019).

According to Caillau and Nijs (2014), behavior-based price discrimination entails charging different customers based on their price dynamics based on what they have previously purchased. According to the authors, technological tools have made it easier for companies to apply these sources of dynamic pricing strategies.

There are few studies on personalized pricing or behavior-based pricing concepts in the literature. Garbarino and Lee (2003) and Colombo (2015) proposed that personalized pricing is a subset of price discrimination. According to Garbarino and Lee (2003), by applying a "dynamic pricing strategy," the sellers offer different prices for the same product to different consumers based on their willingness to pay and communicate prices in a directed or personalized way. In place of the personalized price concept, Nijs and Rhodes (2013) used "behavior-based pricing," and they also considered it a part of price discrimination where sellers suggest the price based on the customer's past purchases. In their study, Choudhary et al. (2005) clarified that "personal pricing is a firm implementation based on complete knowledge of the WTP of each consumer." may not be used synonymously with the term "dynamic pricing."

Kramer, Friesen, and Shelton (2017) adopted personalized dynamic pricing (PDP) and defined it as "not to be confused with the traditional dynamic pricing of today's RM practices." When the authors formulated the new PDP, they considered various factors such as the customer's browsing history, the customer's transactions, the use of the technical device and available prices from RM, individual customer price sensitivity,

and loyalty affiliation. PDP has been explained under four types: browsing-based pricing, past-behavior pricing, device-based pricing, and demographically-based pricing. The authors suppose that nowadays, when companies apply dynamic pricing strategies, they are not able to take into account the price elasticity of each customer explicitly; therefore, DP is not yet PDP. Companies can easily estimate their customers' willingness to pay in this manner.

**Table 1. Definitions of Dynamic Pricing In The Literature**

<b>Definitions from literature</b>
<b>Dynamic Pricing</b>
It is a pricing strategy whereby an online retailer implements frequent changes to the selling price of a product to maximize sales and profit (Chenavaz et al., 2011; Lii and Sy, 2009).
Represents a particular form of price discrimination (Hinz et al., 2011).
Dynamic pricing concerns the pricing of a product over time (Chenavaz, R.; Carrier, L.P.M. Lydie, L.; Paraschiv, C., 2011).
Dynamic pricing is a revenue management technique that continuously adjusts rates according to demand and supply conditions. McGuire (2015); Dasci & Huang (2017)
Dynamic pricing is the buying and selling of goods and services in markets where prices are free to adjust in response to supply and demand conditions at the individual transaction level (Garbarin, Lee.2003)
Dynamic pricing (DP) is an established form of pricing and is supported by the DP functionality of many revenues management (RM) systems (Kramer, Friesen, Shelton, 2017).
"Dynamic pricing," often referred to in economic terms as "individual-level price discrimination," Dynamic pricing is defined here as a strategy in which prices vary over time, among consumers, and/or under certain circumstances (Haws and Bearden, 2006).



### **Revenue Management / Yield Management**

Yield management is considered a dynamic capacity pricing approach that allows the company to adjust its prices in response to changes in demand. Stochastic yield management and dynamic pricing are synonymous because they both identify changes to a preliminary pricing schedule (Bilotkach et al., 2015).

Revenue management allocates the appropriate capacity to the appropriate customer at the appropriate price, at the appropriate time, and via the appropriate distribution channel to maximize revenue or yield. (Kimes, 2000; Hayes and Miller, 2011)

RM is recognized as a management practice that fits into multiple realms, including marketing, strategy, and consumer behavior (Ivanov, 2014; Anderson and Xie, 2010).

### **Price Discrimination/Differential Pricing**

Price discrimination means offering different prices according to the time of day, day of the week, month, or year—it is related to supply and demand (Ayadi, N., Paraschiv, C., Rousset, X. (2017).

Price discrimination takes the form of special group pricing, valued-customer discounts, geographic price differences, etc. Garbarin, Lee.2003

Differential pricing is a strategy that retailers have used effectively to capture sales and profits. (Lii and Sy, 2009)

The practice of charging different customers different prices for goods that are basically the same, changing prices based on customer, location, product, or time. (Armstrong & Kotler, 2000)

(Hoffman, Turley, and Kelley, 2002) Differential pricing is the practice of charging different customers different prices for the same goods.

### **Behavior-based pricing/ Personalized Pricing**

It involves varying prices for the similar product across different consumers according to their willingness-to-pay and communicating prices in a directed, personalized way (Garbarino and Lee, 2003).

Behavior-based pricing is a type of price discrimination. Firms are increasingly using behavior-based pricing discrimination (BBPD), i.e., offering different consumers different prices depending upon the products they have previously bought. (Nijs, R.D., and Rhodes, A., 2013)

Is it a peculiar form of price discrimination that sets different prices for consumers with different past purchase histories (Colombo, 2015)?

Personal pricing is a firm implementation based on complete knowledge of the WTP of each consumer. According to this understanding, PP represents a specific form of price discrimination and may not be used synonymously with the term "dynamic pricing" (Choudhary et al., 2005).

**Source: own research, own construction**

We analyzed the literature on dynamic pricing definitions. The concept is explained either from a revenue management or price discrimination perspective. Dynamic pricing takes advantage of both of these things because it is one of the most crucial research streams for revenue management. Via this method, sellers respond to supply and demand. In this case, it could be made throughout the period to maximize expected revenue. Dynamic pricing, however, changes in response to time and consumer willingness to pay. From a consumer point of view, a dynamic price is a form of price discrimination.

Dynamic pricing is a way to set prices that changes prices based on time, product, and customer in order to get the most sales and profits. When defining dynamic pricing, we have to focus on three main dimensions: time, consumer, and product (Ayadi, Paraschiv, and Rousset, 2017). As we can see from the above definitions, none of the authors who wrote about dynamic pricing thought about all three essential aspects.

Here, the "time" dimension (Kannan and Kopalle, 2001) refers to the frequency of price changes such as minutes, hours, days, or weeks. Dynamic pricing empowers companies to change prices rapidly and efficiently, so it means it may also cover price differentiation depending on the moment when the transaction takes place, on transaction frequency, which impacts customer loyalty, and on transaction speed, which affects consumers' ability to engage in price comparisons (Ayadi, Paraschiv, Rousset, 2017).

The second important dimension is the consumer. According to Kannan and Kopalle (2001), it refers to the degree of price adaptation to the customer profile. Under the practice of dynamic pricing, consumers pay different prices for the same product. It means that dynamic pricing methods can operate at different prices within the same transaction to target consumers with the varying willingness to pay.

Furthermore, the last dimension is the product, which is explained by Elegido (2011). The author explained, "the principle that two "identical products" are rarely "identical" because of contextual differences." Many factors may affect the contextual differences of a product. For instance, the type of product—such as a durable or non-durable product—or the product life cycle—such as new versus end-of-life products. Another essential point is the possibility of canceling or exchanging the product. In this case, different dynamic pricing methods could be applied by companies.

#### II.2.1. Similarity and Difference Among Dynamic Pricing, Revenue Management, and Personalized Pricing

The concept of dynamic pricing has been studied in different streams of literature. It is a method of managing revenue that involves constantly changing prices (McGuire, 2015; Dasci, Huang, 2017, Fazekas, 2020). First of all, the main goal of revenue management is to get the right product to the right customer at the right time, at the right price, and through the right distribution channel. Kimes (2010); Hayes and Miller (2011); Ivanov (2014); and Anderson and Xie (2010). Some authors (McGuire, 2015; Dasci, A.; Huang, 2017; McAfee and Velde, 2007) describe dynamic pricing as an expansion of the revenue management system. That determines the right price by considering the company's strategy, information about the customer, and real-time alternative offerings. In this case, the seller changes prices dynamically across time (intertemporal pricing) based on criteria such as time of sale, demand information, and supply availability. (Elmaghraby and Keskinocak, 2003) Thus, dynamic pricing is primarily concerned with the time component of price differentiation and contains revenue management as a sub-strategy (Kimes, 1989). Another difference is that although dynamic pricing of seat inventory is a component of revenue management, a good revenue management plan can also be based on a fixed price. Because dynamic

pricing refers to how much price may change over time in response to changing demand, it is considered suitable for the demands of the long-distance passenger sector, where limited inventory necessitates revenue and capacity maximization. With dynamic pricing, prices could be recalculated and changed in real-time to make the most money and maximize sales. The hospitality industry, car rental companies, movie theaters, financial services, medical services, and the telecommunications industry use revenue management as a popular strategy. Dynamic pricing is still in its early stages and covers less revenue management. Nevertheless, dynamic pricing is partly tied to online tools that let hotels and airlines, in particular, set prices in real-time based on the number of available rooms, flight tickets, the inventory and prices of close competitors, and other factors.

In the literature, personalized pricing is often discussed alongside dynamic pricing. In his article, Rekettye (2020) used the concepts of dynamic and personal pricing in the same sense. According to the author, it considers competitors' price dynamics when creating the optimal price. AI-powered virtual assistants give more information about what customers like, which can be used to set personalized prices. According to Danyi (2018) AI based pricing strategy like dynamic pricing can provide more accurate pricing models by taking into account market demand, competition, and consumer behavior.

Sometime the personalized pricing, refers to an economic terms which is "individual-level price discrimination" (Hinz et al., 2011, Garbarini, Lee, 2003; Abratea, Nicolaus, Vigliac, 2019; Haws & Bearden, 2006). According to authors personal pricing is a firm implementation based on complete knowledge of the WTP of each consumer. In this direction we can say that PP represents a specific form of price discrimination that implements consumer-specific prices using many observable consumer features. Indeed, different perspectives exist regarding the relationship between personalized pricing and dynamic pricing. While some authors suggest hold differing viewpoints regarding two concepts. Some authors (Garbarino & Lee, 2003) say that using a dynamic pricing strategy lets sellers offer different prices for the same product to different consumers based on their willingness to pay and communicate prices in a targeted or personalized way. In reality, personalized pricing focuses on using information about a customer or group of customers (Kramer et al., 2017) to charge

different prices, while dynamic pricing focuses on the timing aspect of price differentiation (e.g., Varian, 1989), and it only responds to temporary changes in total supply and demand. Schmidt 2020 says that sellers change prices based on the characteristics or actions of consumers (personalized pricing, for example, frequent visits) or on temporary changes in supply and demand (dynamic pricing, for example, after a competitor offers a discount), which allows them to get more money from consumers and, in the long run, make more money for their businesses (Elmaghraby & Keskinocak, 2003; Kannan & Kopalle, 2001).

Dynamic pricing is mainly applied for perishable goods (such as tickets or accommodations or seasonal products in retail), compared to personal pricing. However, personal pricing is also typical for durable products. The similarity is that dynamic and personalized pricing might be considered price discrimination because the seller changes the price dynamically based on the time of sale. Due to supply availability, a different price occurs for the same product or service. (Abrate, et al., 2019.) It should not surprise us that consumers think a lot about loyalty and rewards. It brings some complications with it. For example, in 2000, Amazon infuriated many customers when it sold DVDs to different people for different prices. Amazon called it merely a test and ultimately refunded the price difference to people who paid more. After a researcher discovered that frequent flyers were paying more for some plane tickets, CBS reported in 2012 that Minnesota's largest airline (Delta) was making changes. Kramer et al., (2017)says that personalized pricing is based on collecting "data about the personal characteristics and shopping habits of consumers." Cookies, for example, track individual consumer behavior on and between websites, a user's system configuration (Mac or Windows PC), or geographic location (e.g., poorer or richer zip codes: Kramer et al. 2017). Dynamic pricing, in contrast, relies on aggregate user information that serves as a proxy for demand changing over time, such as current sales or the number of searches for a specific flight connection (Wittman & Belobaba, 2019). To sum up, personalized pricing is customer-centric, and dynamic pricing is not. Both dynamic pricing and personalized pricing are complicated and use a lot of real-time data, which is another reason why they often need to be explained. Both use the same math. The only difference is the input value. However, a dynamic price is a universal price that everyone can see. It does not necessarily differentiate between customers. A personalized price is for one person to see at a given time. It's a special

offer by the retailer to a specific customer based on their shopping tendencies. To break it down, personalized pricing is customer-centric, and dynamic pricing is not. Another term in the literature is personalized dynamic pricing (PDP), a particular form of personalized pricing. This term is relatively new in the literature. It also involves sellers dynamically setting prices for the same product or service across different consumers with the aid of consumer-specific data such as IP address, purchase or browsing history, or other consumer-identifying characteristics.

To sum it up, dynamic pricing, revenue management, and personalized pricing are interconnected concepts within pricing strategies. Dynamic pricing is a subset of revenue management, focusing on real-time price adjustments to optimize revenue. Personalized pricing involves tailoring prices based on individual customer characteristics. While there are similarities in terms of price differentiation and the use of real-time data, the main differences lie in the scope, time component, and factors considered for pricing decisions. Incorporating dynamic pricing and personalized pricing into revenue management can provide companies with effective strategies to optimize revenue and meet customer needs.

Base on the literature review and the synthesis of the interpretations of the related concepts, we formulated a definition of dynamic pricing.

***Dynamic pricing is a temporary price change technique that simplifies a pricing decision by breaking it down into a series of decision steps over time and applying them by companies in a specific period, taking into account sudden changes in the market in the direction of supply and demand, price changes in competitors, and other factors in order to increase the company's profit.***

## II.2.2 Consequences of Dynamic Pricing

Dynamic pricing practices are commonly used and have become more applicable as online purchasing behavior has increased. Dynamic pricing has been used a lot in the airline and hotel industries for a long time, and it is also used in other fields, like sports and entertainment. (Grewal et al., 2004) Dynamic pricing lets companies set prices for products on an individual level to get more money from customers. Technology that

makes it easier for people to be themselves also lets companies set a different price for each person. In order to understand the logic of dynamic pricing practices, it is necessary to look at the literature, especially to check what studies have been done in this context.

When we talk about the consequences of dynamic pricing, we can analyze the literature from two points of view: the managerial side (decision makers's side) and the consumer side. The table below shows some research in the literature that shows the consequences of dynamic pricing.

### *Dynamic Pricing Consequences for the Consumer Side*

In Table 2 we summarised some relevant research studies that represent the main findings related to consumers in the literature.

One of the most important consequences of dynamic pricing from the consumer's point of view is trust. Garbarino and Lee (2003) studied internet users and measured the impact factor of dynamic pricing on trust. In the study, dynamic pricing is explained as the traditional practice of price discrimination since many sellers change the price of the same product based on how much the customer is willing to pay. The results show that dynamic pricing reduces trust in the company's goodness, whether one is the beneficiary or victim, which has a diluted but still negative effect on overall confidence. Another interesting finding is that the experience of dynamic pricing makes benevolence trust a more important part of people's trust formation in general. Ayadi, Paraschiv, and Rousset (2017) studied the synthesis research on online dynamic pricing (ODP) and discussed the ethical issues from a consumer's point of view. Because of the structure of the online environment, sellers make frequent modifications to the prices of goods and services to increase their profit, which also raises important ethical issues. In the study, consumers' views of ethical behavior are affected by how prices change, and this effect is tempered by trust and social norms. According to Hinz et al. (2011), dynamic pricing usually decreases the possibility for consumers to get information and has a negative effect on brand loyalty and long-term profitability.

**Table 2: Dynamic Pricing Consequences for the Consumer Side**

Source	Research context	Independent variable (Type of Dynamic Pricing)	Mediating variables	Dependent variable	Moderating variable
Garbarino and Lee (2003)	Internet users	Dynamic Pricing (Price Discrimination)	-	Overall trust	Benevolence trust Competence trust
<p><b>Finding:</b> Dynamic pricing, whether one is the beneficiary or the victim, reduces mean trust in the benevolence of the firm, which has a diluted but still negative effect on overall trust. People's experiences with dynamic pricing make benevolence trust a more significant part of how they build their trust in general.</p>					
Ayadi, Paraschiv and Rousset (2017)	Synthesis and future research	Online Dynamic Pricing (ODP) (Discrimination in the First Degree)	-	Consumer Perceived Ethicality (CPE)	Trust Social Norm
<p><b>Finding:</b> Developing a measurement tool specific to ODP CPE appears to be a significant challenge for marketing researchers. The formation of CPE for ODP primarily depends on how ODP is implemented by the website. Since this strategic decision is part of the firm's global marketing strategy, researchers may investigate the influence of marketing-mix variables on the CPE of ODP.</p>					
Haws and Bearden (2006)	Undergraduate students	Dynamic Pricing (Price Discrimination)	-	Perceived price fairness Purchase satisfaction	Price setter: The price-posted mechanism (asked price) Price-discovery mechanism (bid price)



					Time Reference Price
<p><b>Finding:</b></p> <p>More significant amounts paid compared to other consumers will trigger more negative fairness judgments than a seller, time, and price-setter differences.</p> <p>Whether the customer paid more or less than the comparison price, bid prices were perceived as more fair than inquired prices.</p> <p>Consumers perceive temporarily proximal price differences to be more unfair than temporarily distant price differences; however, this effect fades over time.</p> <p>The pricing mechanism is no longer affected by fairness perceptions after the consumer accepts a good deal to pay less than the reference price. Auction-based pricing is perceived as the fairest, and pricing between different consumers is the least fair pricing method. Other sellers perceive price differences as more appropriate than pricing based on purchase timing.</p>					
Weisstein, Monroe and Kinney (2013)	U.S. online shoppers	Price Farming	Perceived transaction dissimilarity	Perceived price fairness, Repurchase intentions.	Product level
<p><b>Findings:</b></p> <p>Price framing reduces price-disadvantaged consumers' adverse perceptions of dynamic pricing. A gift is less effective than other ways of framing the issue when it comes to calming consumers' fears about dynamic pricing.</p> <p>In reducing consumers' negative feelings about dynamic pricing, dollar-off framing was more influential than percent-off framing for expensive products.</p>					
Viglia, Mauri and Carricano (2016)	Hotel Industry	Dynamic Pricing (sequences of prices charge)	-	Reference Price	-
<p><b>Findings:</b></p> <p>This research shows that a high price has a strong, negative effect on reference prices. This effect is made even stronger in the social case.</p> <p>If competitors' (hotels') prices change simultaneously, consumers' "reference price" decreases. Suppose prices are adjusted freely without external control or influence. In that case, it is recommended that dynamic pricing strategies have a small impact on reference prices, displaying that revenue management and consumers now accept time-based pricing practices.</p>					

**Source: own research, own construction**

Another consequence of dynamic pricing from the customer perspective is explained by Haws and Bearden (2006). Dynamic pricing was defined in the study as price discrimination in which prices vary over time among consumers and under certain conditions. According to the authors, "dynamic pricing" influences consumer perceptions of fairness and purchase satisfaction. The relationship is meaningful with the moderating variables, which are the price setter, time, and reference price. It is determined that if consumers play a role in the price setting, which is the bid price, they are more willing to accept dynamic prices. Customers perceive the temporally proximal price difference as more unfair than the temporally distant price difference. This finding is important because it shows that people think it's unfair when prices change quickly, but not when they change over a more extended period of time. This kind of situation happens mostly when customers get a lower price. The pricing-level variation no longer influences fairness perceptions after a one-month delay. The reference price is a better way to moderate the relationship between dynamic pricing and how consumers feel about how fair prices are and how happy they are with their purchases. The study shows that if the consumer receives a good deal by paying less than the reference price, the pricing mechanism no longer affects either fairness perceptions or purchase satisfaction.

In the airline business, there are number of products that don't last long, like seats, stays the same during a short sale period, and you can't reorder them. Because of these characteristics, non-durable products are very suitable for dynamic pricing practices. Nonetheless, while these pricing implementations may be profitable for both sellers and buyers, consumers may perceive dynamic pricing as unfair because it generates disparities in rates for what appear to be similar products, such as the same hotel room (Choi and Mattila, 2004).

Viglia, Mauri, and Carricano (2016) present dynamic pricing by observing sequences of prices charged. According to the author, consumers are much more sensitive to price decreases than price increases. The reference price is given in the study as the consequence of dynamic pricing. The results show that when a high price is present, it has a strong negative effect on reference prices. This effect is even more substantial in the social case. Their actions determine the customer's awareness of competitors' moves. If competitors set their prices simultaneously, consumers will reduce their

reference prices. It may help the comprehension of online consumer behavior by companies as well. Another outcome of the research is that when the price is set in itself, dynamic pricing strategies have a negligible effect on reference prices, which means that revenue management and consumers adopt time-based pricing practices.

*Dynamic Pricing Consequences for the Managerial Side*

Similarly to the previous section, we collected some representative research in the context of dynamic pricing, but in this case we focused on the investigated effect that concern the managerial side of the phenomena (Table 3).

In the literature, dynamic pricing can be seen as a new capability for revenue management (Levin et al., 2009). From a managerial perspective, one of the consequences of dynamic pricing is revenue performance. There are some studies that show that correctly applying dynamic pricing may improve firms' revenues. Abrate, Nicolau, and Viglia (2019), for example, analyzed how dynamic price variability affects maximizing revenue and found that dynamic price variability is directly related to hotel revenues. In the study, "dynamic price variability" is defined as the magnitude of price variation over time, and it has a positive effect on revenue maximization.

**Table 3. Dynamic Pricing Consequences for the Managerial Side**

Source	Research context	Independent variable (Type of Dynamic Pricing)	Mediating variables	Dependent variable	Moderating variable
Abrate, Nicolau and Viglia (2019).	Hotel industry	Dynamic Pricing (Inter-temporal price variability)	-	Revenue performance	-
<b>Finding:</b> Dynamic price variability has a positive effect on revenue. More dynamic price changeability opens the door to more hotel revenues.					

Hoteliers need to apply dynamic price variability more and increasing the extent of the variability of prices would be helpful in revenue maximization.					
Xu and Li (2013)	Cloud computing	Dynamic Pricing	-	Revenue Maximization	Delay
<p><b>Finding:</b></p> <p>Information delay impacts revenue with dynamic pricing, and the provider has financial incentives to develop a responsive and accurate management system to obtain real-time information about resource utilization. With dynamic pricing, the provider has an effective means to dynamically control demand and ensure the overall performance of the cloud is satisfactory for customers.</p>					
Chen, Dong, Rong and Yang (2018)	Food Industry	Dynamic Pricing	-	-	Menu costs (i.e., the costs of adjusting a price)
<p><b>Finding:</b></p> <p>The firm can benefit more from dynamic pricing with multiple adjustments when menu costs are negligible.</p> <p>When the costs of making a menu aren't too high, dynamic pricing with a single change can get most of the benefits of dynamic pricing. When menu costs are high, fixed pricing is optimal.</p>					
Tong, Dai, Xiao, Yan (2020)	Food Industry	Dynamic Pricing (Surging pricing)	-	Demand (platform performance)	Time peak hours slack hours
<p><b>Finding:</b></p> <p>Platforms that use dynamic pricing strategies have a much higher demand than platforms that use static pricing strategies.</p>					
Bilotkach, Gaggero, Piga (2015)	Airline Industry	Dynamic Pricing (Yield Management)	-	Flight's load factor.	Market characteristics
<p><b>Finding:</b></p> <p>Active yield management has a strong favorable influence on a flight's load factor. This impact does not seem to depend on the degree of competition along a route. The effect is non-significant on routes that are mostly used by leisure travelers.</p>					

**Source: own research, own construction**

Xu and Li (2013) look into how cloud computing resources are priced and use a framework for managing revenue. According to the author, dynamic pricing has become an active field of revenue management. It thinks that the infrastructure monitoring software in the cloud might take longer than expected to process and spread data. Revenue is affected by information delay in dynamic pricing. Delayed information can cause problems for the provider in making the correct pricing decision. In this study, uncertainty plays a moderating role between dynamic pricing and revenue maximization.

According to Rekettye and Liu (2018, 169) dynamic pricing can be understood as yield management, which can be derived from the customers' willingness to accept the price (expected demand) and the current state of the available product volumes and capacities (supply), i.e. the price at which the business can be set at any moment in time maximize their profit. Another authors Bilotkach, et al., 2015 also consider dynamic pricing as a yield management and investigated whether dynamic pricing strongly impacts the flight's load factor. The author believes that these concepts identify changes to a recurring pricing schedule. It has been found that the effect of dynamic pricing on a flight's load factor is the same no matter how much competition there is on a route. The impact is insignificant on the roads that leisure travelers mainly use.

### II.2.3 Dynamic Pricing Components

Dynamic pricing is described as a modern pricing strategy that adjusts prices in real-time based on market demand, competitor prices, and other external factors. In recent years, dynamic pricing has gained prominence as a result of the increased availability of data and the development of sophisticated algorithms that can rapidly analyze vast quantities of data to generate optimal prices (Danyi, Veres, 2019). It is fact that dynamic pricing requires access to real-time data and sophisticated algorithms to analyze the data and make real-time pricing decisions (Rekettye, 2011)

However, determining the characteristics of dynamic pricing can be challenging, as it involves analyzing a complex array of factors that can influence pricing decisions.

Despite the growing interest in dynamic pricing, there are relatively few studies that have explored its characteristics in detail. One reason for this lack of research is that dynamic pricing can take many different forms, depending on the industry, the product or service being sold, and the specific goals of the pricing strategy. To understand the characteristics of dynamic pricing, researchers must consider a wide range of factors, including consumer behavior, market competition, cost structures, and pricing algorithms.

They must also account for the potential ethical implications of dynamic pricing, such as price discrimination and unfair pricing practices.

In the literature there some potential characteristic of dynamic pricing.

**Table 4. Dimensions of Dynamic Pricing Strategies**

<b>Dimension</b>	<b>Interpretation</b>	<b>Typical variants (further categories are possible)</b>
Price volatility	Magnitude of price changes	High/ medium/ low
Trend of Price Changes	The direction of price changes	Increasing/ stagnating/ decreasing
Intensity of Price Changes	The frequency of price changes during a time interval	Frequent/ infrequent/ pulsing

**Source: own research, own construction**

#### II.2.3.1. Trend of Price Changes

The airline industry is considered one of the most sophisticated sectors, and it employs intricate pricing tactics. The reason for such a sophisticated system is that each aircraft has a limited number of available seats. Thus, airlines are attempting to optimize their overall income and profit. For this reason, ticket costs for the same flight might vary dramatically, even for adjacent seats (Etzioni et al., 2003; Narangajavana et al., 2014). Generally, dynamic pricing refers to the dynamic change of ticket prices in response to various influencing variables (Narangajavana et al., 2014). It is a highly flexible method for establishing the price of a product or service. Dynamic pricing lets a

company that sells goods or services over the internet change prices instantly based on what the market wants (Kolsuz, 2021). Because technology has gotten better over the past few years, it is now possible for thousands or millions of prices to change every day (Konanki et al., 2018)

In many cases, the researchers use dynamic pricing and price changes interchangeably. Of course, one can consider the latter as a special version of the former, but dynamic pricing is a much more complex phenomenon and could take many forms. These variants can be identified in three dimensions; price volatility, trends of price change and Intensity of Price Changes which we referred to timing interval.

Several variables may influence the price of a ticket, which may thus fluctuate continuously. During the booking time preceding the consumption of a service, dynamic pricing may reveal the price variance through upward or downward price modifications (Melis, Piga, 2017). The primary concern is that customers seek the lowest possible price for their tickets. Now, the concept that "tickets purchased in advance are cheaper" no longer probably applies (William Groves & Maria Gini, 2013). Customers who buy their tickets in advance might have to pay a higher price than those who get their tickets later. In addition, before purchasing carries the risk of committing to a set plan that may need to be altered for a cost, typically.

The dynamic pricing method can be designed and applied according to some specific criteria defined by companies according to "revenue expectation from the products or services served to the targeted market, supply and demand analysis, sustainability of the product in the market, seasonality, competition factor, price sensitivity, and economic situation of the market, as well as travel habits of customers" (Kolsuz, 2021). In this case, the more data studied, the better the prices determined for the various items. The period between price changes might be as regular as every day or even every hour, depending on the consumer, the business, and the item. (Kolsuz, 2021).

We can categorize all the factors affecting the ticket price into two groups. The factors that influence the base price of a flight which is constant for the duration of the ticket sale (Papadakis, 2012)

These are the following factors: carrier characteristics (size, business model, i.e., low-cost or traditional), date/time of flight and return leg, if applicable (date, incredibly if close to a significant holiday, time of day, or day of the week - e.g., the majority of

business flight itineraries are Monday to Friday), length of stay (for round-trip flights), the size/model of the airplane (a proxy for flying efficiency), whether the place is international or domestic, and the destination's condition as an international or domestic aerodrome all affect airfare. (Papadakis, 2012).

Based on the discussion above, we can conclude that the **main feature of dynamic pricing** is the **trend of price changes**. The frequency of a price change could be either, **decrease**, increase, or not change (Stable price ) at all.

The effect of price changes on procedural fairness perceptions depends on the specific circumstances and how the price changes are communicated and implemented. Here are some possible ways that price changes could affect perceptions of procedural fairness:

**Decreasing prices:** Theoretically, prices may be decreased for two primary reasons: Airlines deliver a perishable product. Since an unsold seat has no value for the company, there is a strong incentive to reduce prices, which are consequently anticipated to decrease as the day of consumption approaches (Talluri and van Ryzin, 2004). A price reduction is the simplest way to encourage stagnant demand. Literature indicates that European low-cost airlines offer covert discounts (Bachis and Piga, 2011) or generally implement price reductions randomly to minimize their predictability and increase a flight's load factor to reduce learning effects that boost strategic consumer behavior (Bilotkach et al., 2015).

If prices decrease, individuals may perceive the decision-making process as fair if they feel that the price change is based on legitimate reasons such as improved efficiency, reduced costs, or increased competition. However, if the price decrease is seen as arbitrary or unfair, individuals may perceive the decision-making process as unfair.

**Increasing prices:** Until the very last second before bookings close, prices tend to rise. As airlines attempt to maximize profits, it is expected that passengers will be more eager to pay incredible prices as the day of the flight approaches. Many tourists have likely seen that prices tend to rise as the departure date nears. If prices increase, individuals may perceive the decision-making process as unfair if they feel that the price change is not based on legitimate reasons, such as increased profits or greed. However, if the price increase is seen as necessary to cover increased costs or to maintain quality, individuals may perceive the decision-making process as fair.

**Stable or Stagnating Prices:** In this type of dynamic pricing, the price of a product or service remains stable over time. This pricing strategy is often used when market



conditions are relatively stable and predictable, and there is little need to adjust prices to respond to changes in market conditions.

Mixed: In this type of dynamic pricing, the price of a product or service may increase or decrease over time, or it may remain stable, depending on changes in market conditions. This pricing strategy is often used when market conditions are unpredictable or when a company wants to take advantage of different pricing strategies to optimize revenue and profitability (Danyi, Veres, 2019).

### II.2.3.2. Price Volatility

Price volatility is the percentage difference in the price of a product over time. The standard deviation of the change in the value of a product or, in our case, the ticket price over time sometimes quantifies it. The degree of variation, not the level of prices, defines a volatile market, and the airline business is the most common of such markets. (Gillen, Mantin, 2009).

**Price volatility refers to the magnitude of price changes and is mostly measured by the variance of the values.** One can distinguish high, low, and mixed volatility. In the literature, few studies explain price volatility and consumer perception. According to Han et al. (2001), "greater own-price volatility" makes consumers more sensitive to gains and less sensitive to losses. Murthi et al. (2007) discovered that price volatility could reduce price sensitivity in price-sensitive consumers. To that end, Mazumdar and Jun's (1992) research shows that consumers view multiple price decreases more favorably than a single price decrease, while consumers view multiple price increases more negatively than a single price increase.

High volatility can occur in markets where demand is highly sensitive to changes in prices, or where there is a high level of competition. High volatility can create challenges for companies in managing their prices, as prices can change quickly and frequently. For example, in the airline industry, prices can be highly volatile during peak travel seasons, such as summer or winter holidays, where demand for flights is high and prices can fluctuate rapidly in response to changes in demand. Price changes reflect significant changes in supply and demand because market pricing mechanisms determine the price. Therefore, high volatility levels reflect unusual supply and

demand characteristics, and revenue management systems are susceptible to deviations in demand from expectations.

The factors that influence the price volatility could be the number of unsold seats (and recent fluctuations on that number), as a measure of demand, the state of competing options on the same route (number of available seats on comparable flights, current price for those trips, and recent price fluctuations), the date and time of booking, particularly the number of days left until departure, the recent price for the same ticket, and recent price fluctuations. (Papadakis, 2012) According to the range theory, consumers' sensitivity to price volatility decreases (low volatility) over time if they are repeatedly subjected to rapid price changes (Volkman, 1951). So, price volatility may significantly mold consumers' perceptions of pricing and may reflect the associated opportunity (or risk) of a price changes.

Low volatility can create opportunities for companies to set prices and manage their prices more effectively. For example, in the grocery industry, prices for basic staple items such as bread or milk may remain relatively stable over a long period, with little.

#### II.2.3.3. Intensity of Price Changes

The timing of price changes is an important component of dynamic pricing. Companies need to consider the best time to adjust prices based on market conditions. Continuous-time interval- One approach to timing price changes is to use a continuous-time interval between price changes that are equal, meaning that the time between each price change is the same or similar. It can help to simplify the pricing strategy for the company, as they can set clear rules for when and how prices will be adjusted. A company may use continuous pricing to gradually modify prices based on seasonal demand patterns or changes in production costs, for instance. This strategy can help maintain stable pricing over time while allowing the business to optimize pricing based on real-time data.

Pulsing intensity (or changing intensity)- there is a different iterations of time intervals between a price change. Posing intensity of price change in airline ticket price refers to a component of dynamic pricing where the time intervals between price changes are not constant or equal.

Using changing intensity pricing, for instance, a company could offer limited-time promotions or discounts to encourage customers to make a purchase swiftly (Wangenheim, Tomczak, Sörös, 2015, Kenesei, 2001).

### II.3 Fair Pricing Concept

Are fair and unfair opposite concepts? If we compare the notions of fairness and unfairness, we can say that the notions of unfairness are more concrete, transparent, and sharp than the notions of fairness. Customers find it hard to say what is fair, but it is easy to know what isn't (Xia, Monroe, & Cox, 2004). Consumers can recognize what is unfair because of the experience gained through the comparison method. In the literature (Kahneman, Knetsch, & Thale, 1986; Campbell, 1999, 2007; Xia, Monroe, and Cox, 2004; Haws and Bearden, 2006), the idea of (un)fairness has been looked at and adapted to the pricing context. "Perception of a fair price" is defined as "the assessment and associated emotions of whether the difference (or lack of difference) between a seller's price and the price of a comparable other party is reasonable, acceptable, or justifiable" (Xia et al., 2004: 3).

According to this definition, (un)fairness perception is related to the cognitive aspect. The difference in prices can cause emotional reactions that occur concurrently with or even before the perceptions of fairness or unfairness.

In the literature, there are few definitions of price fairness. According to Haws and Bearden (2006), "price fairness refers to a perceived fairness judgment by a buyer of a seller's prices." Bolton et al. (2003) defined it as a judgment of whether an outcome and the process to reach an outcome are reasonable, acceptable, or just, and it may be based on previous prices, competitor prices, or profits. There is little understanding on the dimensions of price fairness (Chung & Petrick 2013). Some studies claim that price fairness is a one-dimensional construct, while others argue that it has multiple dimensions (Xia et al., 2004; Diller, 2008).

Diller investigated the conceptual model of fairness based on a review of the fair price literature. Theoretical and empirical results clarify that the model consists of seven components: distributive fairness, consistent behavior, personal respect and regard for the partner, fair dealing, price honesty, price reliability, and influence or the right of

co-determination. According to Diller's perception of fairness, the multi-dimensional construct represents the business partners, but undoubtedly the majority of them relate to the B2C market as well.

The component of "distributive fairness" explains that both partners should share external results. "One person should not be able to achieve again simply by imposing an equal loss on another." Consistent behavior" refers to "conformities to the rule." It means that partners must always follow the same rules.

The "price reliability" component relates to the respect for prices adjusted when the contract was signed. However, unexpected service conditions can occur as a problem. In these circumstances, the partner considers these risks by setting up flat rates, which is why this kind of lump sum is considered particularly fair. From a consumer perspective, companies must give the proper consumer information about price changes if they want to build trust and keep a long-term connection. Customers will perceive high price reliability if there are no hidden costs and prices do not change unexpectedly (Matzler, Wurtele, & Renzl, 2006).

"Pricing honesty" is another essential element of price fairness that is tuned primarily to the reality and clarity of the pricing information (Diller, 2008). Sellers should be conscientious, not only for their business partners but also for their customers, because they expect easily comprehensible, accurate, and complete information concerning prices, conditions, and services.

"Respect and regard for the partner" is the principle of cooperation. It means that the powerful partner should not pressure the weaker partner. In order to establish long-range relationships, partners should balance their interests and problems. The components of fair dealing lay down generosity as a condition of doubt and flexibility in the face of unexpected cases.

"The right of influence and co-determination" means that people should have a right of co-determination to accept the decision. The procedure will be considered unfair if prices are obligated to one partner without negotiation by another. When consumers play a role in setting the price, they are likely to perceive prices as fair. (Haws & Bearden, 2006).

Price discrimination practices can influence perceptions of fairness. Price discrimination may negatively affect price fairness (Haws & Bearden, 2006). When customers perceive price discrimination, they become angrier, and their purchasing intention decreases; they may choose to complain, spread negative word-of-mouth, or

punish the seller by switching to a competitor, with a low likelihood of repurchasing from the original seller. (Campbell, 1999; Xia et al., 2004; Bolton et al., 2003; Bechwati, Sisodia, and Sheth, 2009).

Perceived price fairness research has been becoming sparse recently. Many existing types of research have been inspired by the principle of dual entitlement (Kahneman, Knetsch & Thaler 1986b). The theory proposes that fairness perceptions are administered by the belief that companies are accorded a right to a reference benefit, and customers are accorded a right to a reference price. We will talk about it in the next section.

In pricing literature, two dimensions of fairness are mainly used. They are: procedural fairness, distributive fairness (Bechwati & Morrin, 2003; Bolton et al., 2003; Martin et al., 2009)

### II.3.1. Procedural and Distributive Fairness

In the literature, there are two essential components of justice: procedural justice and distributive justice. The term "procedural justice" refers to how fair the process is for offering or allocating outcomes or rewards (Tang & Sarsfield-Baldwin, 1996). It means mainly that procedural justice refers to how allocation decisions are established. Procedural justice concerns the processes, methods, and rules used to obtain outputs (Leventhal, 1980; Lind & Tyler, 1988; Martin et al., 2009). Procedural fairness considerations refer to the procedures used to determine a distributive order. Procedural fairness, also known as procedural justice, is the concept that decision-making processes should adhere to equitable and impartial procedures (Thibaut & Walker, 1975). The concept emphasizes that the decision-making process should be just as essential as the decision's outcome.

Individuals must have a fair opportunity to participate in decision-making processes, decisions must be made impartially and without bias (Tyler, 2006), decisions must be based on accurate and complete information, and decisions must be communicated clearly and transparently. It also includes giving individuals the opportunity to challenge decisions and having those challenges considered by an impartial party.

From a procedural point of view, consumers must have the impression that prices are unfair when they lack the knowledge to comprehend how a price was determined. The procedure must be made explicit. Customers do not like it when prices fluctuate because of changes in supply and demand.

Appreciating the outcome is essential in procedural justice assessments (Xia et al., 2010) because the procedure affects outcome justice more when the outcome is disliked than when it is liked (Van den Bos et al., 1997; Xia et al., 2010).

Distributive justice refers to individuals' perceptions of the distribution of resources (Adams, 1965; Deutsch, 1975; Martin et al., 2009). Distributive justice is the evaluation of fairness in distributing resources and outputs among the individuals concerned. According to distributive justice, individuals evaluate justice according to the ratio of what they receive and sacrifice (Adams, 1965; Xia et al., 2010). Another definition of distributive justice is the distribution of rewards or outputs based on individual contributions to a change process. Individual rewards, or what they receive as a result of an exchange transaction, should be proportional to their investments (Cox, 2001). According to the main findings of the studies based on the idea of distributive justice, buyers and sellers compare the price of the product or service with the price paid by other customers for the same product or service (Martins & Monroe, 1994), while buyers and sellers also compare the economic and social outputs that both parties receive as a result of their investment (Maxwell et al., 1999).

According to the principle of distributive fairness, individuals are required to base their assessments of justice on the proportions of what they gain compared to what they give up (Adams, 1965). In contrast, procedural fairness refers to assessments of the fairness of processes based on the norms and behaviors prevalent in society (Thibaut & Walker, 1975). The difference between procedural and distributive justice is that while procedural fairness is linked to the fairness of the transactions carried out, distributional justice is related to the fairness of the results obtained.

In our investigation, we evaluated the price in terms of procedural and distributive justice. According to some studies in the academic literature, procedural justice emphasizes the methods employed to achieve the outcomes rather than the outcomes themselves. Amazon, for instance, has a differentiated pricing policy based on the

customers' propensity to pay. (Cox, 2001; Klaus, 2013). Consumers evaluate both the procedural and distributive justice of a company's policies (Sparks et al., 2001; Tax et al., 1998). A customer might perceive a corporate policy to be fair (procedural justice), but the implementation of that policy to be unjust (distributive justice), or vice versa (Nguyen & Klaus, 2013).

### II.3.2. Theories Related to Fair Pricing

#### II.3.2.1. Focus on Comparison

Taylor et al. (1996) say that the desire to compare similar things comes from the need for accurate evaluations. When comparing similar or identical things, consumers can easily tell if something is fair by looking at the results. For example, if consumers want to know whether the price they paid for an airline ticket to Chicago is fair, they are likely to purchase the same airline ticket as the comparative reference. A similar transaction can easily reveal whether the price they paid is reasonable. Not only do people tend to choose a similar transaction to compare, but the presence of similarity (between customers or transactions) also makes them pay more attention to it. This phenomenon is known as "similarity bias" in the social comparison literature (Mussweiler, 2003). The focus on the similarities, in turn, increases comparison intentions. In the current context, a reduction in comparison intentions or likelihood may avoid the perception of unfairness.

##### II.3.2.1.1 Equity Theory

In the literature, some theories are used to explore the concept of fairness. One of them is equity theory, written in 1965 by Adams. The main point of the equity theory is that individuals compare their inputs to the outcomes of exchange. Cheng, Nguyen, and Klaus (2013) explain that a sense of unfairness happens when the perceived inputs and perceived outcomes don't match up. For instance, when consumers buy an airline ticket because the price is high from the X airline company, they expect good services, such as priority boarding luggage, shuttle bus transportation, or other services. If customer expectations aren't met, the customer may think that what they paid for (better service) doesn't match what they got (better service). The consumer may consider this situation unfair, resulting in inequality. Equality leads to fairness perception, and inequality leads to unfairness perception.

In the context of price fairness, equity theory explains that transactions where "deviations larger than zero" exist between the actual price and reference price can be considered unfair. When buyers think that their input isn't as good as another party's input for the same output, they might think that the price is unfair. According to the theory, when perceived inputs are not consistent with perceived outcomes, dissatisfaction starts and unfairness perception occurs (Bechwati et al., 2009; Cheng, Nguyen, & Klaus, 2013). Another point of equity theory is that consumers consider not only what they pay and get but also what the firm pays (costs) and what it gets (price) (Bechwati et al., 2009).

#### II.3.2.1.2. Social Comparison Theory

Consumers' fairness perception is a cognitive process based on comparison (Xia et al., 2004). Social comparison is essential to most justice theories that underlie attitudinal or behavioral outcomes (Major & Testa, 1989). The most popular theory about comparison in the literature is "Social Comparison Theory," written in 1954 by Festinger. The main idea of the theory is that people always compare themselves to people they can relate to to judge their own opinions (Festinger, 1954). Then Xia et al. (2004) extended social comparison theory to pricing and emphasized comparing transactions and prices paid. According to Xia et al. (2004), the degree of perceived similarity between transactions is high, and customers have little differential information on which to justify price differences. For instance, a consumer may compare the X airline flight ticket price to others' purchased ticket prices. They are likely to believe that they are entitled to equal prices. Consumers who recognize the same ticket with a different price will likely view price differences as unfair. Perceived norms with a dynamic pricing strategy are very important, and they should lead customers to view transactions more fairly. Because consumers understand that purchasing the same plane ticket on the weekend is a different transaction than purchasing it during the week, these transactions are more likely to be viewed fairly.



### II.3.2.1.3. Dual Entitlement Principle

Kahneman, Knetsch, and Thale put forward the fairness standard for the community in 1986 which was called the "dual entitlement principle." It was considered to have many possible implications for reproductive outcomes.

This study has been widely used as the main theoretical basis for how customers perceive price fairness. The principles of dual entitlement consist of community standards of fairness, which are captured in the reference transaction, the outcomes to the firm and to the transactors, and the occasion for the firm's action. The most important rule of dual entitlement is that consumers have a right to the terms of the reference transaction and companies have a right to their reference profit. Companies are not allowed to increase their profits by arbitrarily violating the entitlement of their consumers to the reference price. The dual entitlement theory says that sellers have a right to a fair profit and that price increases that are driven by costs are seen as fair while price increases that are driven by profits alone are seen as unfair (Kahneman et al., 1986). Campbell's (1999) study expanded the dual entitlement principle and suggested "inferred motive" as an additional factor. According to the author, consumers' perceptions of price fairness are influenced by the inferred motive for a company's price increase. When consumers infer the motive to be negative (positive), the price is perceived as unfair (fair).

### II.3.2.2. Focus on value

#### II.3.2.2.1. Attribution Theory

In the literature, some theories are used to explore the concept of fairness, and researchers have used a variety of theories and principles to study price unfairness and its possible antecedents (Bechwati et al., 2009).

Price-perceived fairness is an essential concept that consumers use in their product selection and purchasing behaviors. Consumers' fairness perception is explained by Attribution Theory, which stems from cognitive and social psychology and is

developed from Weiner, Frieze, Kukla, and Reed's (1971) work. The authors stated that humans are motivated to assign causes to their actions and behaviors. In social psychology, attribution is the process by which individuals explain the causes of behavior and events. The development of models to explain these processes is called "attribution theory." According to Campbell (1999), it provides insight into the inferences people make about the reasons for the occurrence of the events. According to attribution theory, customers seek explanations for why certain situations occur, in this case, dissatisfaction or satisfaction. When consumers perceive the motive behind the price increase to be negative, then they perceive this act as unfair. When customers' expectations are unmet, they attribute dissatisfaction and rely on three dimensions: locus of causality, stability, and controllability. Customer satisfaction results in long-term profitability, customer loyalty, and customer retention.

#### II.3.2.2.2. Range Frequency Theory

Parducci's (1965) range-frequency theory is based on the idea that judgments are made based on the relative position of a price compared to other price stimuli in a given context. It includes two dimensions: the range theory and the frequency theory. The former states that the judgment of the actual price is influenced by its distance from the minimum and maximum price stimuli of the price range. The frequency theory takes the frequency distribution of price stimuli into account. It states that judgments are based on how many price stimuli are lower and higher than the price to evaluate. Based on the frequency principle (Niedrich, et al., 2009), the rank of the focal stimulus in this context tells us where it is.

The order of prices is critical for the perception of (un)fairness. According to the range-frequency theory, evaluations of a particular price within the positively skewed distribution will be judged better or fair. In contrast, particular values within the negatively skewed distribution will be judged worse or unfair. It means that specific prices are evaluated differently depending on whether they are presented in a negatively or positively skewed distribution.

### II.3.3 Antecedents and Consequences of Fair Pricing

Price fairness perception studies are divided into two categories. The first is the exploration and identification of antecedents to price fairness perception (Campbell, 1999, 2007; Bolton & Alba, 2006; Bechwati et al., 2009), and the second is consequences (Xia et al., 2004; Lii & Sy, 2009; Sahut, Hikkerova, and Pupion, 2016; Homburg, Totzek, and Krämer, 2014).

Before Campbell (1999), the researchers presented increased relative profit as the causal antecedent of perceived price unfairness. However, Campbell (1999) suggested an inferred motive and proved that an inferred motive for the price increase is a factor in perceived price fairness. For example, suppose consumers suspect a firm has a negative motive. In that case, they will perceive it as less fair as the price rises, and their attitudes and behavioral intentions toward the firm will suffer as a result (Campbell, 1999).

Bolton and Alba (2006) developed a 4-dimensional transaction space to answer how consumers judge the fairness of a set of transactions. It expands the investigation of price fairness to include comparative and aggregate judgments across consumers, products, firms, and time. The authors examined consumers' reactions to a price increase commensurate with increased vendor costs. However, consumers often look at the prices they paid before and seem sensitive to past prices, competitor prices, and the cost of goods sold. They don't estimate the full range of vendor costs or the effects of inflation, and they over-attribute price differences to profit (Bolton & Alba, 2006).

Haws and Bearden (2006) focus on price discrimination and explain that price fairness perceptions can depend on the price discrimination practice applied. In particular, price discrimination relative to other consumers triggers stronger negative fairness judgments than seller or time differences (Haws & Bearden, 2006). The study's main finding is that if consumers play a role in the price-setting process, they will perceive higher fairness perceptions and satisfaction across all price-level conditions. Time is also a significant factor in this issue. Price changes within brief periods are more unfair than changes over a more extended time.

Previous research focuses on customer reactions to an increasing number of price features, that is, the size of a price plan (Xia et al., 2004). As three broad antecedents to unfairness perceptions, Bechwati et al. (2009) proposed a conceptual framework. According to the authors, when consumers believe the company is increasing its profit or when they are unable to understand the pricing structure used, they believe the company is acting immorally or unethically and perceive unfair pricing. In the result, it was determined that advertising and high CEO salaries were rejected by consumers and considered the main reason for price unfairness. Moreover, consumers can see some practices as signals of price unfairness, such as significant discounts, off-season deals, and early discounting that companies apply to please consumers (Bechwati et al., 2009). Other research is about price complexity and how it impacts consumers' price fairness perceptions (Homburg, Totzek, & Krämer, 2014). In the study, price complexity has been recognized as the size of price plan, heterogeneity of numbers, and heterogeneity of calculations in the price plan. Homburg, Totzek, and Kramer (2014) say that price complexity makes customers think that prices are not fair and affects their choice of products. The main reason is that customers negatively evaluate the transparency of the company's pricing practices and deduce higher total prices (Homburg, Totzek, and Krämer, 2014). It is interesting to point out that consumers do not always consider the price increase unfair. Ferguson's (2017) study on consumer fairness perception during turbulent economic times, as well as an examination of how firms inform consumers of price change situations, can positively affect their fairness perception because firms can provide pricing transparency in this manner.

#### II.4. Consumers' Reactions

Consumer reactions to dynamic pricing have been the subject of considerable interest and research. In this part we examined the existing literature on consumer cognitive and behavioral responses to pricing. The cognitive dimension focuses on the mental processes and evaluations of consumers when confronted with a price, whereas the behavioral dimension examines the observable actions and behaviors that result from these cognitive evaluations.

#### II.4.1. Consumers' cognitive reactions

When analyzing a price, customers understand and evaluate the product's price using available information. Individuals often perceive pricing stimuli and respond with a fast, emotional response, followed by a more calculated, rational response (Monroe et al., 2015).

Affective responses can be positive (e.g., happiness, pleasure, joy) or negative (e.g., worry, rage, confusion), while cognitive responses can include fairness evaluations (e.g., "Is the price fair?" Is this an accurate quote? (Xia, Monroe, and Cox, 2004) as well as perceived worth (Zeithaml, 1988).

Previous research has discovered that emotional pricing responses impact cognitive fairness perceptions (Campbell, 2007; Ferguson, Ellen, & Piscopo, 2011).

##### II. 4.1.1. Consumer satisfaction

Customer satisfaction is one of the most important strategies for businesses. Oliver (1999, p. 34) defined customer satisfaction as the degree to which customers' needs are met due to a particular purchase. Similarly, Later (2009, p. 101) defined customer satisfaction as evaluations after a specific transaction or shopping experience.

Customer satisfaction can vary from person to person, from product to product, and from the service offered. However, in general, satisfaction refers to the situation in which the product or service meets the consumer's needs. If this expectation is not fully met, satisfaction will turn into dissatisfaction. Otherwise, it can turn into satisfaction (Zeithaml & Bitner, 2003). Similarly, Yilmaz et al. (2007, p. 234) explained customer satisfaction as the difference between what customers expect and perceive from the product or service offered.

Literature about marketing points out that price is an integral part of customer satisfaction because buyers usually look at the price when deciding if a product or service is worth the money they paid. Equity theory (Adams, 1996) supports this relationship. According to Adams, the concept of justice is based on the theory of equality (Adams, 1965). Equity theory proposes comparing the input-output ratios of parties in an exchange relationship with those of others in the same relationship. When perceived inputs are inconsistent with perceived outcomes, dissatisfaction begins, and unfairness perception occurs (Bechwati et al., 2009; Cheng, Nguyen, & Klaus, 2013).

To examine the concept of price justice, many researchers have tried to identify the essential factors (price change, reference points, trust, satisfaction, etc.) that affect the perception of price justice (Xia, Monroe, & Cox, 2004; Bolton, Warlop, & Alba, 2003; Campbell, 2007). In addition, some researchers have stated that the concept of justice is a precursor to satisfaction and leads to a positive purchase intention (Campbell, 1999; Bolton et al., 2003).

Prior studies on customer satisfaction have demonstrated that compatibility between pricing and service has a favorable and considerable effect on consumer satisfaction. A product's or service's customer satisfaction and perceived fairness in pricing are linked through the product or service itself. Studies show that equity significantly impacts consumer satisfaction (Akiyama et al., 2021; Ashraf et al., 2018). The perceived fairness of a price is a crucial factor in any trade transaction. Multiple studies have studied the connection between perceived pricing fairness and customer satisfaction and discovered a positive correlation between the two (Ahmadinejad et al., 2014; Akiyama et al., 2021; Ashraf et al., 2018; Xu et al., 2015; Zhong & Moon, 2020). Aurier and Siadou-Martin (2007) conducted research to evaluate the function that perceived justice components have in the evaluation process during a meal-consuming experience. According to the findings, there are both direct and indirect effects on contentment, and a significant connection is shown between price fairness perception and satisfaction.

#### II. 4.1.2. Consumer Loyalty

The term "customer loyalty" refers to the willingness of a consumer to develop and maintain an ongoing business partnership with a particular company, either by repeatedly purchasing the company's goods or services or by recommending them to other people (Markovic et al., 2018; Oliver, 1999). Customer loyalty means more than customers repurchasing goods and services. It is a psychological relationship that customers establish with the business. In other words, it is the integration of the customer with the business and the feeling of belonging to it. The way for the customer to integrate with the business is to win the heart of the business (Clayton-Smith, 1996: 34). Newman and Werbel (1973) defined *customer loyalty* as repurchasers of the same brand not searching for any information while purchasing and only thinking about that brand. Ganesh et al. (2000) defined customer loyalty as repeat purchases, insensitivity

to price, resistance to persuasion efforts by competitors, and recommending the brand to others. Martin et al. (2009) found that when price increases are low, customer loyalty positively affects the perception of price justice. He stated that the same effect was not found in the opposite case. Customer loyalty has become a vital concept for today's businesses. This is because customers are hard to gain but easily lost. Therefore, today's businesses realize that customer loyalty is an indicator of increased sales and profitability and a critical element of their success.

Perceived price fairness is the customer's opinion of whether or not a price is right, fair, or legal. Chung and Petrick (2013) stated that the perception of price justice causes changes in emotional and behavioral reactions. Previous studies have suggested two ways to measure how customers feel about a product's price: price raises or lowers customer satisfaction. Significant behaviors are prompted as a result (Leinsle et al., 2018). Several well-known studies that have been done in the past and more recently (Adjei & Denanyoh, 2014; Hashim, 2014) have shown that how customers feel about the price of a product or service is a significant factor in how loyal they are to that product or service.

Customer loyalty can be built in phases, starting with cognitive loyalty and progressing via formative loyalty, consequential loyalty, and behavioral loyalty. Oliver (1999) was the first to propose this conceptual paradigm. According to the theory, when a consumer is at the cognitive stage of the purchasing process, they are inspired by specific indicators, like the price of the product (Shahzad et al., 2021; Oliver, 1999). Oliver (1999) posited price perception as a first-stage precursor to cognitive loyalty. So, a client's positive experiences in the cognitive stage push them to move on to the second stage of loyalty, which is where true loyalty is formed.

Some other studies demonstrate the relationship between perceived price fairness and consumer loyalty. Customer loyalty is positively influenced by perceived price fairness (Koşar, 2020). If consumers view the pricing as reasonable, their brand loyalty will increase.

#### II.4.2. Consumers' Behavioral Reactions

The purpose of examining consumer behavior is to understand, explain, and predict their behaviors. The main features of consumer behavior are that it is motivated, consists of various activities, has a dynamic process, deals with different roles, shows

differences in terms of complexity and timing, is affected by environmental factors, and finally, differs for different people. It is essential to figure out what makes people decide what to buy and how they decide.

#### II.4.2.1. World of Mouse (WOM)

Word-of-mouth communication is one of the most effective ways to spread an opinion. It is an instance of interpersonal communication in which a consumer talks to others about a commercially perceived brand, goods, or service. (Goktas, 2019). WOM makes positive or negative suggestions about a product or brand and includes discussion and sharing about the product or brand (Liv et al., 2019, p. 15). Customers share their knowledge and expertise with other consumers to alleviate their stress due to positive or negative encounters. With this post, they wish to determine if other consumers share their viewpoints and if so, they are pleased to be recognized. According to Pramana, Ekawati, and 2020, word-of-mouth (WOM) is a two-way communication between customers with a solid non-commercial relationship with a product or service. As per Babin et al. (2005), there are other indications of WOM, including discussing, recommending, and encouraging others to utilize the product or service. Customers who are satisfied with the quality are more likely to spread the pleasant word of mouth. Word-of-mouth (WoM) refers to a customer's compliments, recommendations, and comments regarding their experiences with services and products that affect the customer's purchasing decisions or behavior (Voyer, P. A., & Ranaweera, C., 2015). Positive woman-to-woman communication is one of the most effective techniques for introducing a product or service to users in the marketing sector. Introducing a product or service through positive word of mouth typically does not require a significant financial investment.

Fairness perceptions are significantly associated with emotions. Studies in the literature show that perceptions of justice are inversely proportional to word-of-mouth negative intentions. (Yang, Hu, & Winner 2015). WOF is also a human emotion and a behavioral response to satisfactory or dissatisfactory service or service recovery attempts (Anderson, 1998). In the literature, some studies confirm that price fairness has a positive and significant influence on word of mouth (Pramana, Ekawati, 2020). Another study shows that fairness perceptions are inversely related to behavioral coping, providing a behavioral function for customers who perceive a situation as



unfair, allowing them to vent their discontent and possibly gain sympathy from others (Zeelenberg & Pieters, 2004).

#### II.4.2.2. Willingness to Buy (WTB)

The consumer decision-making process is not a uniform activity. It is the acceptance that certain factors with numerous and complex variables influence consumer behavior. For this reason, businesses need to understand the decision process, which explains what behaviors consumers have in their daily lives to impact the market, gain competitive power, and satisfy consumers.

Moreover, the price has an important role on consumer's willingness to buy behaviour (Kenesei, & Todd, 2003). There is question occurs that why are different consumers willing to pay different amounts for the same product? Price is so intertwined with almost every aspect of consumption that the answer to this question could involve almost all of the concepts used by consumer researchers to describe many parts of consumer behavior.

Generally, the willingness to buy is the intention of buyers to engage in an exchange relationship at shopping websites, such as sharing information, maintaining business relationships, and creating business transactions (Zwass, 1998). It is an individual's conscious plan to make an effort to purchase a brand (Spears & Singh, 2004). It is a type of future behavior that will turn into action when the purchase is made. Understanding and predicting price effects on willingness-to-buy has been a fundamental interest of marketing researchers (Huppertz, Arenson, & Evans, 1978; Dodds, Monroe, & Rewal, 1991; Campbell, 1999a; Maxwell, 2002).

Willingness to buy refers to consumers' sharing of information about the brand or product, their tendency to maintain their relationship with the business, and their intention to enter into an exchange relationship (Dachyar & Banjarnahor, 2017, pp. 947-948). The consumer's intention reflects his or her preference to purchase the good or service. Consumers have a desire or reluctance to buy or not buy a product after evaluating it. Consumers who intend to purchase a particular product have a higher real purchase rate than those who do not (Brown, 2003).

There are several works in the literature that demonstrate the effect of a fair price on willingness to buy. Dodds, Monroe, and Rewal (1991) indicated that the regression result supported the positive relationship between buyers' perceptions of value and willingness to buy. Huppertz, Arenson, and Evans (1978) showed that a price perceived to be "high" was judged unfair and led subjects to consider either leaving the store or, less likely, complaining. According to Kenesei and Todd (2003) Consumers are willing to pay higher prices for products that meet their quality and performance expectations.

In the other study, it was determined that buyers' concern for fairness helps explain their motivation to buy. It gave empirical evidence that information on how a price is determined affects the evaluation of prices. Consumers' perceptions of fairness and willingness to buy are influenced not only by the price tag itself but also by how that price was determined (Maxwell, 2002).

According to Gyulavári (2005), the price-conscious buyer is not willing to pay the price difference for a new feature of a product if it is too large. Draganska and Jain (2006) show that retailers strategically do not charge higher prices for different product flavors because doing so increases the elasticity of demand due to perceived price unfairness. It was determined that price unfairness reduces consumers' likelihood of shopping at a store (Campbell, 1999a), which affects their willingness to buy. In the present study, we want to analyze how perceived (un)fair pricing affects WTB in a dynamic context.

## II.5 Moderating Factors

In addition to examining the direct relationship between dynamic pricing and the perception of fair pricing, the purpose of this study is to investigate potential moderator factors that may influence this relationship. Certain factors have the potential to moderate factors of dynamic pricing on consumer perceptions of equitable pricing, according to the research. These variables may include price position, internal reference price, price sensitivity, the industry standard, and brand image. On the basis

of the literature review and theoretical frameworks, specific hypotheses will be developed to investigate the impact of these moderator factors on the relationship between dynamic pricing and the perception of fair pricing. By analyzing these potential moderators, this study aims to reveal subtleties and contingencies in the relationship, thereby providing a more complete understanding of the factors that influence consumer perceptions of fair pricing in the context of dynamic pricing strategies.

### II.5.1. Price Position

Pricing is a key factor in determining a company's profitability and competitiveness, and that businesses must employ a strategic pricing approach to remain competitive in today's dynamic marketplace (Gyulavári, 2011). Consumer responses to a specific price depend on where that price stands in comparison to other prices, and customers tend to have a more favorable opinion of a product or service when other comparable offers are priced higher than it is.

The definition of price position is illuminated by existing literature. Monroe and Petroschius (1981) define price position as "the relative location of a particular price level within a distribution of prices for similar products or services" (p. 399). This definition emphasizes the comparative aspect of price position and its relationship to other comparable products or services on the market.

Price position is also defined Grewal and Lindsey-Mullikin (2006), as the relative positioning of a firm's price(s) compared to the price(s) of a competing firm. It entails evaluating how the pricing strategy of a company positions its products or services in relation to those of its competitors. Price position refers to the location or ranking of a price relative to other prices within a given market or context. It reflects the positioning of a particular price point relative to other options or competitors. The price's position typically influences consumer reactions to a price compared to other prices (e.g., Adaval & Monroe, 2002; Grewal & Lindsey-Mullikin, 2006). For instance, consumers evaluate goods or services more fairly when other comparable offerings are priced more, whereas lower costs have the reverse effect (Adaval and Monroe, 2002).

Noone et al. (2013) and Kwok (2012) highlighted the importance of price positioning as a revenue management strategy within the hospitality industry and investigated two crucial aspects of a strategic pricing strategy for hospitality products in their study: price positioning and dynamic pricing. It says that the price positioning is the difference between a hotel's prices and those of its competitors, whereas dynamic pricing refers to the fluctuation of prices over time. Over a period of eleven years, researchers analyzed data from 6,998 hotels to determine the impact of these pricing strategies on revenue performance.

In the context of price position, the comparison of prices offered by various firms operating in the same market or industry is emphasized. It involves comprehending how a company's prices compare to those of its competitors. The relative positioning of a company's prices can have substantial effects on its market position, competitive edge, and overall success.

By actively monitoring and adjusting prices based on competitor analysis, hotels can modify their pricing strategies in order to attract customers, optimize occupancy rates, and meet revenue objectives.

Noone et al. (2013) found that hotels applying a high price positioning strategy, defined by a greater positive value in price difference compared to competitors, tended to achieve superior revenue performance. This indicates that pricing higher than competitors can have a positive effect on revenue generation.

The price's perceived position within the range can influence perceptions of equity or value. It can be also explained by Parducci's (1965) range-frequency theory. According to the theory the price position is the relative positioning of a price stimulus in relation to other price stimuli within a given context. The theory proposes two fundamental dimensions: range theory and frequency theory.

According to the range-frequency theory (Niedrich, et al., 2009) an individual's evaluation of a price is influenced by its proximity to the minimum and maximum price stimuli within a price range. In other words, people compare the price in question to the price range's extremities. If the price is near the minimum or maximum, it may be perceived differently than if it is near the range's midpoint. This theory highlights the role of context and comparison in price judgments. When individuals evaluate prices, they take into account not only the absolute value of the price but also its relationship to other prices in the given context. Consumers can find out both the range and the frequency of price changes by looking at historical data and analyzing it.

The range-frequency theory suggests that individuals perceive fairness or unfairness based on the positioning of a price within a range and its relative frequency compared to other prices.

### II.5.2. Price Sensitivity

Price sensitivity is defined as the degree to which changes in product prices influence consumers' purchasing decisions (Zepeda & Deal, 2009). Another definition was developed by Monroe (1973) as the degree of awareness and response of consumers when faced with changes in the prices of goods or services. According to Wakefield and Inman (2003), it is defined as the relative change in the purchasing quantity, probability of purchase, or willingness to pay of consumers after a price increase (Suri et al., 2012).

When the price of one company is regularly compared to the prices of other companies, a high level of price sensitivity is shown when the purchase amount drops as soon as the price goes up (Stock, 2008, p. 66).

People are generally sensitive to price changes and view price rises as unjust, resulting in unfavorable outcomes for firms (Xia et al., 2004). The price fluctuation could differ based on the travel purposes of the customers, such as leisure or business. Business travelers typically place a higher value on flights, so their demand is less sensitive to price changes than leisure travelers. Second, business travelers are likelier to make last-minute plans than leisure travelers (Talluri & van Ryzin, 2004). Customers arriving late, primarily business passengers, are charged a more excellent fare than those arriving early, primarily leisure tourists (Courty, 2003; Netessine, 2006).

When the proportion of business travelers is high (i.e., on a business route), the airline will typically select a pricing profile with significant price increases in the days preceding departure. Alderight discovered that for routes with a high proportion of leisure (or business) travelers, the pricing is less (or more) sensitive to the time component.

Some products are essential to consumers (like having a unique painting, cell phone, or computer offering superior value). When making pricing strategies for the product, it will be helpful to think about things like image and value in addition to the

competition, the structure of the market, and where the product stands in the market. In this case, price sensitivity will be lower since the price remains in the background, especially for consumers with purchasing power.

Price sensitivity shows that price is used as a criterion for consumers to purchase. Therefore, price sensitivity has a psychological rather than an economic function (Goldsmith, Kim, Flynn, & Kim, 2005: 502).

### II.5.3. Reference Price

Reference price has multiple conceptualizations, and it becomes particularly relevant in contexts where favorable conditions for dynamic pricing occur. Since Kahneman and Tversky (1979) proposed the prospect theory, many studies have been published on modeling the reference effect. The most accepted concept of "reference price" is a predictive price expectation shaped by consumers' prior experience and current purchase environment (Briesch et al., 1997; Kalyanaram & Winer, 1995). It is well-accepted in the behavioral pricing literature that a consumer's perception of the attractiveness of a market price depends on a comparison of the market price to an internal reference price (Janiszewski and Lichtenstein, 1999). Kalyanaram and Winer (1995) developed three empirical generalizations based on the research on reference prices, observing that reference prices have a significant impact on consumer behavior concerning the evaluation of past prices, sensitivity to price losses, and purchase and brand decisions. Karande and Magnini (2011) determine that an increased frequency of the decision will allow the internal reference price (past price) to be more easily recalled from memory.

Customers compare the current price of the brand of interest to past prices of the brand that they can remember (Niedrich, et al., 2009). It is called memory-based price judgment or sometimes "internal reference prices" (Mazumdar, Raj, and Sinha 2005). Mazumdar, et al., (2005) found that consumers have had some experiences in the past that include price and promotion information. These experiences lead to the creation of a price memory, which has effects when it is retrieved. However, several contextual factors, such as the purchase occasion or task, the store environment, and the type of product being purchased, may moderate this influence. The most important thing about

internal reference prices is that they can be affected by how prices have changed in the past.

When dynamic pricing is used in airlines, hotels, and retail industries, consumers often pay different prices for the same good or service. It can make people feel like they are being mistreated based on what they have bought in the past and what is happening around them (Xia et al., 2004; Karande & Magnini, 2011). Because consumers always evaluate price rises and fall relative to the reference price as "losses" and "gains," respectively, given this reference point (Niedrich, Weathers, and Hill, 2009). Their price declines far more than their price increases. This finding is consistent with the idea that a reduced price strongly affects the reference price and that price losses look larger than gains. Haws and Bearden (2006) explored that the more significant amounts paid compared to other consumers will trigger more negative fairness judgments than the seller, time, and price-setter differences. The pricing mechanism is no longer affected by fairness perceptions after the consumer accepts a good deal to pay less than the reference price.

#### II.5.4. Industrial Norm

Norms are socially accepted standards or rules that guide behavior within a group or society.

Perceived norms are "behavioral standards based on generally held perceptions about how group members should behave in a given situation" (Horne, 2001). According to recent research, norms can be divided into subjective norms and norms of others. Subjective norms refer to the most significant people in a person's life, typically family and friends (Ajzen, 1991). The norms of others may be a more credible predictor of prosocial behavior since they reflect the general public's opinions, i.e., those who are not directly related to the participants. Both type of norms was found to have a significant impact on behavioral intention.

When people evaluate the particular behavior, they develop the attitude on it. They are based on beliefs and can affect an individual's tendency to approach or avoid something. Attitude strongly indicates the intention to engage in certain behaviors. For

example, customers who have developed positive beliefs about airlines are likely to have a strong desire to live up to their beliefs. In the airline industry, "perceived norms" refer to industry norms. Industrial norms, also known as industry norms or industry standards, are generally accepted and adhered-to guidelines, practices, or benchmarks within a particular industry. They can have an impact on a variety of business activities, including pricing, production processes, quality standards, customer service, and ethical practices. Industrial norms have emerged as a significant factor in managers' corporate ethical judgments (Hunt and Vitell, 1992). Similarly, consumers are likely to have a perception of industry norms, which influences their evaluation of the ethics or fairness of organizations' business activities (Bone & Corey, 2000; Grewal and Lindsey-Mullikin, 2006). Consumers' perceptions of business activity as an industry norm tend to influence their judgment of the practice's ethics or fairness and make it more acceptable.

There is a theory behind this relationship, "self-efficacy " is explained in theory of planned behavior. Albert Bandura, first proposed the concept of self-efficacy, which is essential to comprehending human behavior and motivation. Bandura (1977) defines self-efficacy as an individual's belief in their capacity to plan and execute the actions necessary to manage future situations. In the context of consumer behavior, self-efficacy can have a substantial effect on the intention to engage in pricing searches.

When an individual's self-efficacy is low, they may feel less capable or less confident in their ability to perform tasks such as searching for and comparing product pricing. Consequently, their intention to engage in price comparison behaviors decreases (Pavlou & Fygenson, 2006).

#### II.5.5. Brand image

The brand is more than just a logo, name, symbol, trademark, or name associated with a product. According to Wijaya (2011), a brand is an imprint that creates a specific meaning and emotion in the minds and hearts of consumers. Brand image is defined



as consumer opinion and preferences for a brand, as reflected by the different kinds of brand associations stored in consumers' memories. Strong, positive, and unique brand associations are indispensable as points of difference that can serve as sources of brand equity to produce differential effects. These effects include increased customer loyalty, price premiums and more beneficial price elasticity responses, improved communication and channel effectiveness, and growth opportunities via extension or licensing (Keller, 2009). David A. Aaker defines brand image as "the set of beliefs, ideas, and impressions that a person holds regarding an object." (Aaker, 1991). Another definition from Jean-Noël Kapferer, he describes brand image as "the unique set of brand associations that brand strategists aspire to create or maintain." (Kapferer, 2012).

Brand image is influenced by three important dimensions: strength, favorability, and uniqueness of association. Strength of association refers to the quantity and quality of information received and processed by customers, contributing to the formation of brand image based on existing brand knowledge (Keller, 1993). The strength of association includes information about the product's price. This implies that price can play a role in shaping consumers' perception of a brand and its image. According to Yasri, Susanto, Hoque, and Gusti (2020), price perception positively influences the brand experience. The set of connections connected to a brand and retained in the customer's memory is referred to as the brand's image (Durmaz et al., 2018). The consumer's general perception and emotions regarding the brand affect the consumer's behavior, referred to as brand image (Zhang, 2015).

Brand image plays a pivotal role in influencing consumer attitudes. Brand Equity Theory explain that (Keller, 1993) a positive brand image, including perceptions of quality, reliability, and credibility, influences consumers' trust in a brand.

A positive brand image engenders a favorable attitude towards the brand, prompting individuals to selectively process information that aligns with their positive perceptions. A positive brand image can build trust with consumers. When consumers perceive a brand positively, they are more likely to trust the brand's intentions and believe that its pricing decisions, are fair and justified. Consequently, positive information that supports a positive attitude is more likely to be accepted and processed, while negative information is often excluded during the perception process. As a result, negative information has limited influence on shaping consumer opinions, whereas positive information reinforces and strengthens their existing attitudes.

## CHAPTER III. EMPRICAL RESEARCH

This chapter introduces the empirical studies conducted as part of the dissertation. Prior to the main study, two pilot studies were conducted to test scales and examine the relationship between dynamic pricing and fair pricing perception. The findings from these pilot studies informed and refined the concepts that were further explored in subsequent investigations.

### III.1. Pre-studies

The pilot studies established a conceptual foundation for the following studies (see Table 5).

**Table 5. Overview of Pilot Studies.**

Pilot study	Independent Variables	Moderators	Mediators Variables	Dependent	Key Results
1.	Dynamic Pricing	Price Position	Perceived Fairness	Willngness-to-Buy	-The greater the perceived fairness in the case of dynamic pricing practice of airline companies, the greater the likelihood of respondents being willing to buy the tickets

- (Survey Study, N = 168 consumers)
- 2x2 experimental design: dynamic pricing (2 = minor price increase; 1 = huge price increase); dynamic pricing strategy of competitors (1 = similar change in competitors' prices; 2 = no change in competitors' prices).
- H1, H2, H3 were tested.

H1: Dynamic pricing negatively impacts consumers' price fairness perception (supported)

H2: Perceived price Fairness positively influences consumer willingness to buy (supported).

H3: Price position moderates the relationship between dynamic pricing strategy and consumers' price fairness perceptions (supported).

Pilot study 2.	Independent Variables	Moderators	Dependent Variables	Key Results
	Dynamic Pricing	Dynamic pricing strategy of Competitors	Perceived Fairness	Multigroup Analysis is applied. There is a difference between groups (1 <sup>st</sup> group: similar change in competitors' prices; 2 <sup>nd</sup> group: no change in competitors' prices). If competitors change the price similarly among the competing offers, it is perceived less fair.

- (Survey Study, N = 241 consumers)
- 2x2 experimental design: dynamic pricing (2 = minor price increase; 1 = huge price increase); dynamic pricing strategy of competitors (1 = similar change in competitors' prices; 2 = no change in competitors' prices).
- Tested: H1, H2 and H3.

H1: Dynamic pricing negatively impacts consumers' price fairness perception. (rejected)

H2: Perceived price Fairness positively influences consumer willingness to buy (supported)

H3: Price position moderates the relationship between dynamic pricing strategy and consumers' perception of price fairness (supported)

Source: own research, own construction

### III.1.1. Pilot Study 1.

In the pilot study 1, we evaluated the impact of dynamic pricing strategies on consumers' perceptions of price fairness and the effect of these perceptions on consumers' willingness to buy. In addition, we examined the moderating effect of price

position on the relationship between dynamic pricing strategies and consumers' perceptions of pricing fairness.

#### III.1.1.1. Sampling

Undergraduate students from Corvinus University in Budapest took part in the pilot test. The link to the questionnaire was sent out by email, and respondents were put into one of the four scenarios at random. After eliminating incomplete and invalid responses, a sample of 168 responses was generated

We tested H1, H2, and H3, which are listed below, in our pilot study

H1: Dynamic pricing negatively impacts consumers' price fairness perception.

H2: Perceived fairness positively influences consumers' WTB

H3: Price position moderates the association between dynamic pricing and perceived fairness

#### III.1.1.2 Data Analysis

In our study, a 2x2 experimental design was applied, two stimuli for dynamic pricing (1= minor price increase; 2=huge price increase) and another two stimuli for price position (1= after the price increase, the actual price remains in the same position relative to other offers and 2= after the price increase the actual price's position also changes relative to other offers). The research sample comprises 168 graduated management students. It is a convenience sample collected by sending out a link to the questionnaire by e-mail. Respondents were put into one of the four scenarios at random.

Martin, Ponder, and Lueg (2009) measured fairness perception in distributive and procedural dimensions. In our study, to test our H1, we also use this measurement, but only its procedural dimension, where the items are (1) 'Pricing is fair,' (2) 'Pricing is reasonable,' and (3) 'Pricing is unfair.'

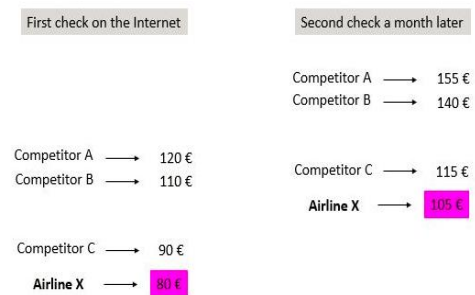
For testing H2, we applied previous studies' scale measurements. The WTB indicator is chosen from the study of Dodds, Monroe, and Rewal (1991). In this case, we applied the following items: (1) 'If I were going to buy an airline ticket in this situation, I would consider buying the ticket of Airline X at a price shown after,' e change,' (2) 'The likelihood of purchasing the flight ticket of Airline X is high' and (3) 'The probability that I would consider buying the flight ticket of Airline X is low.'

The items were analyzed on Likert-type scales that captured agreement with the statements and were anchored by "Strongly Agree" (5) and "Strongly Disagree" (5). CFA analysis-analysis shows that the two scales applied were supported by the data obtained (CFI: 0.98, TLI: 0.97, RMSEA: 0.61)

**Figure 3. Scenario 1. “minor price increase”**



**Figure 4. Scenario 2. “huge price increase.”**



**Figure 5. Scenario 3 (Staying in the same position)**



**Figure 6. Scenario 4 (Changing the price position)**



**Source: own research, own construction**

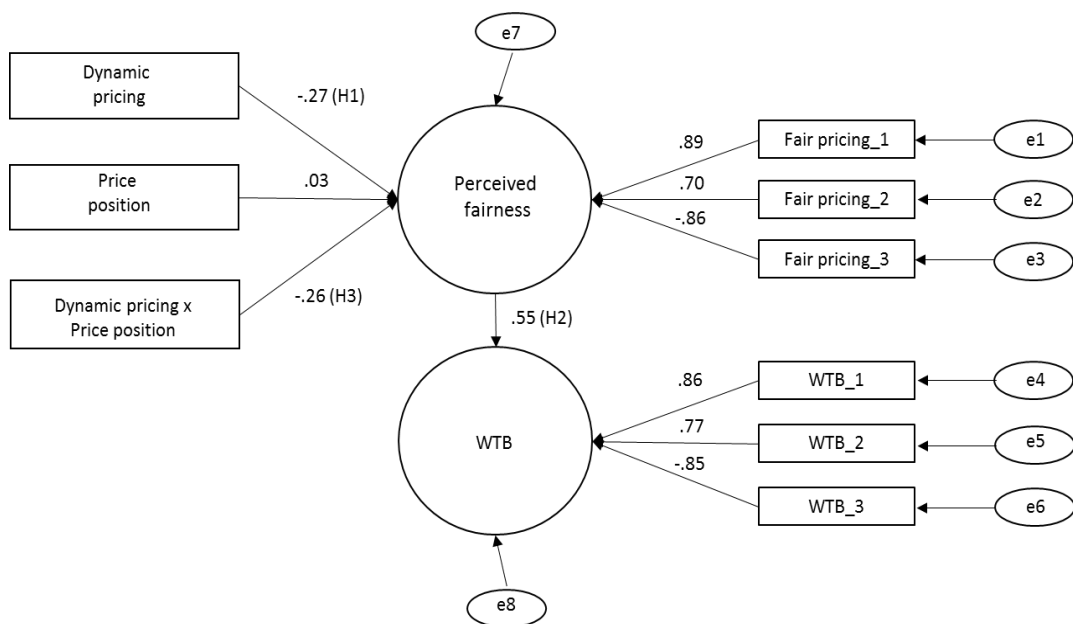
Description of the scenario: Imagine that you are planning to buy a plane ticket from Budapest to London. First, checking it on the internet, you can see different prices of

some companies. Then you think you have time, and it would be better for you to postpone your purchase by a month. After a month, you recognize that prices have changed.

### III.1.1.3. Results and Discussion

The data has been analysed with AMOS 22.0 software. A total of 168 passenger profiles were analyzed. The model below fits well (CFI: 0.98, TLI: 0.97, RMSEA: 0.61). It shows that all of our hypotheses were supported by the data collected. The higher the magnitude of a price increase in the case of dynamic pricing, the less fairness was perceived by our respondents. Tatter one has a positive effect on willingness to buy. The higher the perceived fairness in the case of the dynamic pricing practice of airline companies, the more likely respondents were to be willing to buy the tickets. So, the results supported the mediating role of fair pricing between dynamic pricing and purchase intention.

**Figure 7. Research Model and Standardized Coefficients of Pilot Study 1**



Source: own research, own construction

**Table 6. The Evaluation of Hypotheses H1, H2, H3 in Pilot Study 1**

Hypothesis	Predictive variable	Target variable	Standardized regression coefficients ( $\beta$ )	Significance level	Evaluation
(H) <sub>1</sub>	Dynamic pricing	Perceived fairness	-.27	.008	Supported
(H) <sub>2</sub>	Dynamic pricing x Price position	Perceived fairness	-.26	.011	Supported
(H) <sub>3</sub>	Perceived fairness	WTB	.55	.000	Supported

**Source: own research, own construction**

While investigating the moderating role of price position, we found that relative position moderates the relationship between dynamic pricing and perceived fairness. If the price remains in the same position among competing offers, it is perceived as less unfair than when the relative position of the price changes after the price increase.

### III.1.2. Pilot Study 2.

In the pilot study 2, we measured how the price dynamics of competitors moderate the relationship between dynamic pricing strategies and consumers' perceptions of fairness in pricing.

#### III.1.2.1. Sampling

The sample used for the study consisted of 241 university students.

Method: Multi-group Analysis (AMOS) is applied. The same scales are applied as we applied in Pilot study 1. ( For fairness perception we applied Martin, Ponder, and

Lueg (2009)' scale, for measuring WTB, we applied Dodds, Monroe, and Rewal (1991)' scale.

### III.1.2.2 Data Analysis

Here, dynamic pricing is defined as "price increase." A minor price increase is defined as 2 in the stimulus, while a massive price increase is defined as 1. The multigroup analysis permits us to examine a significant number of specific differences between groups and is particularly useful in examining group-by-process interactions. Multigroup modeling has some valuable scientific applications. It not only allows us to compare path coefficients between groups; it also allows us to compare means and intercepts as well. A multigroup analysis is suitable for expressing the moderator effect on the correlation between multiple variables. (Weiber and Mühlhaus, 2010, p. 231.) In the other SEM variation, the research model was applied to several groups (Multi Group Analysis, starting now: MGA), and the dynamic pricing strategy of competitors was examined as a moderator effect between fairness perception and companies' dynamic pricing.

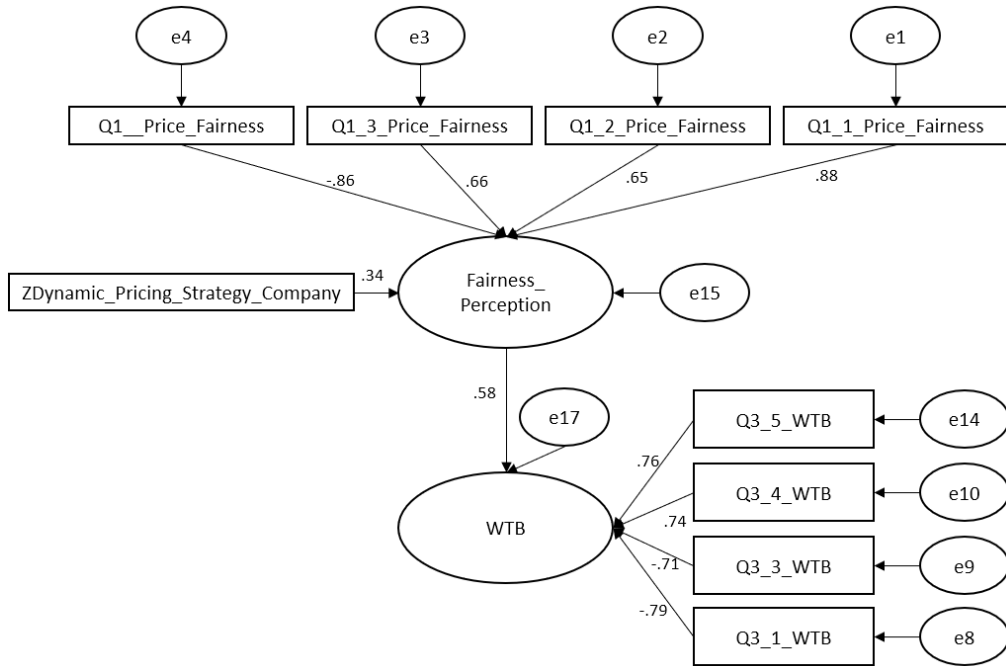
"Dynamic pricing strategy of competitors" was the variable that helped us tell the difference between the two types of strategies and divide them into two groups: The first category included competitor strategies that changed prices in the same way that other competitors did. The second group included competitors' strategies that do not change prices compared to other competitors.

### III.1.2.3 Results and Discussion

The first group comprised 127 participants, and the second included 114 participants.

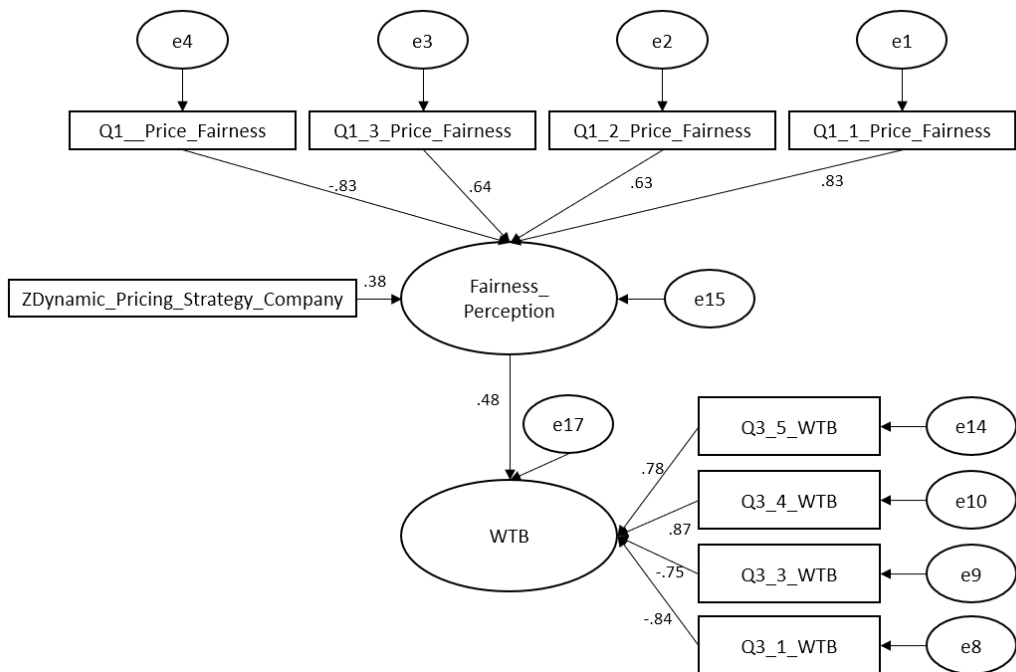
**Figure 8: Model 2, Group 1. Dynamic Pricing Strategy of Competitors. Similar Changes in Competitors' Prices**





Source: own research, own construction

Figure 9. Model 2, Group 2. Dynamic Pricing Strategy of Competitors. No Change in Competitors' Prices



**Source: own research, own construction**

When we construct regression weights and drop fit index degrees, we can conclude that they cannot be the same for both groups. Because The result of the Model Fit RMSEA = 0.69 dropped to 0.65, Model fit CFI= 0.932 in Model 1 dropped to 0.922 in Model 2. According to Chen (2007), when the sample size is small (total N = 300), the sample sizes are unequal, and the pattern of non-invariance is uniform, the following cutoff criteria are suggested: For testing loading invariance, a change of.005 in the CFI, supplemented by a change of.010 in the RMSEA would indicate non-invariance. We can conclude that price dynamics of competitors moderate the association between dynamic pricing strategies and consumers' perceptions of fairness in pricing. According to Sharma et al. (1981), if the variable does not reveal a direct relationship to the criterion or predictor variable and there is no interaction with the predictor, then the specification variable plays the role of a predictor, an exogenous antecedent, or a suppressor in the model.

**Table 6. Evaluation of hypotheses; H1, H2 and H3 in Pilot study 2**

<b>Hypothesis</b>	<b>Predictive variable</b>	<b>Target variable</b>	<b>Standardized regression coefficients (<math>\beta</math>)</b>	<b>Significance level</b>	<b>Evaluation</b>
(H)1	Dynamic Pricing	Perceived Fairness	0.35	***	Not Supported
(H)2	Perceived fairness	WTB	0.53	***	Supported
(H)3	Dynamic pricing strategy	Consumer's price fairness perception.	0.48	***	Supported

**Source: own research, own construction**

In the second pilot study, the first hypothesis (H1) was rejected, and the collected data supported the second and third hypotheses (H2 and H3). We anticipated that the

greater the magnitude of the price increase in the case of dynamic pricing, the less fairness our respondents would perceive. Another finding is that consumers' perceptions of price fairness influence their willingness to purchase. The greater the perceived fairness of airline companies' dynamic pricing practices, the more likely respondents will buy the tickets. We can conclude that price dynamics of competitors moderate the association between dynamic pricing strategies and consumers' perceptions of fairness in pricing.

### III.1.3. Summary and Conclusions of Prestudies

The results of the first pilot study indicated that dynamic pricing negatively influenced consumers' perceptions of price fairness (H1), that perceived price fairness positively influenced consumers' willingness to buy (H2), and the price position moderated the relationship between dynamic pricing strategy and consumers' perceptions of price fairness (H3). If the price remains in the same relative position among competing offers after a price increase, it is perceived as less unfair, than if the price's relative position changes.

The results of the second pilot study indicated that there is moderating role of competitor price on relationship between dynamic pricing and consumers' price fairness perception. . We found that if competitors change the price similarly among the competing offers, it is perceived less fair. In the pilot studies, we came to realize that two scales performed well. One of the scale was adapted from Martin, Ponder, and Lueg's (2009) study, which measured distributive and procedural perceptions of fairness. In the oilit studies we only measured procedural fairness scale. The second scale was WTB (Willingness to Buy) conducted by Dodds, Monroe, and Rewal (1991). Each pilot study examined the effects of dynamic pricing using a 2x2 experimental design. The first variable involved two stimuli for dynamic pricing: a minor and major price increase. The second factor focused on price position, with stimuli representing the actual price remaining in the same position relative to other offers or changing position after the price increase.

During the thesis research period, feedback was received and incorporated into the research model based on the successful implementation of these experimental studies.

The research model was expanded to include additional scenarios, including trends of price changes involving both price increases and price decreases, as well as variations in price volatility (high or low). These changes intended to provide a more comprehensive understanding of the pricing dynamics and their effect on consumer perceptions. In general, these pilot studies provide insightful information regarding the relationship between dynamic pricing, perceived fairness, and willingness to buy. The findings lay the groundwork for future research and suggest that when implementing dynamic pricing practices, it is necessary to consider factors such as price position and the dynamic pricing strategies of competitors in order to maintain consumer perceptions of fairness and increase willingness to buy.

### III.2. Final Research Model

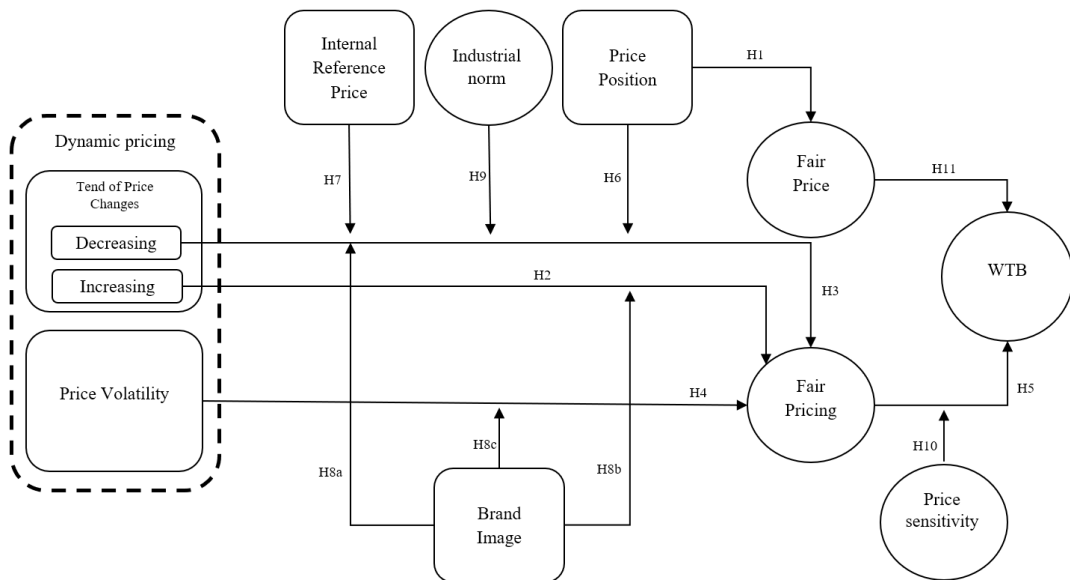
We conducted a quantitative survey (Appendix D) using a standard questionnaire to test the hypotheses presented in the previous chapter. As the purpose of the study is to test a rather complex model that measures the influence of factors on consumers' perceptions of fairness (Figure 10), we decided to conduct questionnaire research in which a greater number of variables can be applied.

We conducted a student survey in which interviewers distribute and collect online questionnaires that are filled out by randomly selected respondents.

These findings were partially illustrated in Chapter 5, and they will be partially presented when discussing questionnaire questions.

Our research centered on purchasing airline tickets. Unfortunately, the sample size and available sources did not permit a sufficient number of questionnaires to be completed about additional industries, which would have increased the external validity of the results.

**Figure 10: Research model**



**Source: own research, own construction**

**III.3. Hypotheses Development**

Following is a list of hypotheses (Table 7) derived from a comprehensive review of the existing literature, which emphasizes the impact of dynamic pricing strategies on consumer perceptions of fairness. Future sections will present empirical evidence to test the validity of these hypotheses and contribute to the existing corpus of knowledge regarding the effect of dynamic pricing on consumers' perceptions of fair pricing.

**Table 7. List of Hypotheses**

<b>List of Hypotheses</b>
H <sub>1</sub> : Price position has a negativ effect on Fair Price perception
H <sub>2</sub> : Dynamic pricing with increasing trend of price changes negatively affects the fair pricing perception

H <sub>3</sub> : Dynamic pricing with decreasing trend of price changes positively affects the fair pricing perception
H <sub>4</sub> : Dynamic pricing with high volatility negatively affects the fair pricing perception
H <sub>5</sub> : Fair pricing perception positively affects the willingness to buy
H <sub>6</sub> : Price position moderates the association between dynamic pricing with decreasing trend of price changes and fair pricing perception. The higher the price position of the offer of an airline company in the market, the stronger the relationship between dynamic pricing with decreasing trend of price changes and fair pricing perception
H <sub>7</sub> : Internal Reference Price (IRP) moderates the association between dynamic pricing with decreasing trend of price changes and fair pricing. The higher the IRP, the weaker the relationship between dynamic pricing and fair pricing perception
H <sub>8a</sub> : Brand image moderates the association between dynamic pricing with decreasing trend of price changes (dynamic pricing) and Fair Pricing (procedural fairness). The more positive image consumers have about the brand, the weaker the relationship between dynamic pricing with decreasing trend of price changes and fair pricing perception
H <sub>8b</sub> : Brand image moderates the association between dynamic pricing with increasing trend of price changes (dynamic pricing) and Fair Pricing (procedural fairness). The more positive image consumers have about the brand, the weaker the relationship between price volatility and fair pricing perception
H <sub>8c</sub> : Brand image moderates the association between dynamic pricing with volatility (dynamic pricing) and Fair Pricing (procedural fairness). The more positive image consumers have about the brand, the weaker the relationship between dynamic pricing with increasing trend of price changes and fair pricing perception.
H <sub>9</sub> : Industrial norms moderates the association between dynamic pricing with decreasing trend of price changes and fair pricing perception. The more similar are the prices the consumers perceive in the market, the stronger the relationship between dynamic pricing with decreasing trend of price changes and fair pricing perception
H <sub>10</sub> : Price sensitivity moderates the association between fair pricing perception and consumer willingness to buy (WTB). The higher the price sensitivity, the weaker the relationship between fair pricing perception and WTB
H <sub>11</sub> : Fair price perception positively effect on willingness to buy.

**Source: own research, own construction**

In the literature, some theories, such as the fairness heuristic theory (Van den Bos, Vermunt, and Wilke 1997), state that distributive and procedural fairness do not necessarily operate independently. When people are given information regarding the

procedures before they are informed of the outcomes, their evaluations will likely be influenced by their perceptions of the fairness of the procedures (Collie, Bradley, and Sparks, 2002).

In our study, we assessed the price in procedural and distributive fairness. In the literature, some studies show procedural justice highlights the methods utilized to achieve the outcomes rather than the outcomes themselves. For instance, Amazon has a differentiated pricing policy for customers based on their willingness to pay. (Cox, 2001; Klaus, 2013). Consumers assess both the fairness of a business's policy implementation (procedural justice) and the fairness of the policy's consequences (distributive justice) (Sparks et al., 2001; Tax et al., 1998). A customer may perceive a corporate policy to be fair (procedural justice), but the outcome of that policy's implementation to be unfair (distributive justice) or vice versa (Nguyen & Klaus, 2013).

Price position refers to the position of a product's price in relation to the prices of competing products. When a product's price is positioned above the market price, it has a negative impact on consumers' fairness perception. The principles of dual entitlement consist of community standards of fairness, which are captured in the reference transaction, the outcomes to the firm and to the transactors, and the occasion for the firm's action. The most important rule of dual entitlement is that consumers have a right to the terms of the reference transaction and companies have a right to their reference profit. When a price is positioned higher than the market price, it can be seen as violating consumers' entitlement to the reference price, leading to a perception of unfairness. The dual entitlement theory says that sellers have a right to a fair profit and that price increases that are driven by costs are seen as fair while price increases that are driven by profits alone are seen as unfair (Kahneman et al., 1986). But it is reality that it is not possible to follow the price increase based on the cost driven. In the airline industry, for example, consumers frequently compare ticket prices for the same route across multiple airlines. If an airline consistently positions its prices above those of its competitors without providing substantial additional value or justification, consumers may perceive this as unjust pricing. The airline's price position, which is higher than the market price, generates a perception of unfairness

and may result in a negative fair price perception. We can formulate hypothesis ; H1: Price position has a negative effect on fair price perception.

***H1: Price position has a negative effect on Fair Price perception***

### III.3.1. Dynamic Pricing and Fair Pricing Perception

Price increases are generally viewed negatively by consumers (Xia et al., 2004), they are a frequently used tool, and companies often decide on both larger and smaller price changes in order to increase sales. Martin et al. (2009) examined the effects of price increases and found that if the price increase is small and its reasons can be proven to be outside the company's decision-making authority, consumers consider it fairer than non-justifiable reasons within the company.

Due to the frame for the purchase, the consumer may feel that in the case of any price change, a reconsideration is needed to evaluate whether it is worth buying the product at the new price level. This causes constant pressure for them to spend time collecting information and to make further cognitive efforts to get a satisfactory solution at the end of the process. This inconvenience compared to the situation of stagnating prices makes consumers more demanding and cannot see the return for their effort. As a result of dynamic pricing practices, consumers may pay different prices for the same product. On the other hand, comparisons with other consumers have a greater impact on the perceived fairness of prices than comparisons with other sellers or with one's own experience (Xia et al., 2004). Just as consumers may perceive dynamic pricing as a special case of price discrimination, they may be uncomfortable with having to pay more than others for the same product. Kahneman et al. (1985), the principle of double entitlement also supports the fact that price changes strengthen the feeling of unfairness in consumers.

***H2: Dynamic pricing with increasing trend of price changes negatively affects the fair pricing perception***



In the case of a price decrease, the opposite effect can occur. The consumers perceive that they can benefit from the change(s). Some of them could also interpret this as unfair, but the asymmetry between the evaluations of situations where consumers benefit or are disadvantaged is well established in the literature (Xia et al., 2004). Mazumdar and Jun's (1992) research shows that consumers view multiple price decreases, which refer to price volatility, more favourably than a single price decrease, while consumers view multiple price rises more negatively than a single price increase.

***H3: Dynamic pricing with decreasing trend of price changes positively affects the fair pricing perception***

From a procedural standpoint, it is critical that prices are perceived as unfair when consumers are unable to understand how a price is determined. The procedure should be obvious; otherwise, they will become confused and frustrated. In practice, consumers do not appear to prefer price volatility caused by changes in supply and demand (Kahneman et al., 1986). The reason is similar to the one we referred to in the case of price increases. They perceive an additional gain on the supply side without any incremental value creation, while they do not perceive any change in the cost structure. On the other hand, this process makes the pricing unpredictable and demands additional effort from the consumers to reduce the risk of the decision. However, a one-time large price increase often strongly discourages sales, so companies try to avoid this effect by increasing their prices in many small steps (Tewari, 2015).

The following hypothesis is;

***H4: Dynamic pricing with high volatility negatively affects the fair pricing perception***

### III.3.2. Price Fairness Perception and Willingness to Buy (WTB)

Consumers may believe that procedural fairness is not respected, and that dynamic pricing violates their right to a "regular" transaction. Thus, this should reduce the

repurchase intentions of customers. The notion of planned behavior (TPB) (Ajzen, 1991; Fishbein & Ajzen, 1975) can be used to explain the association between a willingness to pay and fair pricing. The idea contends that an individual's attitudes toward a behavior affect their intentions to engage in it, which in turn influence their actual behavior (Ajzen, 1991; Fishbein & Ajzen, 1975). People attitude toward a good or service can influence their willingness to pay a particular price for it when it comes to pricing. Price perception generally refers to a customer's attitude of wanting to get a product, which could be a positive or negative signal to behavior (Lichtenstein et al., 1993). An individual can be more willing to pay a price if they think it is acceptable and fair. On the other hand, if they perceive the price to be unfair or too high, they may be less willing to pay it. When consumers perceive unfairness in pricing, they may react differently, becoming angry, complaining, spreading negative word of mouth, or punishing the seller by switching to a competitor. Understanding and predicting the impact of prices on purchase willingness has always been a focus of interest for marketing researchers (Huppertz, et al., 1978; Dodds et al., 1991; Campbell, 1999; Maxwell, 2002). There are many works in the literature that deal with the effect of fair pricing on the willingness to buy. Based on their own regression model, Dodds, Monroe, and Grewal (1991) found a positive correlation between consumer perceived value and purchase willingness. According to a study by Huppertz, Arenson, and Evans (1978), perceived high prices were considered unfair by customers and led consumers to leave the store or file a complaint. Draganska and Jain (2006) point out that retailers do not charge higher prices for different-flavoured products for strategic reasons, as this would increase the elasticity of demand due to perceived unfair pricing. It has also been pointed out that unfair pricing makes consumers less likely to shop at that store (Campbell 1999), thus affecting their willingness to buy. Wamsler et al. (2022) discovered that procedural fairness is positively associated with distributive fairness and repurchase intentions, and that (anticipated) interactional fairness is strongly associated with willingness to buy.

In this research, we want to examine the effect of perceived fair pricing on the willingness to buy in a dynamic context. We set up the following hypothesis regarding this:

***H5: Fair pricing perception positively affects willingness to buy***

### III.3.3. The Moderating Role of Price Position

In dynamic pricing, companies need to consider their price position in the market and adjust their prices accordingly to remain competitive. If a company is offering a product that is like those of its competitors, it may need to price its product slightly lower than its competitors to attract customers. As a moderating factor, price position can influence consumers' perceptions of the fairness of dynamic pricing. Customers' perceptions of the justice of dynamic pricing practices can be influenced by the positioning of prices relative to those of competitors. When consumers perceive a favorable price position, such as prices that are lower than or comparable to those of competitors, it can mitigate the negative perception of fairness associated with dynamic pricing. Customers may view dynamic pricing as justified and reasonable if, for instance, a company implements dynamic pricing but strategically positions its prices at a level that is perceived as fair or even better than competitors' prices. The perceived fairness of price position can function as a buffer, mitigating the detrimental effect of dynamic pricing on customers' perceptions of fairness.

In our study price position is measured as a separate concept. We define "price position" as the relative position of the actual price among the competing offers in a given context. We postulate that not only does the price change influence fairness perception, but its effects also depend on whether price position changes co-occur. We explained price positioning under the range-frequency theory. According to the theory, consumers make judgments based on the relative price position compared to other stimuli in a given context. On the other hand, price increases are generally seen as unfair by the firm's customers (Xia et al., 2004), and dramatic and slight price changes are often used by companies seeking to boost sales in the online environment. An equivalently significant price increase may severely inhibit sales, if not even more so; hence, some firms prefer to raise prices gradually. Some companies seek to change prices in small increments over time, while others may make a single significant change (Tewari, 2015). Price changes can lead to different price positions. We define "price position" *as the relative position of the actual price among the competing offers in a given context*. We postulate that not only does the price change influence fairness perception, but its effects also depend on whether price position changes co-occur.

In general, the higher the price, the higher the unfairness the consumer perceives. In the opposite situation, a similar effect can also be observed, as the lower the price, the higher the perceived fairness, but the magnitude of the effect of a fair situation is smaller than in the case of an unfair one due to the asymmetry discussed above (Xia et al., 2004). When a company decreases the price when it is relatively high, the reason why consumers feel it unfair starts to diminish, and the behaviour of the company is slowly moving from the zone of unfairness to the one of neutrality. However, this change between "zones" does not happen when the price is relatively lower than the ones of the competitors. In this latter situation, the consumers feel fairness, which does not change when the prices begin to decrease. For this reason, we claim that the price position has a moderation effect on the association between dynamic pricing and fair pricing perception.

Based on the discussion, we have formulated the hypothesis below.

***H6: Price position moderates the association between dynamic pricing with decreasing trend of price changes and fair pricing perception. The higher the relative price position of the offer of an airline company in the market, the stronger the relationship between dynamic pricing with decreasing trend of price changes and fair pricing perception***

#### III.3.4. Moderating the Role of Internal Reference Price

Consumers frequently evaluate the reference price in order to take the market price into account. The reference price impacts the consumer's decision-making (Kalyanaram & Winer 1995). Xia et al. (2004) proposed that, for price comparison, "*the other-customer comparison has a greater effect on perceived price unfairness than self-reference if the transaction characteristics are similar*". Customers can compare the exact product they bought with others. If a price is significantly higher than that of other customers, it is perceived as less fair. According to Mussweiler (2003), the "reference point" plays the role of a baseline in making comparisons and is an essential point in the social comparison theory.

Monroe and Xia (2006) claim that price fairness occurs when no discrepancies or inequalities exist in price. It is very natural for customers to compare prices with reference prices. The reference price can be conceptualized as knowledge about the past price (Mazumdar, Raj, and Sinha, 2005), a competitor's price, or a consumer's estimation of the cost price of goods (Bolton, etc., 2003). Helson (1964) predicts that consumers will consider a special price by comparing it to a one-time price that serves as a reference price. Several studies look into the reference price and price fairness perception. Malc, Mumel, and Pisman (2016) postulate that social comparisons do not play a highly influential role in developing price fairness perceptions but that only income levels are relevant factors in the light of the social comparisons process (Martins & Monroe, 1994). Viglia, Aurelio, and Manu (2016) studied the hotel reference prices under a dynamic pricing scenario, and they investigated how reference prices are influenced by social comparison.

Some recent studies have assessed dynamic pricing strategies based on reference prices. Popescu and Wu (2007) examined the dynamic pricing of a monopoly when demand is sensitive to the company's pricing history. It has been determined that consumers have preconceived opinions when making a purchase decision. When a company changes the price of its products, consumers formalize a reference price that they modify based on their price perceptions.

Yang, Zhang, and Zhang (2017) provide a dynamic pricing model with reference effect, consider a memory-based reference price in the demand model, and examine how the reference price affects the cooperative advertising program of a manufacturer and a retailer's supply chain. They determined that the reference effect may significantly impact the dynamic pricing decision under stochastic demand more than under deterministic demand, especially when capacity is minimal. Nasiry and Popescu (2011) explore a different memory-based reference price model based on the peak-end rule. They find that the optimal solution is a range of constant pricing policies and show that the behavioral regularities of peak-end anchoring and consumers' loss aversion limit the benefits of varying prices. Viglia, Mauri, and Carricanoc (2016) have devoted a study to exploring hotel reference prices under dynamic pricing scenarios. They determine that consumers decrease their reference prices when competing hotels adjust their prices simultaneously.

The internal reference price should be one of the essential components in consumer perception of fairness and dynamic pricing implementation. In our model, we will

measure the moderating effect of the internal reference price on the relationship between dynamic pricing and consumer fairness perception. The following hypotheses are formulated:

***H7: Internal Reference Price (IRP) moderates the association between dynamic pricing with decreasing trend of price changes and fair pricing. The higher the IRP, the weaker the relationship between dynamic pricing and fair pricing perception***

### III.3.5. Moderating the Role of Brand Image

The current research extends the price fairness literature by examining relationship between dynamic pricing and fair pricing perceptions and also introduce the moderating effects of brand image. Brand image plays a crucial role in shaping consumer attitudes. One of the most important indicators in the minds of consumers of whether a product has a fair price is the price of the product. The customer's brand image perception emerges when he knows about the product and gives the product positioning in the market (Nazir et al., 2016, p. 56). The price of similar products in the market affects their thoughts about the product because consumers are always interested in seeing if the price is either higher/lower than the market price.

Brand Equity Theory explain that (Keller, 1993) a positive brand image, including perceptions of quality, reliability, and credibility, influences consumers' trust in a brand. A positive brand image fosters a favorable attitude towards the brand, leading consumers to selectively process information that aligns with their positive attitude. It is classic effect in the marketing literature that consumer are more likely to incorporate positive information while excluding negative information during the perception process. As a result, negative information has a limited impact on their opinions, while positive information reinforces their attitude. Consequently, the positive effect of brand image on consumer perceptions is stronger, while the negative effect is weaker. Based on these premises, we propose the following hypothesis.

***H8a: Brand image moderates the association between dynamic pricing with decreasing trend of price changes (dynamic pricing) and Fair Pricing (procedural***

*fairness). The more positive image consumers have about the brand, the weaker the relationship between decreasing price and fair pricing perception*

*H8b: Brand image moderates the association between dynamic pricing with increasing trend of price changes (dynamic pricing) and Fair Pricing (procedural fairness). The more positive image consumers have about the brand, the weaker the relationship between increasing price and fair pricing perception*

*H8c: Brand image moderates the association between dynamic pricing with volatility (dynamic pricing) and Fair Pricing (procedural fairness). The more positive image consumers have about the brand, the weaker the relationship between dynamic price volatility and fair pricing perception*

This moderator has not been studied in dynamic pricing and fairness context, and this study believes that branding could act as a moderator.

### III.3.6. Moderating role of Industrial Norm

As we mentioned before the perceived norms are "behavioral standards based on generally held perceptions about how group members should behave in a given situation" (Horne, 2001). In the airline industry, "perceived norms" refer to industry norms. We are saying that the industrial norm moderates the association between dynamic pricing and consumer fair pricing perception.

In the study, based on our scale of development, we accepted two types of industrial norms. (In the analysis part, it is explained in more). The first one, "perceived similar price norm," refers to airline companies and whether they copy each other's when they determine their own prices. The second type is "perceived diverse price norm," which refers to when there are huge differences between the airline companies' ticket prices on the same route.

A decrease in price from this established reference point is viewed positively and seen as fairer, as the consumer feels they're getting a better deal than usual. In case of "diverse price perception norms" which is accepted by customer, if the companies are decreasing the price, it does not affect on consumer fairness perception. The reason is

that if customers believe that an airline could have decreased its prices more because customer have a believes that airline companies apply a different pricing strategy (It is not a diverse price), it might suggest they perceive the current prices as still being higher than what they deem as fair or reasonable. This might be due to the customers' understanding or perception that airlines follow a certain pricing strategy that allows for such flexibility. If this is the case, it means that the customers perceive the current prices, even after a decrease, as higher than what they consider fair or justifiable.

Xia, Monroe, and Cox (2004) suggested that customers assess the fairness of a price not just based on their reference price, but also based on their perceptions of the seller's cost, profit, and pricing strategy. If customers believe that airlines can decrease prices further, it might indicate that they perceive the airline's profit margins as too high or its pricing strategy as flexible enough to allow for further price reductions without negatively impacting the airline.

“Self-efficacy “in theory of planned behavior could be user to explain the relationship. Self-efficacy as an individual's belief in their capacity to plan and execute the actions necessary to manage future situations (Bandura, 1977). In the context of consumer behavior, self-efficacy can have a substantial effect on the intention to engage in pricing searches. When an individual's self-efficacy is low, they may feel less capable or less confident in their ability to perform tasks such as searching for and comparing product pricing. Consequently, their intention to engage in price comparison behaviors decreases (Pavlou & Fygenson, 2006).

***H9: Industrial norms moderates the association between dynamic pricing with decreasing trend of price changes and fair pricing perception. The more similar are the prices the consumers perceive in the market, the stronger the relationship between dynamic pricing with decreasing trend of price changes and fair pricing perception.***



### III.3.7. The Moderating Role of Price Sensitivity

Price sensitivity is reduced when there is a higher perceived value (Monroe, 1990, Gyulavari 2005). Several studies have found that perceived value has a positive influence on purchasing intention (Rekettye, 1999; Monroe, 1990), as well as satisfaction and repurchase (Cronin et al., 2000).

Consumers' price sensitivity can arise in almost any situation for cheap or expensive products, often or rarely purchased, with or without substitutes (Tjiptodjojo & Setyawan, 2015, p. 153). Another essential point in this relationship is that customers may consider a price increase reasonable if they believe it is motivated by benevolence rather than profit (Bolton et al., 2003; Campbell, 1999a). For consumers with high price sensitivity, a minor change in price can have a substantial effect on their willingness to buy behaviour. These consumers are frequently more cost-conscious and value-oriented, weighing the price of an item against its perceived value.

According to the Theory of Consumer Behavior, consumers seek to maximize their utility (satisfaction) within their financial constraints. Those with more stringent budget constraints (due to lower income or greater financial obligations) are likely to be more sensitive to pricing changes. (Mankiw, 2018)

Based on the discussion, we propose that consumers' behaviors are influenced by their perceptions of price fairness, and price sensitivity moderates the association between them.

***H10: Price sensitivity moderates the association between fair pricing perception and consumer willingness to buy (WTB). The higher the price sensitivity, the weaker the relationship between fair pricing perception and WTB***

Dodds, Monroe, and Grewal (1991) discovered a correlation between consumer perceived value (which includes perceptions of fairness) and purchase propensity. When consumers perceive the price to be reasonable, they are more likely to believe they are receiving value for their money, resulting in a higher willingness to buy.

***H11: Fair price perception positively effect on willingness to buy.***

### III.4. Research Design

The research model and the moderation effect have been tested with the method of standard questionnaire survey. The questionnaire was edited using Qualtrics software and sent to the potential respondents online. 387 undergraduate students majoring business management participated in the research and filled out the questionnaire completely. Of course, the sample cannot be considered representative of the entire population, but it provides usable results for younger travellers, especially in terms of not analysing absolute values but associations. Within the framework of the questionnaire, subdimensions of dynamic pricing and price position were stimulated (3x2x2 quasi-experimental arrangement), i.e., respondents were confronted with different scenarios and their reaction was measured. Two subdimensions of dynamic pricing appeared in the experimental setup, the trend of price changes (increasing, stagnating, and decreasing) and the volatility (high, low). In case of trend of price changes, the three-outcome question were transformed into two binary variables (increasing / not increasing and decreasing / nor decreasing). There were two outcomes for the price position (high / low). The three stimuli resulted in a total of twelve different stimuli. The sample was randomly assigned to these so that the respondents were faced with only one scenario and gave their evaluation based on it. An example of the scenario used can be found in Annex 1. In the course of the research, the respondents came across hypothetical prices for eight different dates, during which the price of the examined airline changed. The respondents were asked to evaluate the price-change behaviour of the investigated airline.

The measurement items for some hypotheses were adapted from previous research and modified to best fit the study context. There are some scales are developed by author.

#### III.4.1. Sampling

Due to budget constraint, we had not opportunity to survey a representative sample that cover the Hungarian population. Instead, we had to find other way to collect data and to focus on the sample size to ensure the required respondents to test the assumed associations. So, we turn to the students of Corvinus university and disseminated our

questionnaire among them. On the one hand, the lack of representativeness to the adult population logically limits the generalizability of the results. On the other hand, we analysed theoretical relationships where the role of representativeness is weaker. The limitations that arise from this will be addressed in the final chapter.

#### *Universe*

The population (universe) among we carried out the research consists of the students of the Business Management (BM) BA programme at Corvinus University of Budapest.

#### *Sampling frame*

We had the list of Business Management students who took the Marketing core course at Corvinus in Spring 2022. We sent the link of the questionnaire to them via email.

#### *Sampling technique*

As we surveyed all the members of our sampling frame that is every student, who took the course was sent the questionnaire, we did not apply any sampling technique. This process can be considered as census. That means that no sampling error can be identified if we aim to generalize the result to the BM students at Corvinus. However, sampling frame error should be considered, as not all the BM students could be found in our sampling frame. Nonetheless, from the scope of aim of the whole research, we evaluate this sampling frame error as insignificant. As it is mentioned above, the discrepancy between the universe we surveyed, and a typical target market of airline companies are more serious problem in regard with the generalizability of the outcome of the research.

#### *Sample size*

The completion rate was 89,5%, as of 597 students in our sampling frame, 527 filled in our questionnaire. the survey. The potential error from this difference can be considered negligible. However, we implemented a rigorous process of elimination of

non-quality answers from our database to ensure the accuracy of our data. To achieve that we applied two methods. First, we used a control question to filter out respondents who did not paid too much attention to answer the questions precisely. At the near end of the questionnaire, we inserted a statement (please click 2, if you think this questionnaire is about chocolate market') among several Likert-type questions. Respondents who did not give the correct answer were eliminated from the database. Second, the respondents who did not respond logically or consistently were also eliminated. To find these respondents, we analysed the referred scales one by one, and we identified the extremely inconsistent responses. For instance, if all the response were '5', that is 'absolutely agree' meanwhile one of the statements had a reverse meaning of the other two, the respondent was classified into the unreliable category. The number of responses included in our analysis was reduced from an initial sample size of 527 to a final sample size of 386 as a consequence of this stringent elimination procedure

### III.4.2. Measurement Scales

#### III.4.2.1. Stimulus Development

A questionnaire measuring consumers price fairness perception towards dynamic pricing strategy of companies and their willingness-to-pay was developed and administered in the pilot studies and then modified based on the results of the pilot studies. In our pilot studies the indicators of dynamic pricing were shows as a minor price increase and a huge price increase. that is it was a one-shot price change. Based on the first and second pilot studies' results, we decided to modify all scenarios After getting a feedback from reviewers, we have added trend of price changes (price increasing, price decreasing, stagnating prices) and high and low price volatility to the dynamic pricing scenarios (Table 8)

The reason is that the primary characteristic of dynamic pricing is changing prices. Theoretically, prices may be also reduced in a company that applies dynamic pricing. Because airlines deliver perishable products. Since an unsold seat has no value for the

company, there is a strong incentive to reduce prices, which are consequently anticipated to decrease as the day of consumption approaches (Talluri and van Ryzin, 2004). That is why it is needed to consider not only price increasing but also price decreasing indicators. According to the research, price volatility was related to price fluctuations. Price volatility may greatly influence consumers' pricing perceptions and may represent the accompanying potential (or risk) for a price cut or increase. Prior research has often defined dynamic pricing as "price differentiation," in which prices vary (rise or drop) over time or between separate consumer groups (Grewal et al., 2004; Haws & Bearden, 2006; Hufnagel, Schwaiger, & Wertz, 2022). However, we also examine the high and low-price volatility experienced by airlines over time in order to designate the former as dynamic pricing and establish a correlation between it and the perception of fairness. In our work, we employed an experimental design and established two stimuli for price volatility: one for high price volatility and the other for low price volatility. Price changes can lead to different price positions. In this context, we refer to "price position," which we describe as its relative standing among alternative prices.

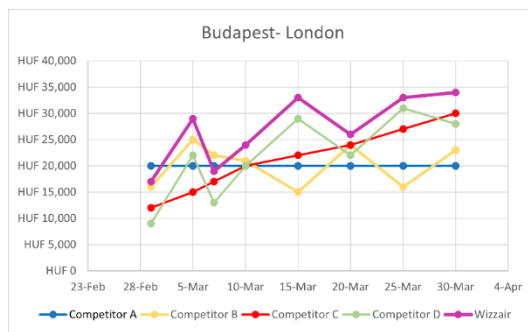
**Table 8. Stimulus Development**

<b>Constructs</b>	<b>Items</b>	<b>Stimuli</b>
<b>Dynamic Pricing</b>	Subdimensions:	
	Tend of Price Changes: Increasing trend Decreasing trend Stagnating prices	Three stimuli in scenarios
	Price volatility High volatility Low volatility	Two stimuli in scenarios
<b>Price Position</b>	The price of Wizz Air is higher than the market price. The price of Wizz Air is lower than market price	Two stimuli in scenarios

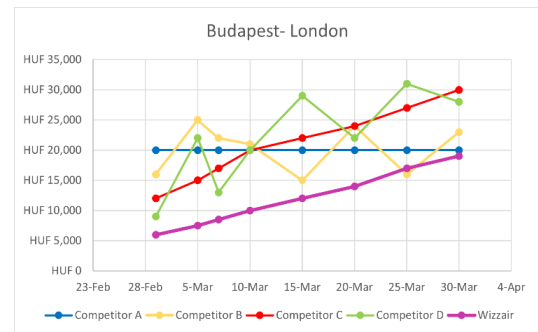
**Source: own research, own construction**

We collected the data again, and participants answered questions regarding airline companies' pricing strategies at the beginning of the experiment. Participants then read one of the 12 randomly assigned dynamic pricing scenarios.

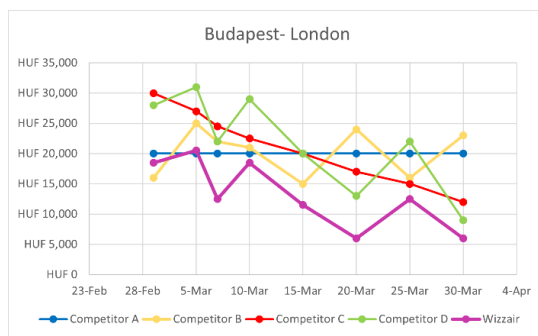
**Figure 11. Wizzair increases the price with high volatility and the price is higher than the market price**



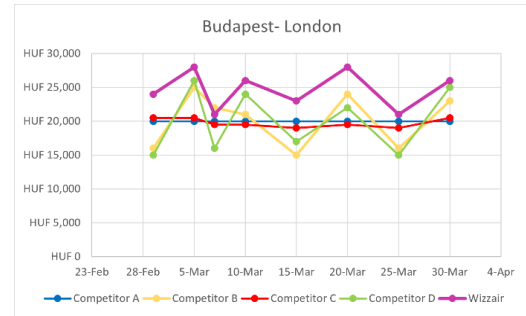
**Figure 12. Wizzair increases the price with low volatility and the price is lower than the market price**



**Figure 13. Wizz air decreases the price with high volatility and the price is lower than the market price**



**Figure 14. Wizz air is not changing the price and it was with high volatility and the price is higher than**



**Source: own research, own construction**

The same questions and procedures were followed in the main experiment (see Appendix A, B). We asked participants to imagine that you are planning to buy a plane ticket from Budapest to London. As it is well known airline companies have often used dynamic pricing.

When participant first check it on the internet, they can see different prices for different companies. We asked participant that you've been comparing ticket price across multiple companies and have noticed that they've fluctuated over time. 5 airline companies' prices are illustrated in the graphics, and one of them is Wizzair Companies. In the graphic, three types of tend of price changes are shown in the secarios. The prices are increasing, decreasing or not changing so it stays stable. The price of wizzair company either is higher or lower than the market price.

We asked participant to evaluate Wizz air airplane company's dynamic pricing strategy compared to competitors.

#### III.4.2.1.1. Survey (Manipulation Check)

To conduct the study, we formulated an experimental research and presented respondents with various scenarios. The purpose of the manipulation check was to determine whether or not respondents correctly understood and perceived the volatility (high, low), the trend of price changes (increasing, decreasing), and the price position (below the market price and above the market price) described in the scenarios they are exposed to.

Five respondents misclassified volatility, while two respondents misclassified price position. Consequently, these participants were excluded from further analysis.

#### III.4.2. Referred Scales

The listed scales are taken from the existing literature (Table 9).

**Table 9. List of Referred Scales**

Constructs	Code	Items	Sources
<b>Fair Pricing (Procedural Fairness)</b>	FP1	Pricing is fair	<b>Martin, Ponder, and Lueg (2009)</b>
	FP2	Pricing is reasonable	
	FP3	Pricing is unfair	
	FP4	Pricing is acceptable	

<b>Fair Price (Distributive Fairness)</b>	PF1	Price is fair	<b>Martin, Ponder, and Lueg (2009)</b>
	PF2	Price is reasonable	
	PF3	Price is unfair	
	PF4	Price is acceptable	
<b>Willingness to buy (WTB)</b>	WTB1	I would consider buying a Wizz air ticket at the latest price	<b>Dodds- Monroe -Grewal (1991)</b>
	WTB2	I would probably buy a Wizz air ticket	
	WTB3	I have little chance of buying a Wizz air ticket	
	WTB4	I might buy a Wizz air ticket	
	PN2	Airline companies copy each other's when they determine their own prices	
	PN3	There are huge differences between the airline companies' ticket prices in case of the same route	
<b>Price Sensitivity</b>	PS1	In general, when it comes to buy a product or service, I rely heavily on price	<b>Lichtenstein , Bloch, and Black (1988)</b>
	PS2	I usually try to buy products or services when it is on promotion	
	PS3	When I want to buy something, I search among the lowest priced ones in the give	
	PS4	I usually buy from the more expensive products	

**Source: own research, own construction**

Questions were developed to measure dynamic pricing strategy and how it effects on consumers' price fairness perceptions, also moderating variables of perceived norms, branding, consumer's price sensitivities, internal reference price (see Table 10 ), including scale items adapted from previous studies and items developed by the researcher for the purpose of the present study.

Diller's multidimensional model was not empirically validated. Several academics have employed a range of theories/principles and empirical investigations to analyze (un)fairness, as evidenced by the literature. Martin, Ponder ,Lueg's ( 2009) scale was used because it takes into account because it contain both distribute and procedural fairness seperately.

We measure the key constructs and used 5-point Likert-type ((1 = "strongly disagree" and 5 = "strongly agree")) rating scales. The measures have high levels of internal consistency, with Coefficient alpha was .97 for the distributive justice/fairness scale and .97 for the procedural justice/fairness scale. Items created to test price fairness



perceptions included references as to whether the price increase was fair, reasonable, and acceptable or unjust, which is similar to earlier study (Vaidyanathan and Aggarwal, 2003). To measure perceived distributive price increase fairness, the items “The last price of the flight offered by Wizzair is fair,” “The last price of the flight offered by Wizzair is reasonable,” “The last price of the flight offered by Wizzair is acceptable,” and “The last price of the flight offered by Wizzair is unfair” were used. To measure perceived procedural price increase fairness, the items “Wizz Air's pricing practices is fair”, “Wizz Air's pricing practices is reasonable”, “Wizz Air's pricing practices is acceptable” and “Wizz Air's pricing practices is unfair” were used. Willingness to buy was measured using a 4-item measure were adapted from of Dodds, Monroe, and Rewal (1991) study. Items in the scale were revised slightly to fit the context and purpose of this study and rescaled to a five- Likert scale where “1” stood for “strongly disagree” and “5” stood for “strongly agree”. We have applied the following items: (1) ‘I would consider buying a Wizzair ticket at the latest price’, (2) ‘I would probably buy a Wizzair ticket’, (3) ‘I have little chance of buying a Wizzair ticket’, (4) I might buy a Wizzair ticket’.

In the study, we used price sensitivity scale of Lichtenstein, Bloch, and Black (1988). We have four statements for price sensitivity. “In general, when it comes to buy a product or service, I rely heavily on price”, “ I usually try to buy products or services when it is on promotion”, “When I want to buy something, I search among the lowest priced ones in the given product category”, “I usually buy from the more expensive products”. The construct items are measured by five-point Likert scales, with “5” representing “strongly agree” and “1” representing “strongly disagree”.

### III.4.3. Self-developed Scales

Self-developed scales are listed below (Table 10).

**Table 10. Self-developed Scales**

Constructs	Code	Items	Sources
<b>Internal Reference Price</b>	IN	Estimate the average cost of a one-way ticket	<b>Single Item Scale</b>

<b>Perceived Norms of Price</b>	PN1	There are no big differences between airline prices	<b>Self-Developed</b>
	PN2	Airline companies copy each other's when they determine their own prices	
	PN3	There are huge differences between the airline companies' ticket prices in case of the same route	
<b>Brand image</b>	BI1	Company is reliable	<b>Self-Developed</b>
	BI2	Company is economical	
	BI3	Company is providing quality services	
	BI4	Company is prepared	
	BI5	Company is taking care of its customers	
	BI6	Company is acclaimed	

**Source: own research, own construction**

There are only a few examples of measuring internal reference prices in the literature. Many experiments examine only the effects of reference prices, which are mostly stimulated for different experiment groups. Vaidynathan et al. (2000) differentiate market internal reference price and aspiration internal reference price, the effects of which were examined on evaluating a transaction and willingness to buy. Referring to Klein and Oglethorpe (1987), they measured the two prices with open-ended questions, where the internal market price was given by the estimated minimum market price and the regular price, while the fair price and the upper reservation price measured the respondent's aspiration price (Gyulavari, 2005) In our case, we measured the moderating role of the internal reference price by asking one single question that "Please estimate the normal/average single Item Scale (?) market price of this?"

Brand image is measured with self- developed scale. Because existing scales does not fully capture the specific aspects or nuances of the phenomenon of the study. By developing the scales, we can tailor them to the unique requirements and characteristics of our research. We have 6 statements " Company is reliable", "Company is economical", "Company is providing quality services", "Company is prepared" and "Company is taking care of its customers" and, "Company is acclaimed" and we emeasured these statement by five-point Likert scales, with "5" representing "strongly agree" and "1" representing "strongly disagree. There are some scales which are designed to assess the prevailing attitudes, beliefs, and values within

a particular industrial or organizational context. However in the literature we could not find any existing industrial norm scales that adequately measure the construct we are interested in. That is why, we decided to develop our own scale. We have 3 statements “There are no big differences between airline prices”, “Airline companies copy each other’s when they determine their own prices”, “There are huge differences between the airline companies' ticket prices in case of the same route”. The construct items are measured by five-point Likert scales, with “5” representing “strongly agree” and “1” representing “strongly disagree”.

## CHAPTER IV. ANALYSES AND RESULTS

### IV.1. Descriptive Statistics

Comprehensive overview of the Descriptive Statistics are shown in Table 11, 12.

**Table 11: Demographics Frequency Percent**

		F	%
Age	18	0	0.0%
	19-20	0	0.0%
	21-22	291	75.0%
	Above 23	97	25.0%
Gender	male	199	51.3%
	female	189	48.7%
Please estimate how many times in your life you have traveled by plane?	0	61	15.7%
	1-10	262	67.5%
	11-20	43	11.1%
	21 and above	22	5.7%

**Source: own research, own construction**

The first table presents data on the demographics and travel habits of a group of people. Out of the total number of respondents, 75% were between the ages of 21-22, while 51.3% were male and 48.7% were female. The majority of respondents (67.5%) had traveled by plane between 1-10 times in their lifetime.

**Table 12. How much effort do you usually make to fly with your favorite airline?**

How much effort do you usually make to fly with your favorite airline?					
		Freque ncy	Percent	Valid Percent	Cumulat ive Percent

Valid	I don't travel by plane	84	21.6	21.6	21.6
	It is not me usually who decides to travel by airline	104	26.8	26.8	48.5
	I always try to travel with my favorite airline and only choose another if it is not available	13	3.4	3.4	51.8
	I don't always stick to my favorite airline, sometimes I like to try something else	14	3.6	3.6	55.4
	For me, the airline itself is not that important; before each trip I choose the best offer airline	173	44.6	44.6	100.0
	Total	388	100.0	100.0	

**Source: own research, own construction**

The second table depicts the amount of effort respondents exert in order to fly with their preferred airline. 21.6% of respondents do not travel by plane whereas 44.6% select the airline with the best offer prior to each excursion. 26.8% of respondents do not typically decide to travel by airline, while 3.4% always attempt to travel with their preferred airline and choose another only if it is unavailable. 3.6% of respondents are not always loyal to their preferred airline and occasionally prefer to try something new.

#### IV.2. Confirmatory Factor Analysis (CFA)

This chapter presents the structural equation modeling (SEM)-based analyses and findings of the primary experiment. Due to its ability to account for measurement errors, evaluate models with latent variables and multiple dependent variables, and assess the overall model fit across various groups, SEM was selected as the preferred statistical analysis method. The procedures for data analysis are presented in a step-by-step format, along with the results of the primary experiment.

Before analyzing the hypothesized relationships between variables depicted in the conceptual model, a maximum likelihood confirmatory factor analysis (CFA) was performed to assure the accuracy of the measurement models and refine the measures. This analysis sought to assess the validity of the selected scale items for all latent constructs, including industrial norms, dynamic pricing (price volatility attitude), procedural fairness (fair pricing), distributive fairness (last price fairness), willingness

to buy and price sensitivity. 1. The objective was to ascertain whether the data collected during the primary experiment matched the modified measurement models. Several goodness-of-fit indices, such as model chi-square, goodness-of-fit (GFI), comparative fit index (CFI), normed fit index (NFI), incremental fit index (IFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA), were used to evaluate the CFA results. Fit indices for baseline comparisons.

**Table: 13. The critical and empirically estimated values of fit indexes**

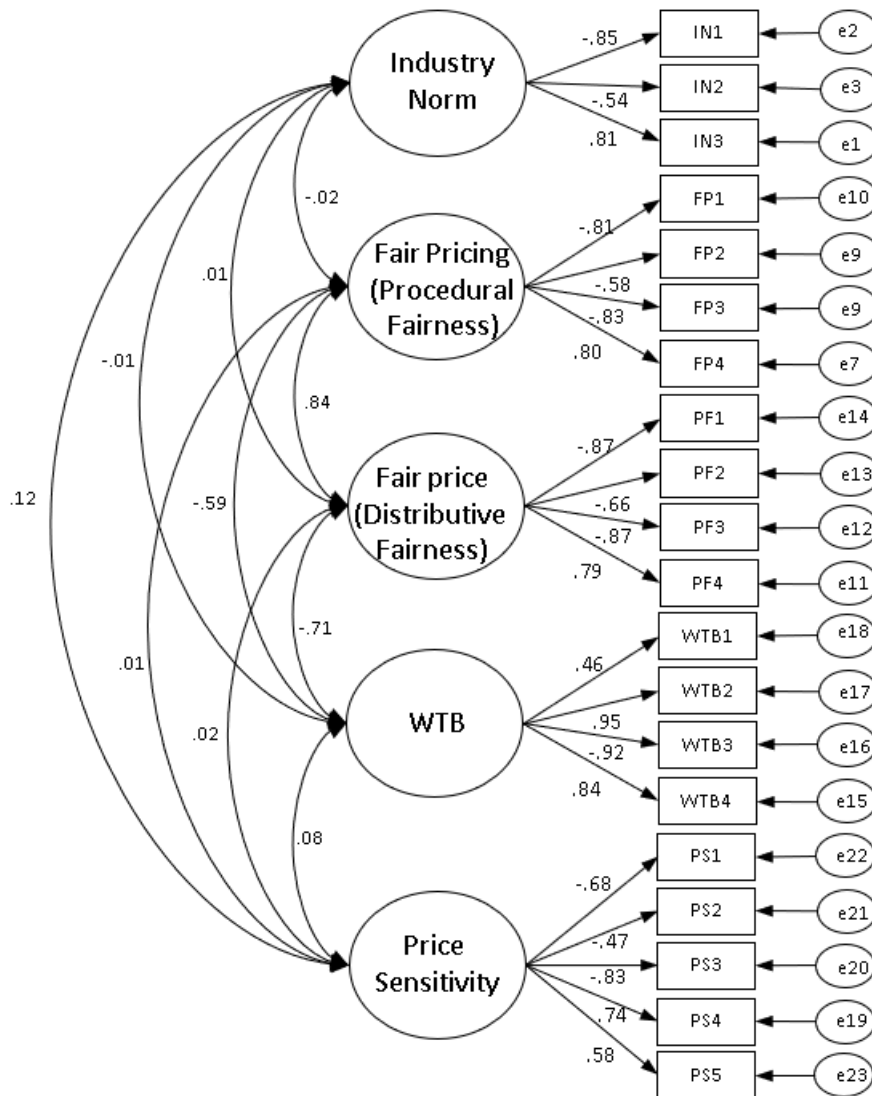
<b>Fit indexes</b>	<b>The critical value suggested by the literature</b>
$2 /df$ (X)	$\leq 2$ (Tabachnick and Fidell, 2007)
<b>TLI</b> ( <i>Tucker-Lewis Index</i> )	$\geq 0.95$ (Sharma et al., 2005)
<b>CFI</b> ( <i>Comparative Fit Index</i> )	$\geq 0.95$ (Hu and Bentler, 1999)
RMSEA (Root Mean Square Error of Approximation)	$<0.05$ (Hu and Bentler, 1999)

**Source:** (Gyulavari and Dörnyei, 2012)

However, it should be noted that GFI tends to underestimate fit when the number of degrees of freedom is large in comparison to the sample size, unless the number of parameters is exceptionally large (Garson, 2009). Therefore, despite the fact that both chi-square values and GFI are presented in this analysis, they are not the preferred fit measures. Instead, other measures of model fit, such as RMSEA, CFI, and TLI, will serve as the primary criterion for evaluating model fit. A RMSEA value of .05 or less indicates a decent model fit, whereas values between .05 and .08 indicate an acceptable fit, and values above .08 indicate a poor fit (Schumacker & Lomax, 2004). To validate the model, CFI, NFI, IFI, and TLI must all be greater than or equal to 0.90. Indicators of a successful fit are incremental indices of 0.95 or higher (Hu & Bentler, 1999).

In the model the mail constructs are; Industry norm, Fair Pricing (Procedural Fairness), Fair Price (Distributive fairness), Willingness to buy, Price sensitivity.

**Figure 15. CFA Initial Model**



**Source: own research, own construction**

The result of the first CFA with the retained 23 items (see Figure 15) yielded a model fit:  $\chi^2 (475.037) = df= 215; p < .001; \chi^2/df$  ratio = 2.209; GFI= 0.903, TLI = .937, CFI= 0.946, RMSEA= 0.56

The table displays the standardized regression weights for the structural paths between the latent variables in a structural equation model. The model includes 6 latent variables,

Industry norm, Price volatility attitude, Fair Pricing (Procedural Fairness), Price Fairness (Distributive fairness), Willingness to buy, Price sensitivity and several observed indicators that are specified to load onto these latent variables. The estimates in the table indicate the strength and direction of the relationships between the latent variables and the observed indicators. Specifically, the table shows the standardized regression weights, which represent the standardized effect of each indicator on its corresponding latent variable, holding constant the effects of all other indicators in the model. The results show that FP2 has not a strong relationship with Fair pricing, as indicated by estimate of .537. This suggests that FP2 is not a strong predictor of fair pricing and it could be a problem in model fit. We also determined that PF2, WTP1, PS2, PS5 observed indicators have not significant and varying relationships with their corresponding latent variables.

Consequently, this measurement model was re-specified based on the results of the initial CFA analysis. After evaluating the modification indices, 5 items are excluded from the model. These are.

- FP2, estimate value is -.537 (Wizz Air's pricing practice is reasonable)
- PF2, estimate value is 0.657 (The last price of the flight offered by Wizz air is reasonable)
- WTP1, estimate value is 0.462 (I would consider buying a Wizz air ticket at the latest price)
- PS2, estimate value is -0.474 (I usually try to buy products or services when it is on promotion)
- PS5 estimate value is 0.579 (In general, this questionnaire examines the chocolate industry- control question)

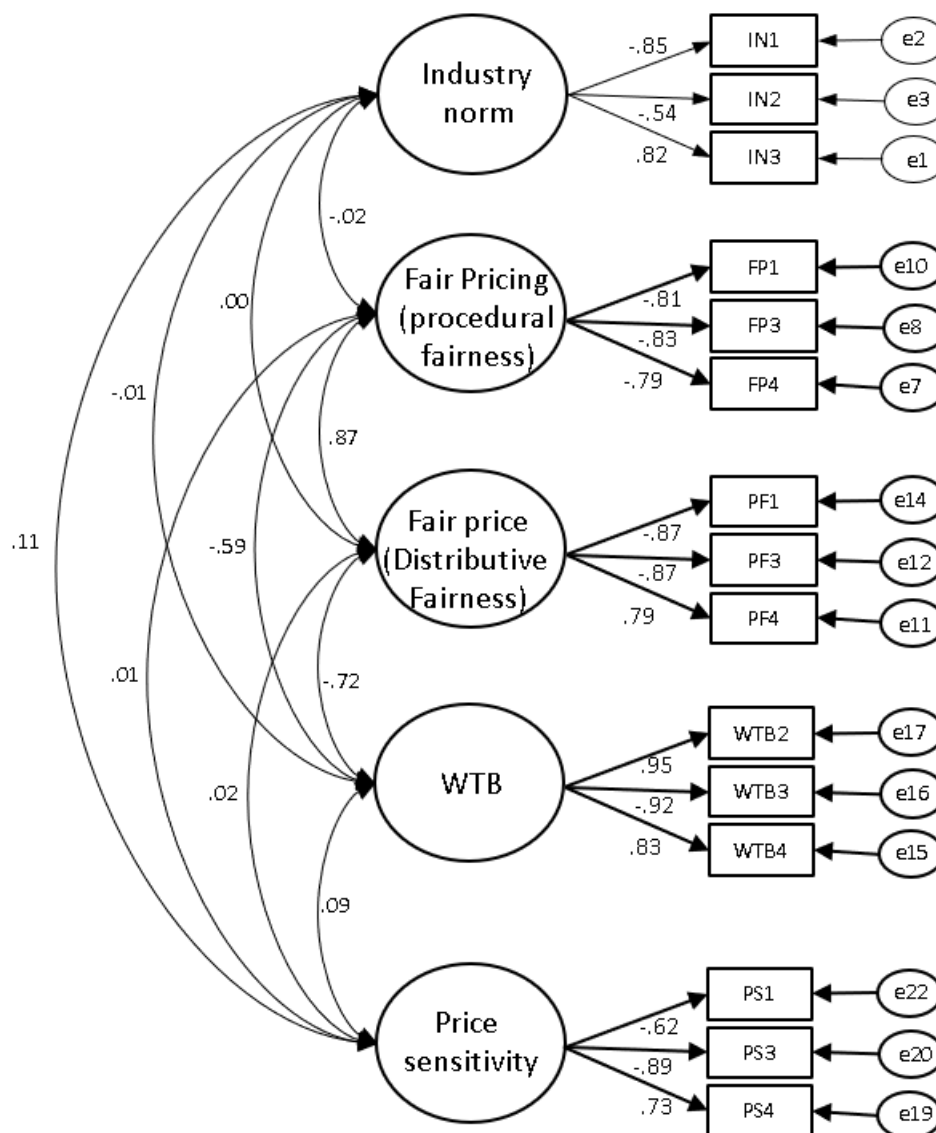
We conducted a second confirmatory factor analysis (CFA) and discovered that the model fit improved after removing certain variables. This is indicated by the increased values of a number of goodness-of-fit indices, which indicate an improved fit between the model and the data. Several goodness-of-fit indices, namely the GFI, CFI, NFI,



TLI, and RMSEA values, were observed to improve after the exclusion of specific variables from the model in AMOS.

The result of a second CFA with the retained 15 items (see Figure 16) yielded a good model fit:  $\chi^2 (270.6) = df= 120$ ;  $p < .001$ ;  $\chi^2/df$  ratio = 2.255; GFI = .926; CFI = .964; NFI = .937; TLI = .954; and RMSEA = .057.

**Figure 16. CFA Final Model 2**



**Source: own research, own construction**

The results of this analysis indicate that remain indicator variables in our study are loading significantly on the latent factor. This finding suggests that the observed variables are reliable and valid measures of the underlying construct and can be used to accurately measure the latent variable of interest.

First, the 'p-value' is important for determining whether or not a significant relationship exists between the subfactors and anxiety. For the relationship to exist, this 'p-value' must be less than 0.05 (Kock, 2016). In this instance, all subfactors or aspects have a 'p-value' of 0.00, indicating a significant relationship. The analysis indicates elevated loading values, denoting the strength of the relationship between the observed variables and the underlying construct. However, a negative loading was also identified, indicating an inverse association between the respective item and the construct. This finding is attributed to the fact that the item in question was subject to negative coding, whereby higher scores indicate lower levels of the construct being measured.

Table 14. Convergent validity, Average Variance Extracted (AVE) Results (with 23 items) for Industry norm, Fair Pricing (Procedural Fairness), Last price Fairness (Distributive fairness), Willingness to buy, Price sensitivity.

**Table 14. Convergent validity, Average Variance Extracted (AVE) Results**

CONSTRUCT	INDICATORS	FACTOR LOADING ( $\lambda$ )	$\lambda^2$	CR	AVE
<b>IN3</b>	Industry norm	.816	0.665	0.79	0.56
<b>IN2</b>	Industry norm	-.537	0.288		
<b>IN1</b>	Industry norm	-.851	0.724		
<b>FP4</b>	Fair pricing	.791	0.6256	0.85	0.66
<b>FP3</b>	Fair pricing	-.830	0.688		
<b>FP 1</b>	Fair pricing	-.809	0.6544		
<b>PF4</b>	Price Fairness	.791	0.6256	0.88	0.71
<b>PF3</b>	Price Fairness	-.866	0.7499		
<b>PF1</b>	Price Fairness	-.869	0.7551		
<b>WTB4</b>	WTB	.832	0.692	0.90	0.81

<b>WTB3</b>	WTB	-.919	0.8445		
<b>WTB2</b>	WTB	.955	0.9120		
<b>PS 4</b>	Price sensitivity	.734	0.538	0.80	0.57
<b>PS3</b>	Price sensitivity	-.891	0.793		
<b>PS1</b>	Price sensitivity	-.620	0.384		

**Source: own research, own construction**

When evaluating a measurement model that utilizes latent variables, it is crucial to assess the convergent validity. These parameter often used in sociology, psychology, and other behavioral sciences, refers to the degree to which two measures of constructs that theoretically should be related are in fact related. Convergent validity is required to calculate composite reliability and AVE.

In order to calculate CR we are using this formula 
$$CR = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum Var(\epsilon_i)}$$
 (Raykov, 1997)

Whereby,  $\lambda$  (lambda) is the standardized factor loading for item  $i$  and  $\epsilon$  is the respective error variance for item  $i$ . The error variance ( $\epsilon$ ) is estimated based on

the value of the standardized loading ( $\lambda$ ) as: 
$$\epsilon_i = 1 - \lambda_i^2$$

The item r-square value is the percent of the variance of item  $i$ , explained by the latent variable. It is estimated based on the value of the standardized loading ( $\lambda$ ) as:

$$r^2 = \lambda_i^2 = 1 - \epsilon_i$$

**Table 15. Descriptive Statistics of Fair Price**

	N	Mean	Std. Deviation
The last price of the flight offered by Wizz air is fair	388	3.62	1.185
The last price of the flight offered by Wizz air is reasonable	388	3.60	.992
The last price of the flight offered by Wizz air is acceptable	388	3.87	1.073

The last price of the flight offered by Wizz air is unfair	388	2.12	1.029
Valid N (listwise)	388		

**Source: own research, own construction**

This descriptive analysis (Table 15) examines perceptions of fair pricing regarding the last price of flights offered by Wizz Air. The analysis provides the following statistics: "The last price of the flight offered by Wizz Air is fair": The mean response was 3.62, with a standard deviation of 1.185. "The last price of the flight offered by Wizz Air is reasonable": The mean response was 3.60, with a standard deviation of 0.992. "The last price of the flight offered by Wizz Air is acceptable": The mean response was 3.87, with a standard deviation of 1.073. "The last price of the flight offered by Wizz Air is unfair": The mean response was 2.12, with a standard deviation of 1.029. The responses ranged from 1 to 5 for all statements. The analysis is based on 388 valid responses.

**Table 16: Descriptive Statistics of Fair Pricing**

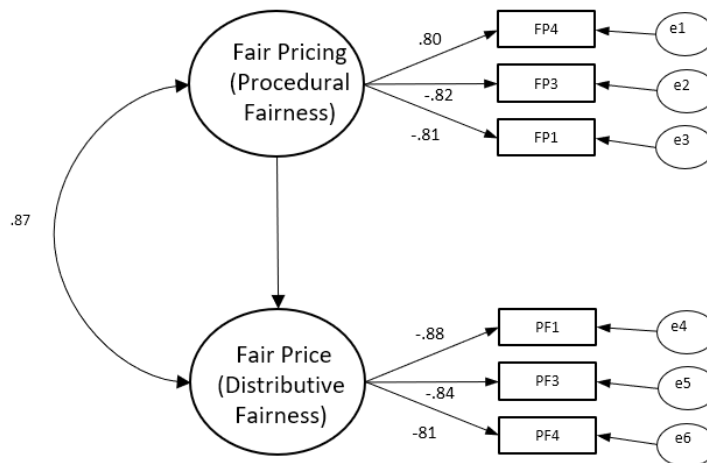
	N	Mean	Std. Deviation
Wizz Air's pricing practice is fair	388	3.38	1.061
Wizz Air's pricing practice is reasonable	388	3.51	.936
Wizz Air's pricing practice is acceptable	388	3.73	.957
Wizz Air's pricing practice is unfair	388	2.27	1.014
Valid N (listwise)	388		

**Source: own research, own construction**

This descriptive analysis provides statistics on perceptions of fair pricing regarding Wizz Air, an airline company. The analysis includes the following information: "Wizz Air's pricing practice is fair": The mean response was 3.38, with a standard deviation of 1.061. "Wizz Air's pricing practice is reasonable": The mean response was 3.51, with a standard deviation of 0.936. "Wizz Air's pricing practice is acceptable": The mean response was 3.73, with a standard deviation of 0.957. "Wizz Air's pricing practice is unfair": The mean response was 2.27, with a standard deviation of 1.014. The responses ranged from 1 to 5 for all statements. The analysis was conducted based on 388 valid responses.

According to our calculation AVE greater than 0.5 (Dai, 2010; Fornell and Lacker, 1981) and all items having standardized factor loading greater than 0.5. In our study, AVE are 0.56, 0.71, 0.66, 0.71, 0.81, 0.57 so convergent validity is confirmed. Based on the outcomes of convergent validity testing, the extracted composite reliability and average variance for all constructs satisfy these criteria.

**Figure 17: Correlation Between Distributive Fairness and Procedural Fairness**



**Source: own research, own construction**

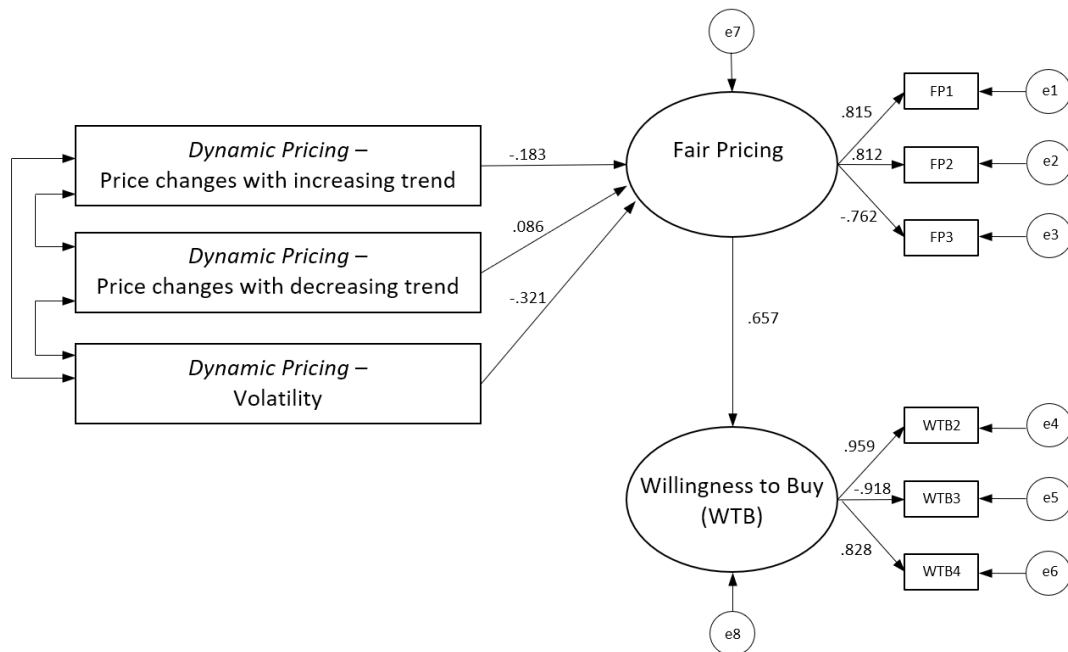
According to CFA analysis (Figure 17) there is a strong correlation between distributive fairness and procedural fairness with 0.87 value. The result of the models shows the model fit:  $\chi^2 (122.203) = df= 8; p < .001; \chi^2/df$  ratio = 15.27; GFI = .906; CFI = .927; NFI = .922; TLI = .862; and RMSEA = .192. It also proves two concepts are not distinct from each other. We can determine that respondents have a limited understanding of the distinction between fair price and fair pricing.

#### IV.3. Main Structural Model Testing

The main chain of effects represents the well-established relationship between dynamic pricing, fair pricing perception, and willingness to buy constructs. These were further developed by including the subdimensions of dynamic pricing for a more

detailed analysis and getting a deeper understanding of the mechanism on the one hand.

**Figure 18: Main Structural Model**



**Source: own research, own construction**

In the case of both fair pricing perception and willingness to buy (WTB) constructs, we applied a five-point Likert-type scale ranging from completely disagreeing (1) to completely agreeing (5).

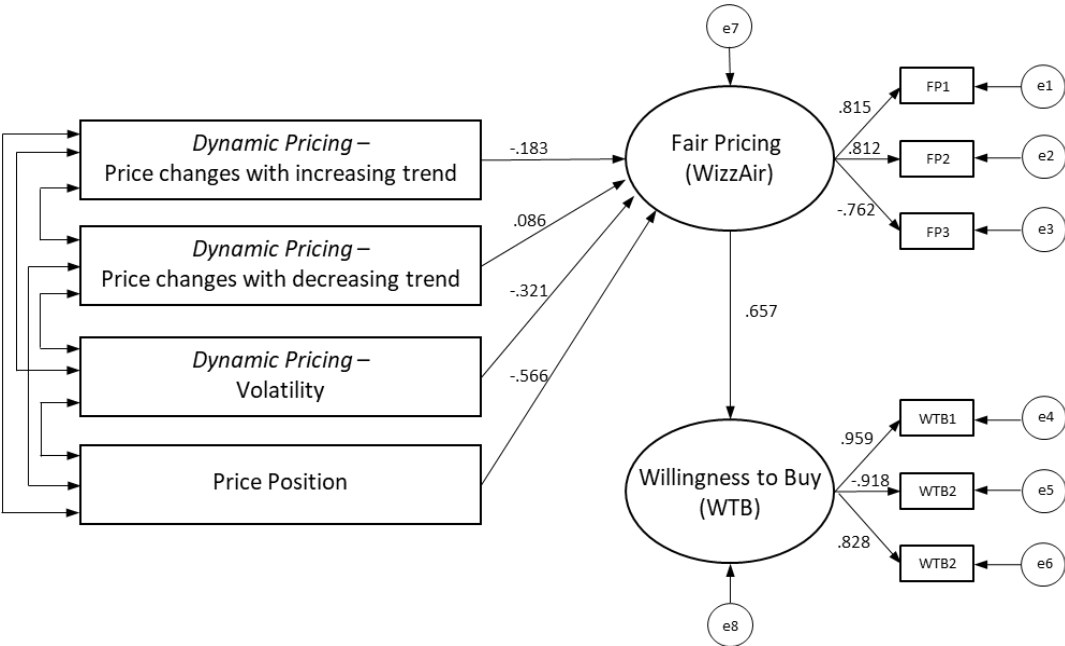
The data were analyzed with SPSS Statistics 27 and SPSS AMOS 27 software. The measurement scales were tested by confirmatory factor analysis, and adequate fit indicators have been obtained (CFI: 0.964, TLI: 0.954, RMSEA: 0.57), which shows that the indicators adequately represent the measured concept. Four out of five hypotheses have been tested with structural equation modeling (SEM), where three subdimensions of dynamic pricing, price position, fair pricing perception, and the willingness to buy constructs were included in the model. The fit of the model proved to be acceptable (CFI: 0.950, TLI: 0.926, RSMA: 0.93), so the results are suitable for analysis.

IV.4. Testing the Moderation Effect

IV.4.1. Moderating Effect of Price Position

The moderating effect of price position was tested with hierarchical regression analysis. In the first step, only the direct effects were entered; the interaction effects (that is, the product of the moderator variable and the independent variables, respectively) were also entered into the model in the second step.

**Figure 19: Moderating Effect of Price Position**



**Source: own research, own construction**

As can be seen from Table 17, all explanatory variables included in the analysis exert some degree of influence in the model. The perceived fair pricing was mostly influenced by the relative position of the airline's offer ( $\beta = -0.566$ ). Of course, the higher the price compared to other offers, the less they felt it was fair. Volatility has also relatively strong effect on fair pricing perception ( $\beta = -0.321$ ). Based on the results, the volatility, that is the higher variance in prices, leads to lower level of fairness

perception. The trend of price changes has also influence in the model but to less extent than the former two. The increasing trend of price changes has stronger effect than the decreasing one ( $\beta = -0.183$ ,  $\beta = 0.086$ , respectively). Fair pricing perception are closely connected with the willingness to buy, representing the strongest association of the structural part of the model ( $\beta = 0.657$ ).

As it was assumed that price position not only effects fair price perception by itself but also moderates the relationship between the company's dynamic pricing practice and fairness perception, this moderation effect was also tested. Due to the direct effect on the dependent variable, hierarchical regression analysis was applied. The results are summarized in Table 2.

**Table 17: Interaction Term - Moderating Effect of Price Position**

		<i>Dependent variable</i> <b>Fair Pricing Perception</b>			
		Initial model		Extended model	
<i>List of independent variables</i>		$\beta^l$	t-value	$\beta^l$	t-value
Main effects	Dynamic pricing with increasing trend	<b>-.113**</b>	-2,338	<b>-.113**</b>	-2.050
	Dynamic pricing with decreasing trend	.071	1,463	-,063	-.948
	Dynamic pricing - volatility	<b>-.308***</b>	-7,290	<b>-.325***</b>	-5,642
	Price position	<b>-.446***</b>	-10.563	<b>-.579***</b>	-6.979
Interaction effects	Price position x Dynamic pricing with increasing trend	-	-	.030	,418
	Price position x Dynamic pricing with decreasing trend	-	-	<b>,217***</b>	2,874
	Price position x Dynamic pricing - volatility	-	-	.037	,511
R <sup>2</sup>		.319		.335	
n		387		387	

\*  $p < 0,10$ ; \*\*  $p < 0,05$ ; \*\*\*  $p < 0,01$



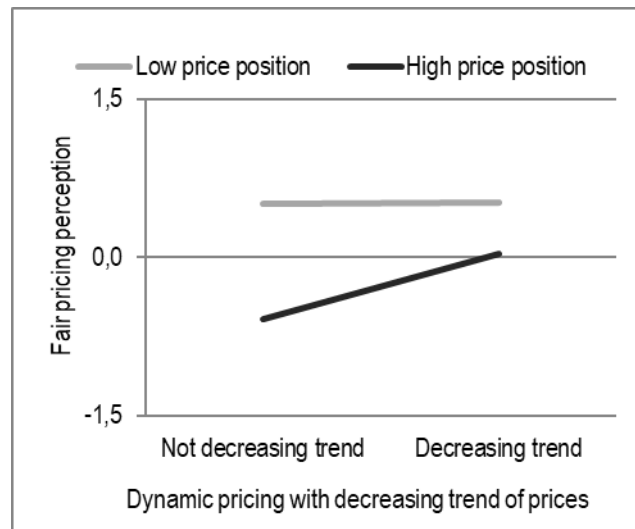
**Source: own research, own construction**

We obtained similar results to those obtained in the SEM analysis when we analysed the initial model, including only the direct effects. The price position and the volatility are the two independent variables that effect the fair pricing perception to the greatest extent ( $\beta = -0.446$ ,  $\beta = -0.308$ , respectively), whereas the increasing trend of price changes has a weaker influence on it ( $\beta = -0.113$ ). The decreasing trend of price changes seems to be the less influential construct in the model ( $\beta = 0.071$ ). The variable included in the initial model explains the 31.9% of the variance of the fair pricing perception.

In the next step of the analysis, we also entered the interaction variables, which were produced by multiplying the dynamic pricing subconstructs separately by price position. The variance explained increased to 33.5%. This change proved to be significant (Sig. F change = 0.023). Among the interaction constructs, the one that includes a decreasing trend in price changes proved to have the strongest effect ( $\beta = 0.217$ ). The two others seemed to have negligible influence ( $\beta = 0.03$  and  $\beta = 0.037$ , see Table 2).

When we look behind the moderation effect explored, we can see that in the case of a lower price position, regardless of whether prices are decreasing or not, the fair pricing perception is higher than in a higher price position (see Figure 20). However, in the case of a higher price position, the perception of fair pricing significantly rises when the price changes follow a decreasing trend.

**Figure 20. The graphical representation of moderating effect of price position**



**Source: own research, own construction**

At the end of our analysis, we tested whether the relationships we investigated are significant or not. The results are summarised in Table 3. As it is indicated, both the associations and the moderation effect examined proved to be statistically significant. In addition, only direct effect of decreasing trend of price changes can be accepted at 90% confidence level, all the others even at a stricter condition (99%). Therefore, we can conclude that that the results supported our assumptions, and we can accept all five hypotheses.

#### IV.4.2. Moderating Effect of Internal Reference Price

*H: IRP moderates the association between dynamic pricing and fair pricing perception. If IRP is higher, the relationship between fair pricing and dynamic pricing is weaker.*

To measure moderating factor of internal reference price we have a single item. We were asking respondents to answer the question below.

**Table 18. Descriptive Statistics of Internal Reference Price**

	N	Minimum	Maximum	Mean	Std. Deviation
Please estimate the average cost of a one-way ticket from Budapest to London (in HUF)	387	3000	300000	23094.57	29287.603
Valid N (listwise)	387				

**Source: own research, own construction**

The internal reference price can mitigate the impact of dynamic pricing on the perception of reasonable pricing. If the dynamic price is close to the consumer's expected price, they may view it as reasonable. However, if the dynamic price is substantially higher than the internal reference price, consumers may perceive this as unjust. We have done a correlation between 3 independent variables which are a component of dynamic pricing and fair pricing perception concepts. There is a correlation between variable.

Second step is to multiply the independent variables that you want to interact. We have created three interaction terms between IRP

- IRP x Dynamic pricing with decreasing trend,
- IRP x Dynamic pricing with increasing trend,
- IRP x Dynamic Pricing with volatility.

The third step is doing a hierarchical multiple regression analysis which is applied to measure interaction terms.

Model 1 (Appendix Table 41): This model's predictors are Dynamic pricing with a decreasing trend, the Internal Reference Price (IRP), Dynamic pricing with volatility, and Dynamic pricing with an increasing trend. These predictors and the dependent variable (R) have a correlation of 0.365, which is a moderate correlation. The R Square value is 0.133, which indicates that these predictors can explain 13.3% of the variance in the dependent variable. Taking into consideration the number of predictors in the model, the Adjusted R Square is 0.124, which indicates that approximately 12.4% of the variance in the dependent variable is accounted for by the predictors. The

estimate's standard error is 0.95482137, indicating the typical distance the data points deviate from the regression line.

Model 2 consists of the same predictors as Model 1, in addition to interaction terms between the Internal Reference Price (IRP) and each of the dynamic pricing variables. With a value of 0.369, the correlation between these predictors and the dependent variable (R) is marginally stronger. The R Square value is 0.136, which indicates that these predictors can explain approximately 13.6% of the variance in the dependent variable. Nonetheless, the Adjusted R Square is slightly lower than in Model 1 at 0.120, indicating that approximately 12% of the variance in the dependent variable can be explained by the predictors when the number of predictors is taken into account. The standard error of the estimate is 0.95687283, which is slightly greater than in Model 1, indicating that the data points deviate from the regression line by a larger average distance.

The change in R Square from Model 1 to Model 2 is very small (0.003), and the F Change of 0.455 with a p-value (Sig. F Change) of 0.714 indicates that the addition of the interaction terms in Model 2 did not substantially improve the model's predictive ability. Model 1 may therefore be preferable due to its simplicity and nearly equivalent predictive ability. (Appendix C, Table 28)

**Table 19: Interaction Term- Moderating role of Internal Reference Price**

<i>List of independent variables</i>		<i>Dependent variable</i> <b>Perception of Price Fairness</b>					
		Initial model			Extended model		
		$\beta$	t-value	Sig.	$\beta$	t-value	Sig.
Main effects	Dynamic pricing with increasing trend	-.110	-2.014	.045	-.148	-1.941	.053
	Dynamic pricing with decreasing trend	.057	1.038	.300	.024	.344	.731
	Dynamic pricing - volatility	-.309	-6.468	.000	-.285	-4.674	.000
	Internal Reference Price	-.113	-2.373	.018	-.121	-1.530	.027

Interaction effects	IRP x Dynamic pricing with increasing trend	-	-		.049	.678	.498
	IRP x Dynamic pricing with decreasing trend	-	-		.056	.774	.440
	IRP x Dynamic pricing - volatility	-	-		-.048	-.623	.534

**Source: own research, own construction**

The results indicate that IRP has a negative and significant effect on the Fair Pricing Perception, which means that as the internal reference price increases, the perception of fairness decreases. Dynamic pricing with volatility and dynamic pricing with increasing trend both has negative and significant effects on fair pricing perception, indicating that these pricing strategies are perceived as less fair. However, dynamic pricing with decreasing trend has a positive but non-significant effect on the fair pricing perception.

To sum up, there is not moderating effect of internal reference price on the relationship between dynamic pricing and fair pricing perception. IRP has a direct effect on dynamic pricing volatility and trends of price changes, especially the increasing price.

#### IV.4.3. Moderating Effect of Brand Image

*Testing:*

*H8a: Brand image moderates the association between dynamic pricing with decreasing trend of price changes (dynamic pricing) and Fair Pricing (procedural fairness). The more positive image consumers have about the brand, the weaker the*

*relationship between dynamic pricing with decreasing trend of price changes and fair pricing perception*

*H8b: Brand image moderates the association between dynamic pricing with increasing trend of price changes (dynamic pricing) and Fair Pricing (procedural fairness). The more positive image consumers have about the brand, the weaker the relationship between price volatility and fair pricing perception*

*H8c: Brand image moderates the association between dynamic pricing with volatility (dynamic pricing) and Fair Pricing (procedural fairness). The more positive image consumers have about the brand, the weaker the relationship between dynamic pricing with increasing trend of price changes and fair pricing perception.*

**Table 20. Descriptive Test of Brand Image Scale**

	N	Mean	Std. Deviation
Reliable	388	3.82	.846
Economical	388	4.05	.943
Providing quality services	388	3.54	.854
Prepared	388	3.78	.785
Taking care of its customers	388	3.52	.960
Acclaimed (Recognized)	388	3.94	.980
Valid N (listwise)	388		

**Source: own research, own construction**

This descriptive test (Table 20) examines the brand image of Wizz Air, as perceived by the respondents in relation to different characteristics. The analysis provides the following statistics: " Reliable": The mean response was 3.82, with a standard deviation of 0.846. " Economical": The mean response was 4.05, with a standard deviation of 0.943. The responses ranged from 1 to 5. " Providing quality services": The mean response was 3.54, with a standard deviation of 0.854. " Prepared": The mean response was 3.78, with a standard deviation of 0.785. The responses ranged from 1 to 5. " Taking care of its customers": The mean response was 3.52, with a standard deviation of 0.960. " Acclaimed (Recognized)": The mean response was 3.94, with a standard deviation of 0.980. The responses ranged from 1 to 5 for all statements. The analysis is based on 388 valid responses.

Liner regression is performed to measure brand image of Wizz air company. In the analysis the depended variable is “total image of Wizz air”. We were asking from respondent to evaluate the airline company in general on a five-point rating. The independent variables consist of various aspects of the airline that may impact the overall evaluation brand image of airline companies.

ANOVA regression analysis shows "Total image of Wizz air" as the dependent variable, and Acclaimed (Recognized), Economical, Taking care of its customers, Reliable, and Prepared as predictors. The model is statistically significant, as indicated by an F-statistic of 34.854 and a p-value of .000, suggesting that at least one predictor significantly influences the total image of Wizz air. The model explains a portion of the variability in the dependent variable, as shown by a regression sum of squares of 66.655, while there remains unexplained variability, represented by a residual sum of squares of 121.437.

The independent variable are the brand image of airline companies which has 6 indicator; Reliable, Acclaimed (Recognized), Economical, Taking care of its customers, Reliable, Prepared. The unstandardized coefficients represent the change in the dependent variable (overall evaluation) for a one-unit change in the corresponding independent variable, all other independent variables being held constant. The normalized coefficients represent the change in the dependent variable for a change of one standard deviation in the independent variable. Each independent variable's standardized coefficient represents the magnitude and direction of its impact on the overall evaluation. The standardized coefficient is positive for " Reliable," " Providing quality services," " Taking care of its customers," and " Acclaimed (Recognized)," indicating that these factors have a positive influence on the overall evaluation.

The negative standardized coefficient for "Economical" and “Prepared” is not statistically significant, because p values; 0.524, 0.333 which are more than 0.5 so this factor does not have a substantial impact on the overall rating. “Reliability” has a strong effect on total image of the airline company, Standardized Coefficients B value is 0.285, second strong effect is “Providing quality services” factor, Standardized Coefficients B value is 0.179.

Wizz air initially offered much lower prices than its competitors and customer perceive a ticket price as being reasonably priced in the past. Considering current conditions, we observe that airline companies are increasing their price. Consequently, Wizz air tends to raise its pricing.

Therefore, the "reliability" factor became the greatest impact on the overall brand image. Moreover, other factors, such as quality of service or customer experience, may be less acceptable to customers than the price.

**Table 21: Regression analysis (Brand Image/Total image of Wizz air)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			Std. Error	Beta		
1	(Constant)	1.652	.208		7.937	.000
	Wizz Air - Reliable	.235	.044	.285	5.341	.000
	Wizz Air - Economical	-.020	.031	-.027	-.638	.524
	Wizz Air - Providing quality services	.124	.042	.152	2.945	.003
	Wizz Air - Prepared	.049	.051	.056	.970	.333
	Wizz Air - Taking care of its customers	.130	.037	.179	3.517	.000
	Wizz Air - Acclaimed (Recognized)	.073	.036	.102	2.015	.045
a. Dependent Variable: Total image of Wizz air						

**Source: own research, own construction**

We also have performed the linear regression analysis to measure brand image of Ryanair air company and the result show the same. The standardized coefficient for " Ryanair Air - Economical" and "Ryanair Air – Prepared" is not statistically significant.

**Table 22: Moderating effect of Brand Image / Interaction Terms**



		<i>Dependent variable</i> <b>Fair Pricing Perception</b>			
		Initial model		Extended model	
<i>List of independent variables</i>		$\beta^l$	t-value	$\beta^l$	t-value
Main effects	Dynamic pricing with increasing trend	-,110	-2,278	-,110	-2,304
	Dynamic pricing with decreasing trend	,068	1,420	,078	1,640
	Dynamic pricing - volatility	-,304	--7,209	-,311	-7,465
	Brand Image	,086	2,030	,096	1,320
Interaction effects	Brand Image x Dynamic pricing with increasing trend	-	-	<b>-,178***</b>	-3,291
	Brand_Image x Dynamic pricing with decreasing trend	-	-	-,049	-,896
	Brand_Image x Dynamic pricing - volatility	-	-	<b>,153***</b>	2,553
R <sup>2</sup>		.317		.337	
n		387		387	

In our initial model, we have fair pricing as a dependent variable, and dynamic pricing components are independent variable. The variable included in the initial model explains the 31.7% (R<sup>2</sup>) of the variance of the fair pricing perception. In the next step of the analysis, we entered the interaction variables, which were produced by multiplying the dynamic pricing subconstructs separately by brand image. The variance explained increased to 33.7% (R<sup>2</sup>) This change proved to be significant (Sig. F change = 0.002). Among the interaction constructs, the one that includes a decreasing trend in price changes proved to have the strongest effect (( $\beta$ = 0.217). The two others seemed to have negligible influence ( $\beta$ = 0.03 and  $\beta$ = 0.037, see Table 2).

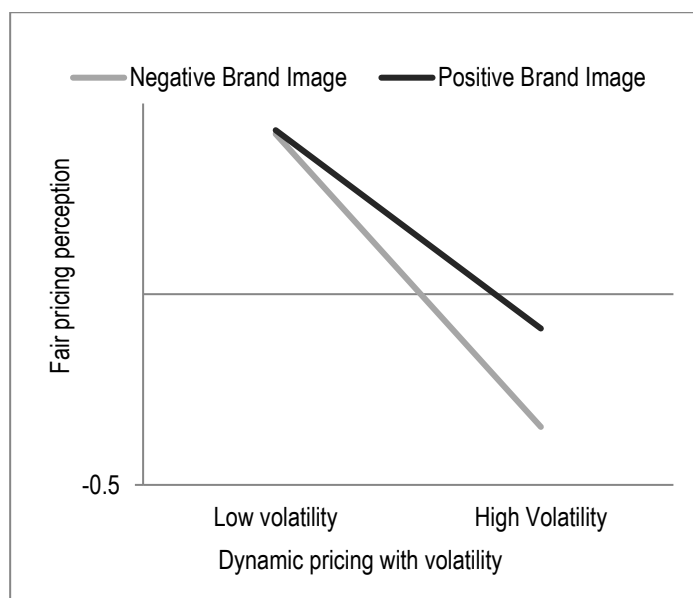
When we look behind the moderation effect explored, we can see that in the case of a lower price position, regardless of whether prices are decreasing or not, the fair pricing perception is higher than in a higher price position (see Figure 3). However, in the case of a higher price position, the perception of fair pricing significantly rises when the price changes follow a decreasing trend

The interaction between brand image and dynamic pricing volatility has a positive impact on fair pricing perception. Positive brand image can attenuate the negative

impact of increasing prices on fair pricing perception. The interaction between brand image and an increasing trend in dynamic pricing has a negative impact on fair pricing perception

Positive brand position regardless of whether prices are increasing or has a volatility the fair pricing perception is higher. The brand image and a decreasing trend in dynamic pricing has a relatively weaker negative impact on fair pricing perception but the interaction effect is not statistically significant.

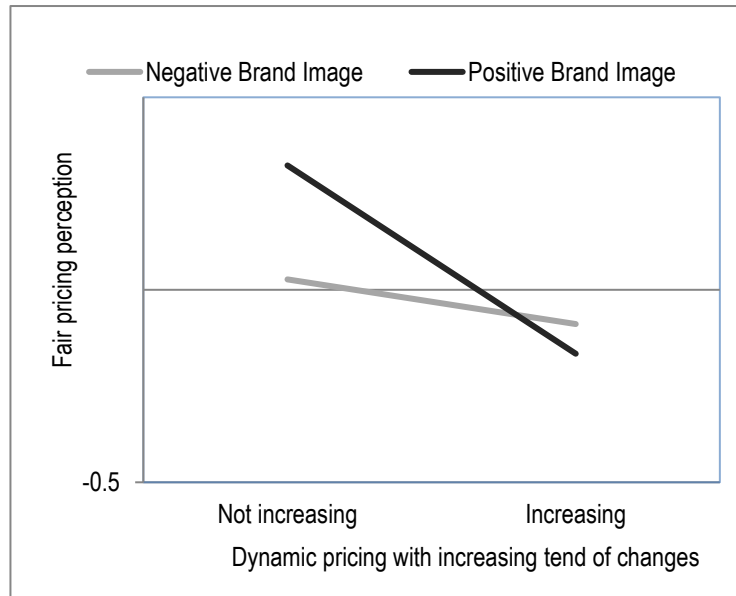
**Figure 21. Moderating Factor of Brand Image 1**



**Source: own research, own construction**

The findings indicate that the correlation between price volatility and perceived fair pricing is weaker when the brand image is positive (Figure 21). This is because a positive brand image appears to buffer the potential negative impact of price volatility on perceptions of fair pricing. In contrast, a negative brand image exacerbates the negative effect of price volatility on fair pricing perception. This means that in the context of a negative brand image, price volatility pushes the perception of fairness further into the negative zone.

**Figure 22. Moderating Factor of Brand Image 2**



**Source: own research, own construction**

When a brand has a positive image, the link between increasing prices and perceptions of fair pricing is lessened. In this case, the positive brand image seems to mitigate the potential negative effects that rising prices might have on perceptions of fair pricing (Figure 22).

IV.4.4. Moderating Effect of Industrial Norm

***H9: Industrial norms moderates the association between dynamic pricing with decreasing trend of price changes and fair pricing perception. The more similar are the prices the consumers perceive in the market, the stronger the relationship between dynamic pricing with decreasing trend of price changes and fair pricing perception***

**Table 23. Moderating Effect of Industrial Norm**

	N	Mean	Std. Deviation
There are no big differences between airline prices	388	2.45	1.150

Airline companies copy each other's when they determine their own prices	388	3.05	.947
There are huge differences between the airline companies' ticket prices in case of the same route	388	3.35	1.119
Valid N (listwise)	388		

**Source: own research, own construction**

This analysis (Table 23) provides descriptive statistics of an industrial norm related to airline prices. The data includes the mean and standard deviation for three statements: "There are no big differences between airline prices": The mean response was 2.45, with a standard deviation of 1.150. "Airline companies copy each other's when they determine their own prices": The mean response was 3.05, with a standard deviation of 0.947. "There are huge differences between the airline companies' ticket prices in case of the same route": The mean response was 3.35, with a standard deviation of 1.119. The responses ranged from 1 to 5 for all statements. The analysis was based on a sample size of 388 valid responses.

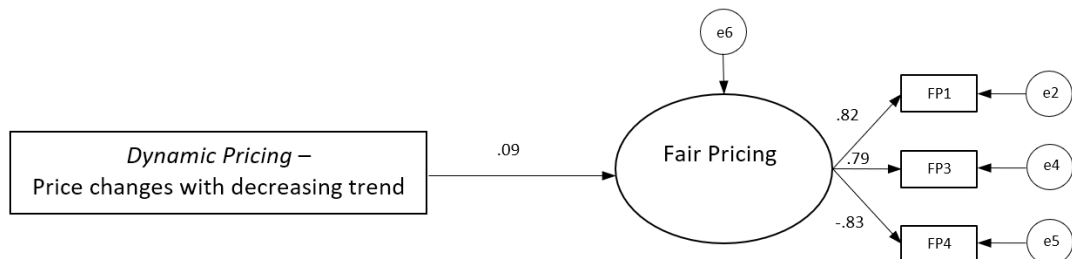
Based on the analysis factor score two groups were identified: "Perceived divers price" and "Perceived similar price" with respective frequencies of 233 and 155, representing 60.1% and 39.9% of the total sample of 388 respondents.

In order to measure the moderating role of industrial norm we need to check correlation between the group of industrial norm, fair pricing and dynamic pricing. Pearson correlation coefficients between several variables related to industrial norms, fair pricing, dynamic pricing volatility, and stimulus dynamic pricing changes. The analysis is done on two different sets: perceived divers' price and perceived similar price.

For perceived divers' price: There's a significant negative correlation between fair pricing and dynamic pricing volatility (-.311\*\*), indicating that as fair pricing increases, dynamic pricing volatility decreases, and vice versa. There's a smaller, but still significant, negative correlation between fair pricing and increasing changes in dynamic pricing (-.141\*). There's a significant negative correlation between increasing changes in dynamic pricing and decreasing changes in dynamic pricing (-.450\*\*).

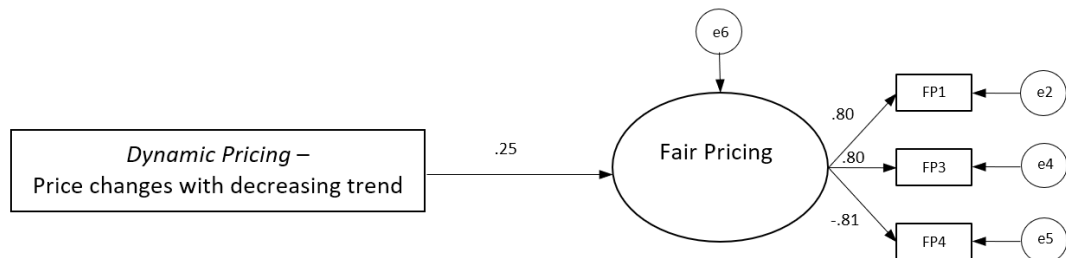
For perceived similar price: There's a stronger negative correlation between fair pricing and dynamic pricing volatility (-.357\*\*) compared to the divers' price set. There's a significant positive correlation between fair pricing and decreasing changes in dynamic pricing (.185\*). There's a significant negative correlation between dynamic pricing volatility and decreasing changes in dynamic pricing (-.192\*). The correlation between increasing changes in dynamic pricing and decreasing changes in dynamic pricing is stronger and negative (-.540\*\*), showing a more pronounced inverse relationship. In both sets, the sample sizes (N) are 233 and 155 respectively.

**Figure 23. Model 1, Group 1 Perceived diverse price (Industrial Norm)**



**Source: own research, own construction**

**Figure 24. Model 1, Group 2 Perceived similar price (Industrial Norm)**



**Source: own research, own construction**

**Table 24. Model Fit Summary of Industrial Norm**

Model	NFI Delta1	GFI	TLI rho2	CFI	RMSEA
Unconstrained	.989	.993	.991	.997	.031
Model 1	.985	.990	.998	.999	.016
Model 2	.983	.989	.998	.999	.015
Model 3	.980	.987	.999	.999	.011
Saturated model	.000	.000	.000	.000	.000
Independence model	.000	.000	.000	.000	.000

**Source: own research, own construction**

The result of the Model 1 with the retained yielded a good model fit:  $\chi^2 (7.735) = df= 7$ ;  $p = 0.357$ ;  $\chi^2/df$  ratio = 1.115; NFI= 0.985, GFI= 0.990, TLI = .998, CFI= 0.999, RMSEA= 0.016

The result of the Model 2, model fit:  $\chi^2 (8.654) = df= 8$ ;  $p = 0.373$  ;  $\chi^2/df$  ratio = 1.801; NFI= .983, GFI= 0.989, TLI = 0.998, CFI= 0.99, RMSEA= 0.015

The result of the Model 3, model fit:  $\chi^2 (10.473) = df= 10$ ;  $p= 0.4$  ;  $\chi^2/df$  ratio = 1.04; NFI= .980, GFI= 0.987, TLI = .999, CFI= 0.999, RMSEA= 0.011

**Table 25. Fair Pricing <-- DYNAMIC Pricing with Decreasing**

Fair Pricing <-- DINAMIC Pricing with Decreasing		Estimate	S.E	C.R	P
<b>Unconstrained Model</b>	Perceived diverse price	.177	.134	1.314	.189
	Perceived similar price	.427	.151	2.87	.005
<b>Model 1</b>	Perceived diverse price	.176	.133	.186	.004
	Perceived similar price	.434	.153	2.86	.004
<b>Model 2</b>	Perceived diverse price	.174	.131	1.323	.001
	Perceived similar price	.438	.155	2.821	.005
<b>Model 3</b>	Perceived diverse price	.285	.101	2.825	.005
	Perceived similar price	.285	.101	2.825	.005

**Source: own research, own construction**

The current study conducted a multigroup analysis to examine the relationship between fair pricing, **dynamic pricing with decreasing and industrial norm.**

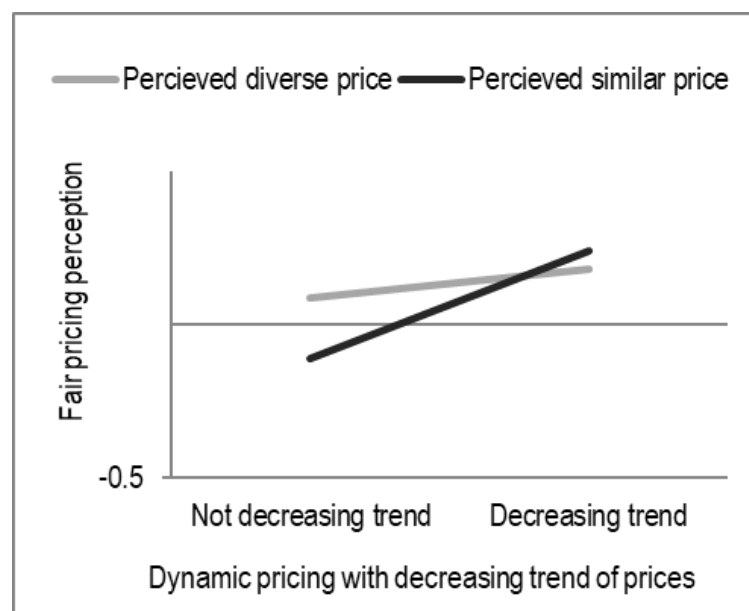
Model 1, Model 2, and Model 3 were compared to investigate the moderating effects of industrial norm. According to Chen (2007), the Chi-square test is not a reliable measure to evaluate the moderating effects. Therefore, the Model Fit index was used to assess the fitness of the models.

The cutoff criteria suggested by Chen (2007) are applicable when the sample size is small (total N = 300), the sample sizes are unequal, and the pattern of non-invariance is uniform. We determined that the significant drop is happened in model 1,2,3 in NFI and RMSEA value.

A change of .005 in the CFI, complemented by a change of .010 in the RMSEA, or a change of .025 in the SRMR, would indicate non-invariance for testing loading invariance.

When we look behind the moderation effect explored, we can see that in the case of perceived similar price norm, the perception of fair pricing significantly rises when the price changes follow a decreasing trend. However, in the case of a perceived diverse price, the fair pricing perception is not significantly change when the price changes follow a decreasing trend (see Figure 25).

**Figure 25. Dynamic pricing with decreasing trend of prices**



**Source: own research, own construction**

IV.4.5. Moderating effect of Price Sensitivity

H10: Price sensitivity moderates the association between fair pricing perception and consumer willingness to buy (WTB). The higher the price sensitivity, the weaker the relationship between fair pricing perception and WTB

**Table 26. Descriptive Statistics of Price Sensitivity**

	N	Mean	Std. Deviation
In general, when it comes to buy a product or service, I rely heavily on price	388	4.29	.736
I usually try to buy products or services when it is on promotion	388	3.91	.899
When I want to buy something, I search among the lowest priced ones in the given product category	388	3.57	1.005
I usually buy from the more expensive products	388	2.35	.944
Valid N (listwise)	388		

**Source: own research, own construction**

This descriptive analysis (Table 26) focuses on price sensitivity and the impact of price on purchasing decisions. The analysis includes the following statistics: "In general, when it comes to buying a product or service, I rely heavily on price": The mean response was 4.29, with a standard deviation of 0.736. "I usually try to buy products or services when they are on promotion": The mean response was 3.91, with a standard deviation of 0.899. "When I want to buy something, I search among the lowest priced ones in the given product category": The mean response was 3.57, with a standard deviation of 1.005. "I usually buy from the more expensive products": The mean response was 2.35, with a standard deviation of 0.944. The responses ranged from 1 to 5 for all statements. The analysis is based on 388 valid responses.



The first step is where moderating has an effect on dependent variables or not. We have performed correlation between price sensitivity and fair pricing, found  $p = 0.883 > 0.05$

In this case we need to apply multigroup analysis in AMOS. It is used to compare the structural parameters (factor loadings, regression coefficients, and error variances) of a structural equation model across various groups. This enables researchers to investigate whether the relationships between model variables are consistent across subgroups of participants.

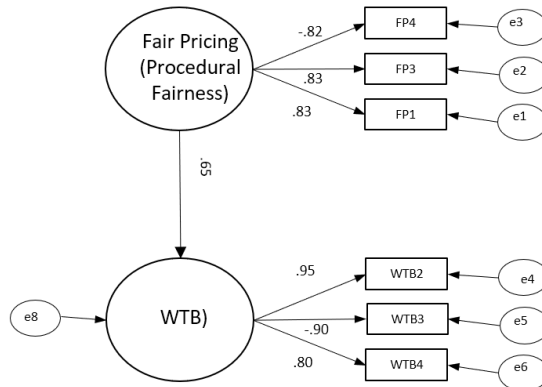
To form distinct groups based on price sensitivity, factor scores that characterize the underlying construct must be generated. Factor Analysis (Principal Components Analysis) was applied and the distribution of these factor scores can be characterized with the help of descriptive statistics, including frequency tests. In the present study, the mean value of price sensitivity factor scores was 0.122, with a standard deviation of 0.892%.

These statistics may help in the identification of prospective groupings and the testing of differences in consumer behavior or attitudes based on price sensitivity.

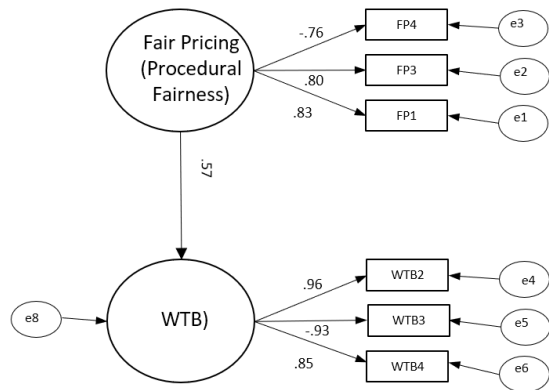
Based on Frequency test we have created 2 groups. Under the first group there are 178 respondents, these people have a low-price sensitivity. Under the second group there are 210 second people who have a high price sensitivity.

To test whether a variable is a moderator across different groups (Figure 26, 27), we need to conduct a multi-group analysis. A multi-group analysis allows us to test whether the relationship between the depended and independent variable varies across different groups. In other words with a multi-group analysis, it is testing whether price sensitivity as a moderator factor has a significant effect on the relationship between fair pricing and willingness to buy in each group.

**Figure 26: Group 1 - Low price sensitivity**



**Figure 27: Group 2, High price sensitivity**



**Source: own research, own construction**

The result of the Model 1 with the retained yielded a good model fit:  $\chi^2 (44.482) = df= 22; p < .005; \chi^2/df \text{ ratio} = 2.021; NFI= 0.973, GFI= 0.964, TLI = .981, CFI= 0.988, RMSEA= 0.051$

The result of the Model 2, model fit:  $\chi^2 (47.462) = df= 26; p = 0.06 > .005; \chi^2/df \text{ ratio} = 1.825; NFI= -.971, GFI= 0.961, TLI = 0.985, CFI= 0.987, RMSEA= 0.046$  (based on chain p valu). The result of the Model 3, model fit:  $\chi^2 (48.653) = df= 27; p= 0.06 > .005; \chi^2/df \text{ ratio} = 1.80; NFI= -.970, GFI= 0.960, TLI = .985, CFI= 0.987, RMSEA= 0.046$

**Table 27. Summary of Price Sensitivity Models (Multigroup Analysis)**

WTB <-- Fair Pricing		Estimate	S.E	C.R	P
<b>Unconstrained Model</b>	Low price sensitivity	.794	.094	8.436	***
	High Price Sensitivity	.943	.123	7.647	***
<b>Model 1</b>	Low price sensitivity	.823	.097	8.510	***
	High Price Sensitivity	.924	.118	7.834	***

<b>Model 2</b>	Low price sensitivity	.803	.090	8.899	***
	High Price Sensitivity	.959	.120	7.977	***
<b>Model 3</b>	Low price sensitivity	.859	.076	11.349	***
	High Price Sensitivity	.859	.076	11.349	***

**Source: own research, own construction**

The current study conducted a multigroup analysis to examine the relationship between fair pricing, price sensitivity, and willingness to buy. Model 1, Model 2, and Model 3 (Table 27) were compared to investigate the moderating effects of price sensitivity.

We can see that p value is not significant in Model 2 and Model 3. According to Chen (2007), the Chi-square test is not a reliable measure to evaluate the moderating effects. Therefore, the Model Fit index was used to assess the fitness of the models.

**Table 28. Model Fit**

<b>Model</b>	<b>NFI Delta 1</b>	<b>GFI</b>	<b>TLI rho2</b>	<b>CFI</b>	<b>RMS EA</b>
<b>Unconstrained</b>	.982	.976	.985	.992	.046
<b>Model 1</b>	.973	.964	.981	.988	.051
<b>Model 2</b>	.971	.961	.985	.987	.046
<b>Model 3</b>	.970	.960	.985	.987	.046
<b>Saturated model</b>	1.000	1.000		1.000	.374
<b>Independence model</b>	.000	.372	.000	.000	

**Source: own research, own construction**

The Model Fit drop should have been occurred between Model 2 and Model 3, as in Model 3, the structural weight, which is the regression weight, was set to be equal. The Model Fit should be acceptable in the first and second models, but the drop in the third model is expected.

We determined that the significant drop was not happened in Model 3.

The cutoff criteria suggested by Chen (2007) are applicable when the sample size is small (total N = 300), the sample sizes are unequal, and the pattern of non-invariance is uniform.

**Table 29. CUT-OFF VALUES**

<b>Group Variable</b>	<b>ΔCFI</b>	<b>ΔRMSEA</b>	<b>or</b> <b>ΔSRMR</b>
CUT-OFF VALUES - small (<300) and unequal sample size - <b>INTERCEPTS</b>	≥ - .005	≥ 0.010	≥ 0.005
CUT-OFF VALUES - small (<300) and unequal sample size - weights	≥ - .005	≥ 0.010	≥ 0.025
CUT-OFF VALUES - large (>300) and equal sample size - <b>INTERCEPTS</b>	≥ -.01	≥ 0.015	≥ 0.010
CUT-OFF VALUES - large (>300) and equal sample size - weights	≥ -.01	≥ 0.015	≥ 0.030

**Source: Chen (2007)**

A change of .005 in the CFI, complemented by a change of .010 in the RMSEA, or a change of .025 in the SRMR, would indicate non-invariance for testing loading invariance.

Based on the results, it was found that cut off value in Model 1, 2, 3 did not drop significantly. If it should have been dropped properly in Model 3 we would consider that there was a difference between group. To sum up price sensitivity does not moderate the relationship between fair pricing and willingness to buy. Therefore, the hypothesis that price sensitivity moderates the relationship between fair pricing and willingness to buy is not supported.

#### IV.5. Summary of Hypotheses Tested

The hypotheses examined the dynamic pricing and effect on the fair Pricing perception and Willingness to Buy (WTB) (Table 30). Dynamic pricing, both with increasing and decreasing trends, and its volatility, were found to significantly impact fair pricing perception. fair pricing perception was found to strongly influence willingness to buy,

with this relationship being moderately strengthened by Price Position. Brand Image was shown to moderate the impact of dynamic pricing with decreasing trends and volatility on Fair Pricing Perception. In the mode we also analyzed the moderator factor of Internal reference price and price sensitivity indicated two group (low, high price sensitivity) and found that these IRP and low/high price sensitivity did not significantly influence the examined relationships. Finally, the impact of a decreasing trend of dynamic pricing on Fair Pricing Perception was found to be influenced by the Perceived Similar Price (Industrial Norm) but not by the Perceived Diverse Price (Industrial Norm). In essence, dynamic pricing and its characteristics have a significant effect on Fair Pricing Perception, which in turn influences the Willingness to Buy. Some factors like Price Position, Industrial Norm and Brand Image play a moderating role in these relationships.

**Table 30. Summary of Hypotheses Tested**

Hypothesis	Independent variable	Dependent variable	Moderator variable	Standardized regression coefficient ( $\beta$ )**	Empirical significance level (p-value)	Evaluation of the hypothesis
H <sub>1</sub>	Price Position	Fair Price		Not measured		
(H) <sub>2</sub>	<i>Dynamic Pricing – with increasing trend of price changes</i>	Fair Pricing Perception	-	-.183	.000	Accepted
(H) <sub>3</sub>	<i>Dynamic pricing with decreasing trend of price changes</i>	Fair Pricing Perception	-	.086	.074	Accepted
(H) <sub>4</sub>	<i>Dynamic Pricing – Volatility</i>	Fair Pricing Perception	-	-.321	.000	Accepted
(H) <sub>5</sub>	Fair Pricing Perception	Willingness to buy (WTB)	-	.657	.000	Accepted
(H) <sub>6</sub>	Fair Pricing Perception	Willingness to buy (WTB)	Price Position	.217	.004	Accepted
(H) <sub>7</sub>	<i>Dynamic pricing with decreasing trend of price changes</i>	Fair Pricing Perception	Internal Reference Price (IRP)	.056	.440	Not Accepted

(H) <sub>8a</sub>	<i>Dynamic pricing with decreasing trend of price changes</i>	Fair Pricing Perception	Brand Image	-0.049	.371	Not Accepted
(H) <sub>8b</sub>	<i>Dynamic Pricing – Price changes with increasing trend</i>	Fair Pricing Perception	Brand Image	-0.178	.001	Accepted
(H) <sub>8c</sub>	<i>Dynamic Pricing – Volatility</i>	Fair Pricing Perception	Brand Image	.153	.011	Accepted
(H) <sub>9</sub>	<i>Dynamic pricing with decreasing trend of price changes</i>	Fair Pricing Perception	Perceived Diverse Price (Industrial Norm)	0.177	0.189	Not Accepted
			Perceived Similar Price (Industrial Norm)	0.42	0.045	Accepted
(H) <sub>10</sub>	Fair Pricing Perception	Willingness to buy (WTB)	Low Price sensitivity	0.094	0.1	Not Accepted
			High Price sensitivity	0.012	0.1	Not Accepted
(H) <sub>11</sub>	Fair price perception	Willingness to buy (WTB)	-	Not measured		

*\*\*Note: In case of multigroup analysis the standardized coefficient belongs to unconstrained model was indicated.*

**Source: own research, own construction**

## CHAPTER V: FINDINGS AND DISCUSSION

There has been limited research on how consumers perceive price fairness in the context of dynamic pricing. The current study provides valuable insights into how consumers form their perceptions of price fairness in such situations. We've conducted a pair of preliminary investigations, which have yielded valuable data concerning the correlation between dynamic pricing, perceived fairness, and willingness to buy. The initial pilot study's outcomes suggested that dynamic pricing negatively influenced consumers' perceptions of price fairness, that perceived price fairness positively influenced consumers' willingness to buy, and that the price position moderated the relationship between dynamic pricing strategy and consumers' perceptions of price fairness. Essentially, if the price remains in the same relative position among competing offers after a price increase, it is perceived as less unfair than if the price's relative position changes.

The results of the second pilot study indicated that there is a moderating role for competitor prices in the relationship between dynamic pricing and consumers' perceptions of price fairness. We found that if competitors change the price similarly among the competing offers, it is perceived as less fair.

The main study was expanded to include additional scenarios, including tendencies of price changes involving both price increases and price decreases, as well as variations in price volatility (high or low). These changes are intended to provide a more comprehensive understanding of pricing dynamics and their effect on consumer perceptions.

We did not measure H1 (the impact of price position on fair price) or H11 (the impact of fair price perception on willingness to buy) hypotheses. Because when we did CFA analysis, we determined that there was a strong correlation between distributive fairness and procedural fairness with a 0.87 value. The result of the models shows the model fit:  $\chi^2(122.203) = df = 8; p.001; 2/df \text{ ratio} = 15.27; GFI = .906; CFI = .927; NFI = .922; TLI = .862; \text{ and } RMSEA = .192$ . This strongly suggests that the two concepts are not distinct from each other, thus indicating that respondents might have a limited understanding of the distinction between fair price and fair pricing.

Price increases are generally viewed negatively by consumers (Xia et al., 2004); they are a frequently used tool, and companies often decide on both larger and smaller price changes in order to increase sales. Martin et al. (2009) examined the effects of price increases and found that if the price increase is small and its reasons can be proven to be outside the company's decision-making authority, consumers consider it fairer than non-justifiable reasons within the company.

By investigating the effect of perceived price fairness on consumers' willingness to pay, this study confirms the negative impact of that dynamic pricing strategies on consumers' perceived price fairness, which is consistent with previous research findings. It was determined that an increasing trend of dynamic pricing negatively impacts fair pricing perception ( $-0.183$ , p-value  $0.001$ ) and decreasing trend of dynamic pricing mildly positively impacts fair pricing perception ( $\beta = 0.086$ , p-value =  $0.074$ ). Volatility was another dimension of dynamic pricing, and we found that volatility in dynamic pricing negatively affects fair pricing perception ( $\beta = -0.321$ , p-value  $< 0.001$ ). We accepted H2, H3, and H5 fair pricing as well.

We conclude that fair pricing perception positively impacts willingness to buy (WTB) ( $\beta = 0.657$ , p-value  $0.001$ ), and we also accept the H5 hypothesis.

We have introduced four moderator factors: price position, internal reference price, brand image, industrial norm, and price sensitivity. When we look behind the moderation effect explored, we can see that price position moderately strengthens the relationship between fair pricing perception and willingness to buy ( $\beta = 0.217$ , p-value =  $0.004$ ), so the H6 hypothesis was accepted. In the case of a lower price position, regardless of whether prices are decreasing or not, the perception of fair pricing is higher than in a higher price position. However, in the case of a higher price position, the perception of fair pricing significantly rises when the price changes follow a decreasing trend.

We rejected H7 because of the impact of a decreasing trend of dynamic pricing on fair pricing. Perception is not moderated by the internal reference price ( $\beta = 0.056$ , p-value =  $0.440$ ).



Hypothesis H8a proposes that brand image does not moderate the influence of a decreasing trend in dynamic pricing on fair pricing perception. However, statistical analysis, which yielded a  $\beta$  value of -0.049 and a p-value of 0.371, suggests that the hypothesis is not statistically significant. Consequently, this hypothesis was not accepted. Hypothesis H8b suggests that brand image negatively moderates the impact of an increasing trend in dynamic pricing on fair pricing perception. The data supported this hypothesis, as shown by the  $\beta$  value of -0.178 and a p-value less than 0.001, which signifies a significant negative moderation. When a brand has a positive image, the link between increasing prices and perceptions of fair pricing is lessened. In this case, the positive brand image seems to mitigate the potential negative effects that rising prices might have on perceptions of fair pricing. Thus, this hypothesis was accepted. Lastly, Hypothesis H8c contended that brand image mildly and positively moderates the influence of dynamic pricing volatility on fair pricing perception. With a  $\beta$  value of 0.153 and a p-value of 0.011, the results statistically confirmed this hypothesis, indicating that brand image does indeed mildly and positively influence the perception of fair pricing in the context of dynamic pricing volatility. The findings indicate that the correlation between price volatility and perceived fair pricing is weaker when the brand image is positive. This is because a positive brand image appears to buffer the potential negative impact of price volatility on perceptions of fair pricing. In contrast, a negative brand image exacerbates the negative effect of price volatility on fair pricing perception. This means that in the context of a negative brand image, price volatility pushes the perception of fairness further into the negative zone. Therefore, this hypothesis was also accepted.

In the study, based on our scale of development, we accepted two types of industrial norms. (In the analysis part, it is explained more.). The first one, "perceived similar price norm," refers to airline companies and whether they copy each other's when they determine their own prices. The second type is "perceived diverse price norm," which refers to when there are huge differences between the airline companies' ticket prices on the same route. Based on our results, when the price is decreased, it is accepted by the customer. But if the customer accepts this industrial norm, like "all airline companies have a similar price," it is considered fairer.

If a consumer believes that they have a low chance of encountering a similar price elsewhere, they might perceive a decrease in price due to dynamic pricing as fairer. This could be because they feel they are getting a unique deal that they would not be able to get otherwise.

We have formulated H9 hypothesis, which showed the perceived similar price (Industrial Norm) mildly positively moderates the impact of a decreasing trend of dynamic pricing on fair pricing perception ( $\beta = 0.42$ ,  $p\text{-value} = 0.045$ ). This hypothesis was accepted. However, perceived diverse price (industrial norm) does not have a significant moderating effect ( $\beta = 0.177$ ,  $p\text{-value} = 0.189$ ). This hypothesis was not accepted. Another discovery reveals that neither low nor high price sensitivity substantially moderates the effect of fair pricing perception on the willingness to buy (with  $\beta = 0.094$  for low price sensitivity, and  $\beta = 0.012$  for high price sensitivity,  $p\text{-value} = 0.1$  for both). Thus, both segments of this hypothesis were not confirmed.

To conclude the discussion, it is evident that the landscape of dynamic pricing is intricate and that its effects on consumer perceptions are multifaceted. The impact of brand image, price position, and industry norms on the perception of fair pricing provides an in-depth comprehension of how consumers perceive and respond to dynamic pricing strategies. Further research in this area could be instrumental in allowing businesses to tailor their pricing strategies more effectively, ensuring that they not only generate revenue but also raise a sense of fairness, thus encouraging consumer trust and loyalty over the long term.

## CHAPTER VI: CONCLUSION

There has been limited research on how consumers perceive price fairness in the context of dynamic pricing. The current study provides valuable insights into how consumers form their perceptions of price fairness in such situations.

The complexity of dynamic pricing and its consequent influence on consumer perceptions can not be overstated. In frame of the research, 387 undergraduate students have been surveyed about their airline ticket buying behaviour. Dynamic pricing strategies and price positions were applied as stimuli in a quasi-experimental setting. This research has contributed to the field by exploring how several factors, including brand image, price position, and industry norms, shape the consumer's perception of price fairness in a dynamic pricing context. In the theoretical contribution section it is explain well detaild.

Results show that the effect of dynamic pricing strategies has a significant effect on perceived fair pricing and, through this, on the willingness to buy. The study also introduced four moderating factors: price position, internal reference price, brand image, industrial norm, and price sensitivity. Price position moderates the association between dynamic pricing strategy with decreasing trend and fair pricing perception. In the case of a relative higher market price, this effect is stronger. Among these, the role of brand image was particularly intriguing. The study found that brand image does not moderate the influence of a decreasing trend in dynamic pricing on fair pricing Perception. However, it does negatively moderate the impact of an increasing trend and mildly and positively moderates the influence of dynamic pricing volatility on fair pricing perception. Another findings suggested that when consumers perceive a similarity in prices among different airline companies, they are more likely to consider a decrease in price due to dynamic pricing as fair. This article contributes to the existing literature in this field as it provides a comprehensive categorization of its various forms of dynamic pricing, establishes the conceptual framework of this research field, empirically approves the effects of these subcategories, and identifies the moderating role of factors listed above.

## VI.1. Theoretical Contributions

This study has several theoretical contributions to the marketing literature, which will be presented here. The core relationship in the conceptual model does not provide a novelty in the literature because some studies have investigated these effects. However, this dissertation dug deeper into this field and revealed several details to create a more comprehensive nomological network of related concepts. In the research model, more detailed relationships were included, especially due to the revision of the content of dynamic pricing.

Limited research has been conducted on consumer perceptions of price fairness in the context of dynamic pricing. Examining the relationship between perceived price fairness and consumer purchasing propensity in the context of dynamic pricing is the purpose of the present study. The results of the study build upon prior research while also presenting contradictory findings. The findings cast light on the formation of price fairness perceptions in dynamic pricing and the influence of these perceptions on consumer purchase intent. This study contributes in two ways to the literature on price fairness. First, it combines two significant antecedents—price volatility and price change trends—with an outcome dimension, namely purchasing propensity, into a single conceptual model. Second, the research identifies potential moderator variables, including price position, consumer price sensitivity, industry norms, and brand image.

To summarize, the following contributions can be identified:

- a) The revision of the dynamic pricing concept.

The interpretation and definition of the dynamic pricing concept are a bit blurry in the literature. Many related and overlapping concepts make it challenging to clearly capture their meaning. A quite long space has been dedicated to clarifying the relations and common parts of them to define dynamic pricing more precisely. In addition, subdimensions, which are not available in the marketing literature, were also identified. These subdimensions open the opportunity to reveal more sophisticated

effects and understand them more deeply. Contribution to understand the relation of procedural and distributive aspects of fairness in context of pricing

The long-lasting debate in the literature whether the procedural and distributive of justice are two distinct concepts, is not decided yet. This contradiction was not dissolved by the current dissertation, and we had opposite result as well. On the other hand, the final conclusion of this work is that even if these are distinct, the involvement of consumers in the process of price information process is generally not so high and they are not necessarily so conscious to handle the two concepts independently.

- b) Supporting previous studies about the chain effect of dynamic pricing, fair pricing, and willingness to buy

This relationship has been investigated in different contexts and our research supports the former outcomes as the associations between these concepts were also supported by both our pilot studies and the final empirical research.

- c) Significant effect of subdimensions of dynamic pricing

Our study not just supports the previously established relationship but as new subdimensions of dynamic pricing were identified and included in the research, a more detailed effects were explored and supported by quantitative analysis.

- d) Moderating role of price position

Price position plays an important role in marketing but its effect on the association between dynamic pricing subdimensions and fair pricing is a novelty. It was demonstrated that it moderates the relationship only if the supplier implements a dynamic pricing strategy with a decreasing trend of price changes.

- e) Moderating role of brand image

The brand image is also a key concept in marketing. It has an influence on consumers' attitude towards the brand and therefore affects the information the consumers select and let it or, on the other hand, filter out during the process of perception. The current

study supported that the negative effects of dynamic pricing are weaker when the brand image is positive in the mind of consumers.

f) Moderating role of industry norm

Norms could heavily effect consumer behaviour and its influence has been revealed in several studies. However, studies investigating the moderation role of industry norm in dynamic pricing context are rare. As this moderation effect was examined between the subdimensions of dynamic pricing and fair pricing perception, the outcome of the research is also novel to the literature.

## VI.2. Managerial Implementation

The research findings have multiple consequences for pricing and marketing managers and professionals. Firstly, companies must carefully consider their price position in the market and strategically alter their prices to remain competitive. A favorable price position, such as offering prices that are lower than or comparable to the prices of competitors, can mitigate the perception of unfairness that is associated with dynamic pricing. Companies should also be careful of price volatility, as it can diminish the perception of equitable pricing and consumer confidence. Maintaining price transparency and justifying price adjustments can help improve perceptions of fairness.

The study emphasizes the significance of consumers' perceptions of fair pricing in determining their propensity to purchase. Managers should prioritize establishing pricing policies that align with the expectations and values of consumers. Creating a positive brand image can also play a significant role in shaping perceptions of fairness and boosting consumer trust. Through effective marketing and communication strategies, businesses should seek to bolster their brand image.

In addition, taking into account the moderating factors of price position, internal reference price, brand image, industry norm, and price sensitivity can assist businesses in adapting their pricing strategies to various consumer segments and market conditions. Understanding the influence of these factors on perceptions of fairness and

purchase intentions enables businesses to optimize pricing decisions and increase customer satisfaction.

The research provides managerial implementation with valuable insights into the intricate relationship between dynamic pricing, perceptions of fairness, and consumer behavior. By implementing the findings of this study, businesses will be able to make informed pricing decisions, establish fair pricing practices, develop strong brand images, and strengthen their market competitiveness.

### VI.3. Limitations and Further research

First, the present study's pre-test, pilot test, and main study all used a convenience sample of university students of Corvinus University of Budapest, Hungary which may not be representative of the population. The results may not be pertinent to other consumer groups.

In the present study, we have chosen to incorporate two components of dynamic pricing, specifically price volatility and trends of price change. For future research, it would be beneficial to explore additional components, such as time-varying intensity of dynamic pricing. By integrating continuous-time intervals and pulsing intensity into the experimental design, researchers may gain a more comprehensive understanding of dynamic pricing strategies and their potential impacts on consumer's fairness perception.

To examine the antecedents of consumers' reactions in a more comprehensive manner, therefore, additional research concentrating on various product categories is required. Incorporating additional constructs into the model could also be used to enhance the comprehension of consumers' reactions regarding non-durable products.

The focus of the study is the influence of specific factors, such as brand image, internal reference price, and price sensitivity, on the relationship between dynamic pricing and consumers' perceptions of price fairness. Other factors such as "trust" that may influence perceptions of price justice are disregarded. Because companies with

transparent pricing policies and plain communication with consumers may be more likely to maintain consumer trust and avoid negative reactions.

However, this research is the first step in investigating dynamic pricing and price position interactions. A more sophisticated situation should be tested to reach reliable conclusions, and the student sample also refers to a particular case of the phenomenon.

Additionally, dynamic pricing in the airline industry can lead to a lack of price transparency, which can exacerbate negative consumer responses. When pricing algorithms and factors influencing price adjustments are not communicated explicitly to customers, it can result in confusion and suspicion. Consumers may perceive price changes as unjust or manipulative if they are not fully informed of the reasons behind the changes. This dearth of transparency may also hinder consumers' ability to make informed decisions and effectively compare prices, eroding their confidence in the pricing process. Price transparency can be integrated in the future research.



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## APPENDIX

### APPENDIX A

#### Scenario of Pre-studies

Imagine that you are planning to buy a plane ticket from Budapest to London. First checking it on the internet, you can see different prices of some companies. Then you think that you have time and it would be better for you to postpone your purchase by a month. After a month you recognize that prices have changed.

Scenario 1.

**Figure: Scenario 1 (Pre-studies)**

<i>First check on the Internet</i>	<i>Second check on the Internet</i>
Competitor A 89 €	Competitor A → 89 €
Competitor B 85€	Competitor B → 85€
<b>X Airplane 80 €</b>	<b>X Airplane → 84 €</b>
Competitor C 70 €	Competitor C → 70 €

**Source: own research, own construction**

(This part was not shared with participants. We have only shared figures.)

- Dynamic pricing strategy of WizzAir: **0** (slightly increased price)
- Range-frequency situation: **0** (initial price of WizzAir is about the average market price)
- Dynamics of competitors' prices: **0** (no change in competitors' prices)

Scenario 2.

**Figure: Scenario 2 (Pre-studies)**

<i>First check on the Internet</i>		<i>Second check on the Internet</i>	
Competitor A	→ 89 €	<b>X Airplane</b>	→ 105 €
Competitor B	→ 85€	Competitor A	→ 89 €
<b>X Airplane</b>	→ 80 €	Competitor B	→ 85€
Competitor C	→ 70 €	Competitor C	→ 70 €

**Source: own research, own construction**

- Dynamic pricing strategy of WizzAir: **1** (dramatically increased price)
- Range-frequency situation: **0** (initial price of WizzAir is about the average market price)
- Dynamics of competitors' prices: **0** (no change in competitors' prices)

Scenario 3.

**Figure: Scenario 3 (Pre-studies)**

<i>First check on the Internet</i>		<i>Second check on the Internet</i>	
Competitor A	→ 120 €	Competitor A	→ 120 €
Competitor B	→ 110 €	Competitor B	→ 110 €
Competitor C	→ 90 €	Competitor C	→ 90 €
<b>X Airplane</b>	→ 80 €	<b>X Airplane</b>	→ 84 €

**Source: own research, own construction**

- Dynamic pricing strategy of WizzAir: **0** (slightly increased price)
- Range-frequency situation: **1** (initial price of WizzAir is much lower than the average market price)

- Dynamics of competitors' prices: **0** (no change in competitors' prices)

Scenario 4.

**Figure: Scenario 4. (Pre-studies)**

<i>First check on the Internet</i>		<i>Second check on the Internet</i>	
Competitor A	→ 120 €	Competitor A	→ 120 €
Competitor B	→ 110 €	Competitor B	→ 110 €
Competitor C	→ 90 €	<b>X Airplane</b>	→ <b>105 €</b>
<b>X Airplane</b>	→ <b>80 €</b>		→ 90 €

**Source: own research, own construction**

- Dynamic pricing strategy of WizzAir: **1** (dramatically increased price)
- Range-frequency situation: **1** (initial price of WizzAir is much lower than the average market price)
- Dynamics of competitors' prices: **0** (no change in competitors' prices)

Scenario 5.

**Figure: Scenario 5. (Pre-studies)**

<i>First check on the Internet</i>		<i>Second check on the Internet</i>	
Competitor A	→ 89 €	Competitor A	→ 93 €
Competitor B	→ 85€	Competitor B	→ 89€
<b>X Airplane</b>	→ <b>80 €</b>	<b>X Airplane</b>	→ <b>84 €</b>
Competitor C	→ 70 €	Competitor C	→ 74 €

**Source: own research, own construction**

- Dynamic pricing strategy of WizzAir: 0 (slightly increased price)
- Range-frequency situation: 0 (initial price of WizzAir is about the average market price)
- Dynamics of competitors' prices: 1 (similar change in competitors' prices)

### Scenario 6

**Figure: Scenario 6. (Pre-studies)**

*First check on the Internet*

*Second check on the Internet*

Competitor A	→	89 €	Competitor A	→	114 €
Competitor B	→	85€	Competitor B	→	110€
<b>X Airplane</b>	→	<b>80 €</b>	<b>X Airplane</b>	→	<b>105 €</b>
Competitor C	→	70 €	Competitor C	→	95 €

**Source: own research, own construction**

- Dynamic pricing strategy of WizzAir: 1 (dramatically increased price)
- Range-frequency situation: 0 (initial price of WizzAir is about the average market price)
- Dynamics of competitors' prices: 1 (similar change in competitors' prices)

### Scenario 7.

**Figure: Scenario 7. (Pre-studies)**

*First check on the Internet*

*Second check on the Internet*



Competitor A	→	120 €	Competitor A	→	124 €
Competitor B	→	110 €	Competitor B	→	114 €
Competitor C	→	90 €	Competitor C	→	94 €
<b>X Airplane</b>	→	<b>80 €</b>	<b>X Airplane</b>	→	<b>84 €</b>

Source: own research, own construction

- Dynamic pricing strategy of WizzAir: 0 (slightly increased price)
- Range-frequency situation: 1 (initial price of WizzAir is much lower than the average market price)
- Dynamics of competitors' prices: 1 (similar change in competitors' prices)

Scenario 8.

Figure: Scenario 8. (Pre-studies)

*First check on the Internet*

Competitor A	→	120 €
Competitor B	→	110 €
Competitor C	→	90 €
<b>X Airplane</b>	→	<b>80 €</b>

*Second check on the Internet*

Competitor A	→	155 €
Competitor B	→	140 €
Competitor C	→	115 €
<b>X Airplane</b>	→	<b>105 €</b>

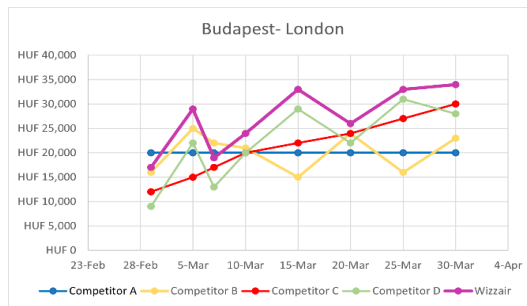
Source: own research, own construction

- Dynamic pricing strategy of WizzAir: 1 (dramatically increased price)
- Range-frequency situation: 1 (initial price of WizzAir is much lower than the average market price)
- Dynamics of competitors' prices: 1 (similar change in competitors' prices)

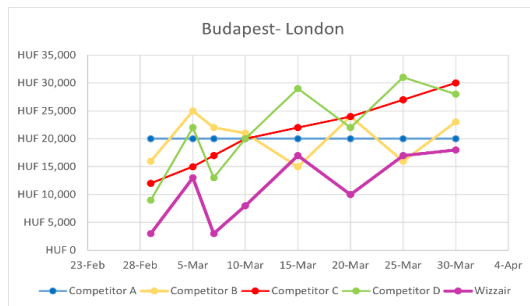
## APPENDIX B

### Final (Improved) Scenarios

#### Scenario 1 (Main Study).



#### Scenario 2 (Main Study).



Source: own research, own construction

**Scenario #1 Wizzair increases the price with high volatility and the price is higher than the market price**

Dynamic pricing strategy of WizzAir: **0** (increasing price)

Dynamics Pricing: **0** (High Volatility)

Price Position: **0** (The price of WizzAir is higher than market price)

**Scenario #2: Wizzair increases the price with high volatility and the price is lower than the market price**

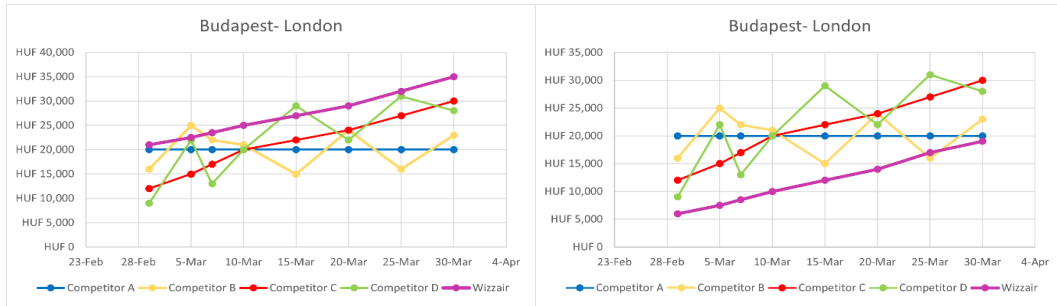
Dynamic pricing strategy of WizzAir: **0** (increasing price)

Dynamics Pricing: **0** (High Volatility)

Price Position: **1** (The price of WizzAir is lower than market price)

#### Scenario 3 (Main Study).

#### Scenario 4 (Main Study).



Source: own research, own construction

**Scenario #3 Wizzair increases the price with low volatility and the price is higher than the market price**

Dynamic pricing strategy of WizzAir: 0 (increasing price)

Dynamics Pricing: 1 (Low Volatility)

Price Position: 0 (The price of WizzAir is higher than market price)

**Scenario #4 Wizzair increases the price with low volatility and the price is lower than the market price**

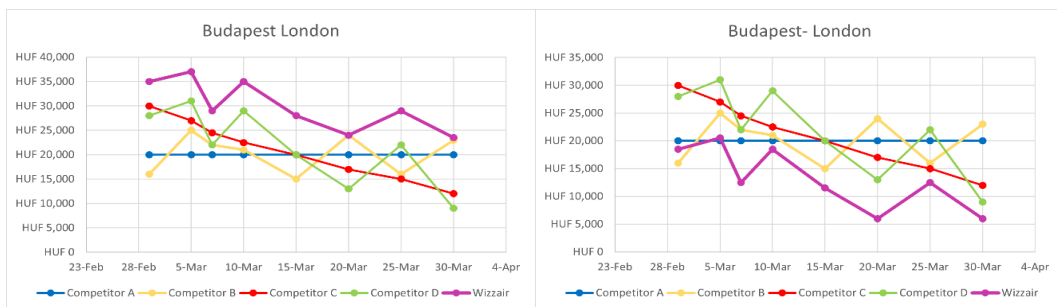
Dynamic pricing strategy of WizzAir: 0 (increasing price)

Dynamics Pricing: 1 (Low Volatility)

Price Position: 1 (The price of WizzAir is lower than market price)

**Scenario 5 (Main Study).**

**Scenario 6 (Main Study).**



Source: own research, own construction

**Scenario #5 Wizzair decreases the price with high volatility and the price is higher than the market price**

Dynamic pricing strategy of WizzAir: 1 (decreasing price)

Dynamic Pricing: 0 (High Volatility)

Price Position: 0 (The price of WizzAir is higher than market price)

**Scenario #6 Wizzair decreases the price with high volatility and the price is lower than the market price**

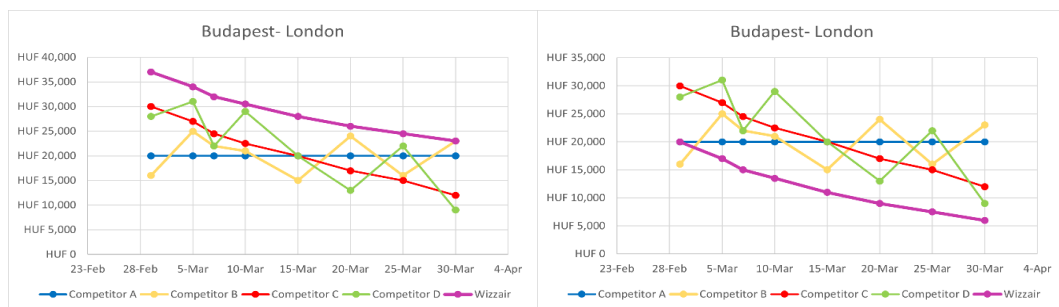
Dynamic pricing strategy of WizzAir: 1 (decreasing price)

Dynamics Pricing: 0 (High Volatility)

Price Position: 1 (The price of WizzAir is lower than market price)

**Scenario 7 (Main Study).**

**Scenario 8 (Main Study).**



Source: own research, own construction

**Scenario #7 Wizzair decreases the price with low volatility and the price is higher than the market price**

Dynamic pricing strategy of WizzAir: 1 (decreasing price)

Dynamics Pricing: 1 (Low Volatility)

Price Position: 0 (The price of WizzAir is higher than market price)

**Scenario #8: Wizzair decreases the price with low volatility and the price is lower than the market price**

Dynamic pricing strategy of WizzAir: 1 (decreasing price)

Dynamics Pricing: 1 (Low Volatility)

Price Position: 1 (The price of WizzAir is lower than market price)

**Scenario 9 (Main Study).**

**Scenario 10 (Main Study).**



**Source: own research, own construction**

**Scenario #9 Wizzair is not changing the price and it was with high volatility and the price is higher than the market price**

Dynamic pricing strategy of WizzAir: 2 (Not changing the price)

Dynamics Pricing: 0 (High Volatility)

Price Position: 0 (The price of WizzAir is higher than market price)

**Scenario #10 Wizzair is not changing the the price and it was high volatility and the price is lower than the market price**

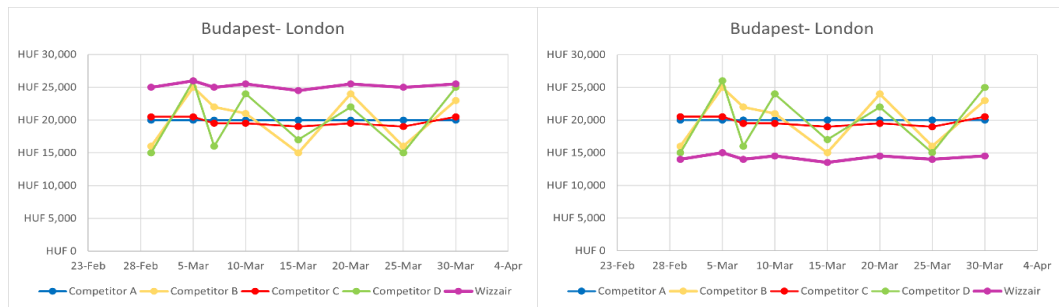
Dynamic pricing strategy of WizzAir: 2 (Not changing the price)

Dynamics Pricing: 0 (High Volatility)

Price Position: 1 (The price of WizzAir is lower than market price)

### Scenario 11 (Main Study).

### Scenario 12 (Main Study).



Source: own research, own construction

**Scenario #11 Wizzair is not changing the price and it was with low volatility and the price is higher than the market price**

Dynamic pricing strategy of WizzAir: 2 (Not changing the price)

Dynamics Pricing: 1 (Low Volatility)

Price Position: 0 (The price of WizzAir is higher than market price)

**Scenario #12 Wizzair is not changing the price and it was low volatility and the price is lower than the market price**

Dynamic pricing strategy of WizzAir: 2 (Not changing the price)

Dynamics Pricing: 1 (Low Volatility)

Price Position: 1 (The price of WizzAir is lower than market price)

## APPENDIX C

### Testing the Moderation Effect

**Table 31: Regression Weights: (Group number 1 - Default model)**

Constructs			Estimate	S.E.	C.R.	P
IN3	< -- -	Industrial Norm	1.000			
IN2	< -- -	Industrial Norm	-.558	.057	-9.753	***
IN1	< -- -	Industrial Norm	-1.073	.094	-11.458	***
FP4	< -- -	Fair pricing	1.000			
FP3	< -- -	Fair pricing	-.990	.058	-17.178	***
FP1	< -- -	Fair pricing	-1.070	.064	-16.707	***
PF4	< -- -	Percieved Fairness	1.000			
PF3	< -- -	Percieved Fairness	-1.142	.060	-18.907	***
PF1	< -- -	Percieved Fairness	-1.266	.067	-18.995	***
WTB 4	< -- -	WTB	1.000			
WTB 3	< -- -	WTB	-1.154	.048	-23.834	***
WTB2	< -- -	WTB	1.316	.053	25.008	***
PS4	< -- -	Price sensitivity	1.000			
PS3	< -- -	Price sensitivity	-1.293	.110	-11.761	***
PS1	< -- -	Price sensitivity	-.658	.059	-11.201	***

**Source: own research, own construction**

### Moderating role of Price Sensitivity

**Table 32. Statistics of the price sensitivity factor score**

Statistics		
Price sensitivity_factor score		
N	Valid	388
	Missing	0
Mean	.1227722	
Median	.2188450	
Std. Deviation	.89239301	
Variance	.796	
Minimum	-2.60997	
Maximum	1.63423	

**Source: own research, own construction**

**Table 33. Price sensitivity- Frequency**

Price Sensitivity					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low price sensitivity	178	45.9	45.9	45.9
	high price sensitivity	210	54.1	54.1	100.0
	Total	388	100.0	100.0	

**Source: own research, own construction**

**Table 34. Correlation Between Price Sensitivity and Fair Pricing**

Correlations			
		Price Sensitivity	Fair pricing
Price Sensitivity	Pearson Correlation	1	-.007
	Sig. (2-tailed)		.883
	N	388	388
Fair Pricing	Pearson Correlation	-.007	1
	Sig. (2-tailed)	.883	
	N	388	388

**Source: own research, own construction**



## Moderating Role of Brand Image

**Table 35. ANOVA- Brand Image**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.655	6	11.109	34.854	.000 <sup>b</sup>
	Residual	121.437	381	.319		
	Total	188.093	387			
a. Dependent Variable: Total image of Wizz air						
b. Predictors: (Constant), Acclaimed (Recognized), Economical, Taking care of its customers, Reliable, Prepared						

**Source: own research, own construction**

**Table 36. Model Summary- Brand Image**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.571 <sup>a</sup>	.326	.317	.84203708	.326	36,917	5	382	.000
2	.593 <sup>b</sup>	.351	.337	.82929137	.025	4,944	3	379	.002

a. Predictors: (Constant), Brand image\_REGR factor score 1 for analysis 8, Stimulus\_Price\_position, Stimulus\_DynPricing\_volatility, Stimulus\_DynPricing\_change\_decreasing, Stimulus\_DynPricing\_change\_increasing

b. Predictors: (Constant), Brand image\_REGR factor score 1 for analysis 8, Stimulus\_Price\_position, Stimulus\_DynPricing\_volatility, Stimulus\_DynPricing\_change\_decreasing, Stimulus\_DynPricing\_change\_increasing, DynPrice\_increasing\_trend\_x\_Brand\_Image\_Wizz, DynPrice\_decreasing\_trend\_x\_Brand\_Image\_Wizz, DynPrice\_volatility\_x\_Brand\_Image\_Wizz

**Source: own research, own construction**

**Table 37. ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	130,877	5	26,175	36,917	,000 <sup>b</sup>
	Residual	270,848	382	,709		
	Total	401,725	387			
2	Regression	141,078	8	17,635	25,642	,000 <sup>c</sup>
	Residual	260,647	379	,688		
	Total	401,725	387			

a. Dependent Variable: Fair Pricing Factor score

b. Predictors: (Constant), Brand image\_REGR factor score 1 for analysis 8,

Stimulus\_Price\_position, Stimulus\_DynPricing\_volatility,

Stimulus\_DynPricing\_change\_decreasing, Stimulus\_DynPricing\_change\_increasing

c. Predictors: (Constant), Brand image\_REGR factor score 1 for analysis 8,

Stimulus\_Price\_position, Stimulus\_DynPricing\_volatility,

Stimulus\_DynPricing\_change\_decreasing, Stimulus\_DynPricing\_change\_increasing,

DynPrice\_increasing\_trend\_x\_Brand\_Image\_Wizz,

DynPrice\_decreasing\_trend\_x\_Brand\_Image\_Wizz, DynPrice\_volatility\_x\_Brand\_Image\_Wizz

Source: own research, own construction

## Moderating role of Industrial Norm

Table 38. Correlation

Industrial Norm			Fair Pricing	Dynamic Pricing volatility	Stimulus_DynPricing_change_increasing	Stimulus_DynPricing_change_decreasing
Perceived divers' price	Fair pricing	Pearson Correlation	1	-.311**	-.141*	.049
		Sig. (2-tailed)		.000	.032	.453
		Sum of Squares and Cross-products	184.859	-32.293	-13.158	4.854
		Covariance	.797	-.139	-.057	.021
		N	233	233	233	233
	Dynamic Pricing volatility	Pearson Correlation	-.311**	1	.101	.066
		Sig. (2-tailed)	.000		.125	.314
		Sum of Squares and Cross-products	-32.293	58.223	5.292	3.652
		Covariance	-.139	.251	.023	.016
		N	233	233	233	233
	Dynamic Pricing_cha	Pearson Correlation	-.141*	.101	1	-.450**
		Sig. (2-tailed)	.032	.125		.000

Percieved similar price	nge_increasing	Sum of Squares and Cross-products	-13.158	5.292	47.305	-22.378	
		Covariance	-.057	.023	.204	-.096	
		N	233	233	233	233	
	Stimulus_DynPricing_change_decreasing	Pearson Correlation	.049	.066	-.450**	1	
		Sig. (2-tailed)	.453	.314	.000		
		Sum of Squares and Cross-products	4.854	3.652	-22.378	52.215	
		Covariance	.021	.016	-.096	.225	
		N	233	233	233	233	
	Fair pricing	Fair pricing	Pearson Correlation	1	-.357**	-.130	.185*
			Sig. (2-tailed)		.000	.106	.021
			Sum of Squares and Cross-products	122.544	-24.459	-8.756	11.862
			Covariance	.796	-.159	-.057	.077
			N	155	155	155	155
Dynamic Pricing volatility		Pearson Correlation	-.357**	1	.003	-.192*	
		Sig. (2-tailed)	.000		.975	.017	
		Sum of Squares and Cross-products	-24.459	38.387	.097	-6.871	
		Covariance	-.159	.249	.001	-.045	
		N	155	155	155	155	
Stimulus_DynPricing_change_increasing		Pearson Correlation	-.130	.003	1	-.540**	
		Sig. (2-tailed)	.106	.975		.000	
		Sum of Squares and Cross-products	-8.756	.097	36.774	-18.968	
		Covariance	-.057	.001	.239	-.123	
		N	155	155	155	155	
Stimulus_DynPricing_change_decreasing	Pearson Correlation	.185*	-.192*	-.540**	1		
	Sig. (2-tailed)	.021	.017	.000			
	Sum of Squares and Cross-products	11.862	-6.871	-18.968	33.510		
	Covariance	.077	-.045	-.123	.218		
	N	155	155	155	155		

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
\* . Correlation is significant at the 0.05 level (2-tailed).

Source: own research, own construction

Table 39. Industrial Norm Categories

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00 Percieved divers' price	233	60.1	60.1	60.1
	1.00 Percieved similar price	155	39.9	39.9	100.0
	Total	388	100.0	100.0	

Source: own research, own construction

## Moderating role of Internal Reference Price

**Table 40. Correlations**

		Stimulus_DynPricing_volatility	Stimulus_DynPricing_change_increasing	Stimulus_DynPricing_change_decreasing	Please estimate the average cost of a one-way ticket from Budapest to London (in HUF)
Stimulus_DynPricing_volatility	Pearson Correlation	1	.063	-.036	-.004
	Sig. (2-tailed)		.213	.477	.940
	N	388	388	388	387
Stimulus_DynPricing_change_increasing	Pearson Correlation	.063	1	-.487**	-.069
	Sig. (2-tailed)	.213		.000	.173
	N	388	388	388	387
Stimulus_DynPricing_change_decreasing	Pearson Correlation	-.036	-.487**	1	.033
	Sig. (2-tailed)	.477	.000		.515
	N	388	388	388	387
Please estimate the average cost of a one-way ticket from Budapest to London (in HUF)	Pearson Correlation	-.004	-.069	.033	1
	Sig. (2-tailed)	.940	.173	.515	
	N	387	387	387	387

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Source: own research, own construction**

**Table 41. Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1									

1	.365 <sup>a</sup>	.133	.124	.9548 2137	.133	14.64 7	4	382	.000
2	.369 <sup>b</sup>	.136	.120	.9568 7283	.003	.455	3	379	.714

a. Predictors: (Constant), Dynamic pricing with decreasing trend, Internal Reference Price (IRP), Dynamic Pricing with volatility, Dynamic pricing with increasing trend

b. Predictors: (Constant), Dynamic pricing with decreasing trend, Internal Reference Price, Dynamic Pricing with volatility, Dynamic pricing with increasing trend  
 IRP x Dynamic pricing with decreasing trend, IRP x Dynamic pricing with increasing trend, IRP x Dynamic Pricing with volatility

**Source: own research, own construction**

**Table 42: Interaction Term: Moderating role of Internal Reference Price**

		Coefficients				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.551	.104		5.272	.000
	IRP	-3.947E-6	.000	-.113	-2.373	.018
	Dynamic Pricing with volatility	-.630	.097	-.309	-6.468	.000
	Dynamic pricing with increasing trend	-.239	.119	-.110	-2.014	.045
	Dynamic pricing with decreasing trend	.123	.118	.057	1.038	.300
2	(Constant)	.558	.117		4.776	.000
	IRP	-4.200E-6	.000	-.121	-1.530	.127
	Dynamic Pricing with volatility	-.582	.125	-.285	-4.674	.000
	Dynamic pricing with increasing trend	-.321	.165	-.148	-1.941	.053
	Dynamic pricing with decreasing trend	.052	.151	.024	.344	.731
	IRP x Dynamic pricing with decreasing trend	2.929E-6	.000	.056	.774	.440
	IRP x Dynamic pricing with increasing trend	3.723E-6	.000	.049	.678	.498
	IRP x Dynamic Pricing with volatility	-2.082E-6	.000	-.048	-.623	.534

**Source: own research, own construction**

## **APPENDIX D**

### **Survey**

#### **Research Participation Spring 2022 - airplane ticket**

Dear Participant,

Thank you in advance for taking the time to complete the research questionnaires at the Marketing Institute.

The completion of the questionnaires took a total of approx. It takes 10-15 minutes, but this can vary from individual to individual. You can stop filling at any time and resume from the same machine.

During the questionnaire, you may feel that some questions or statements differ only slightly. This is to increase the reliability of the research results.

It is important to enter the Neptune code at the beginning of the questionnaire, which will of course be handled in accordance with the data protection regulations (it is only used to allocate participation points and will be deleted from the database at the end of the exam period).

Only those who fill them in carefully can get extra points for completing them! To verify this, verification questions were also included in the questionnaire.

Thanks for the help!

Instructors of the subject

Q1. Specialization

- Management (1)
- Finance and Accounting (2)
- Business Informatics (3)
- Agricultural engineer for rural development (4)

- International Management (5)
- Trade and marketing (6)
- Political Science (7)
- Guest student (8)
- other (9)

## Q2. Group

Please indicate in which month was born!

- January (1)
- February (2)
- March (3)
- April (4)
- May (5)
- June (6)
- July (7)
- August (8)
- September (9)
- October (10)
- November (11)
- December (12)

Question 3: Please estimate how many times in your life you have traveled by plane (1 time includes round trip)? Please enter the specific estimated number!

Question 4: How many times do you usually try to travel with your favorite airline?

- I don't travel by plane (1)
- It is not me who usually decides on the airline (3)
- I always try to travel with my favorite airline and only choose another if it is not available (4)
- I don't always stick to my favorite airline, sometimes I like to try something else (7)
- For me, the airline itself is not that important; before each trip I choose the best offer airline (8)

Question 5: Please estimate the average cost of a one-way ticket from Budapest to London (in HUF)!

Question 6: **The airline experience**

Have you flown with the following airlines?

	Yes, more than once (1)	Once (2)	Never before (3)
Wizz Air (1)			
Ryanair (2)			

Question 7: **Perception of fairness regarding the price of Airline companies**

Please evaluate the airline company on a five-point rating scale regarding the following attributes

(It's okay if you don't have direct experience, then imagine what it might be like and give your answers based on it!)

	Very satisfied (1)	Satisfied (2)	Neutral (3)	Dissatisfied (4)	Very dissatisfied (5)
Wizz Air (1)					
Ryanair (2)					



**Question 8: Rating of airlines**

Please evaluate the airline company on a five point rating scale regarding the following attributes

(It's okay if you don't have direct experience, then imagine what it might be like and give your answers based on it!)

	Wizz Air					Ryanair				
	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Reliable (1)										
Economical (2)										
Providing quality services (3)										
prepared (4)										
Taking care of its customers (5)										
Acclaimed (6)										

Q94 If the two airlines offered their flights at the same prices and departures, which one would you prefer?

- Wizz Air (1)
- Ryanair (2)
- Both would fit, I can't tell the difference (3)
- I would try to avoid both (4)

**Question 9: Assessing airlines' pricing practices in general (Industrial Norms)**

Please evaluate the airline company on a five-point rating scale regarding the following attributes

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
There are no big differences between airline prices (2)					
Airline companies copies each others when they determine their own prices (3)					
There are huge differences between the airline companies' ticket prices in case of the same route (4)					
I like if an airline company changes its prices (5)					
The changes of airline tickets are positive experience for (6)					
It is annoying that the prices of the airline tickets are always					

changing (7)					

Please indicate in which month you were born! = January

Question 10: Janka wanted to buy a flight to London by the end of May. She noticed that on her second search, airfare was already available at other prices. She started monitoring prices and was able to collect the data below.

Please review these more closely!

Question 11: Please select which airline's pricing practices you find the most "fair"!

- Competitor A (1)
- Competitor B (2)
- Competitor C (3)
- Competitor D (4)
- Wizzair (5)

Question 12: Please select which airline's pricing practices you find the most unfair.

- Competitor A (1)
- Competitor B (2)
- Competitor C (3)
- Competitor D (4)
- Wizzair (5)

Question 13:

Please decide whether you consider the last fare of each airline to be fair or unfair ("Fair / Unfair") ?!

(Ha kell, tekintsen újra az ábrára!)

	The last price is fair ("Fair") (1)	The last price is unfair ("Unfair") (2)
--	--	--

Competitor A (1)		
Competitor B (2)		
Competitor C (3)		
Competitor D (4)		
Wizzair (5)		

Question 14: Now we only want you to give your opinion about the prices of Wizzair

Based on the example above, Wizz Air's pricing practices ...

(If necessary, look at the figure again!)

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
...fair (1)					
...reasonable (2)					

... acceptable (3)					
... unfair (4)					

Question 15: The last price of the flight offered by Wizzair ...

(If necessary, look at the figure again!)

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
...fair (1)					
...reasonable (2)					
... acceptable (3)					
... unfair (4)					

Question 16: **Willingness to buy**

In the situation above

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
... I would consider buying a Wizzair ticket at the latest price (1)					
... I would probably buy a Wizzair ticket (2)					
... I have little chance of buying a Wizzair ticket (3)					

... I might buy a Wizzair ticket (4)					
--------------------------------------	--	--	--	--	--

**Question 17: General customer behavior**

Kérem, értékelje, mennyire ért egyet az alábbi állításokkal egy 5 fokozatú skálán!

To what extent do you agree with the following statements? Please give your opinion on a five-point rating scale.

	Strongly disagree (1)	Disagree (2)	Neutra 1 (3)	Agree (4)	Strongly agree (5)
In general, when it comes to buy a product or service, I rely heavily on price (1)					
I usually try to buy products or services when it is on promotion(2)					
When I want to buy something, I search among the lowest priced ones in the given product category (3)					
I usually buy from the more expensive products (4)					
In general, this questionnaire examines the chocolate industry (6)					
In most cases, prices have little effect on my purchasing decisions (5)					

**Question 18: Gender**

- Male (1)
- Female (2)

Question 19: Age?

Question 20: Type of settlement

- Capital (1)
- County seat (2)
- City (but not county seat) (3)
- Village, village (4)