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# PRICE DISCRIMINATION IN THE AIRLINE INDUSTRY

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**Abstract:** For the long period of time, price discrimination was considered as a result of monopoly power. However, this particular strategy can also be conducted by oligopolies. Although, their ability to price discriminate is weaker in comparison with pure monopolies. The general purpose of this pricing method is to increase profits of the firm by setting significant price dispersion on the same product or service and consequently preventing entrance of the new competitor into the market. Economic theory propounds that produced goods or services should be based on cost that has been spent on it.

**Keywords:** market segmentation, competition and price discrimination, airline industry, revenue budget, price-inelastic demand.

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## Introduction

For the long period of time, price discrimination was considered as a result of monopoly power. However, this particular strategy can also be conducted by oligopolies. Although, their ability to price discriminate is weaker in comparison with pure monopolies. The general purpose of this pricing method is to increase profits of the firm by setting significant price dispersion on the same product or service and consequently preventing entrance of the new competitor into the market. Economic theory propounds that produced goods or services should be based on cost that has been spent on it. However, application of price discrimination is considered as fair action in wide range of circumstances. Therefore, it has been observed that price discrimination strategies are widely applied by industries, which conduct operations in highly concentrated markets. And airline industry market was never an exception. There are three degrees of discriminating by price, and most airline companies apply either 2nd degree or 3rd degree price discrimination. Significant number of researches have been examining major aspects and issues of price discrimination in the airline market.

## Market Segmentation

According to Pattison (2001), the essence of an airline industry is highly heterogeneous due to complex scheduling of the flights, variation of destination routes, etc. Fields of market segmentation exist in the airline industry market for identifying various groups of consumers with varying demands and different price elasticities. However, Gerardi and Shapiro (2007) state that airline industries are unable to segment market with high competitiveness. Pattison (2001) identifies major market segmentation areas by which industries are able to price discriminate. They are as follows: days travelled, day/night flights, age consideration, flight's classes, length of stay, additional services, geopolitical conditions. It must be noted that there is a sight of variation between tendencies of the particular regions and how they conduct price discrimination strategies.

For instance, Pattison (2001), taking days travelled as the factor for price discrimination, identified that price of the weekend's flight across North Atlantic region has a high markup for each way. In contrast, weekends' domestic routes in Great Britain has a lower cost compared with the cost of the weekday travel. This is mostly due to existing substitute of air travel, which is train travel, and the fact that business travels in Britain are mainly made on weekdays. Fares' differences are mostly attributed to the individuals' perception of time, because people possess more inelastic demand during weekdays on business routes due to high valuation of time, and to the fact whether the flights are taken domestically or internationally.

Moreover, Pattison (2001) suggests that price discrimination is observed when taking into account night or day travels. However, this approach is not applied over North Atlantic region with the USA's highly competitive airline market and some business centers of Europe. Some European night flights, that possess tourism purpose, provide substantially lower costs than day routes. Firstly, this is due to working time arrangements during the day, when the value of time is considerably higher, compared with night's perception of time. Secondly, there is more elastic demand at the night time because substitutes in the forms of travelling by train and charters are involved (Pattison, 2001). Moreover, Puller and Taylor (2012) identified price discrimination utilized based on the day-of-the-week of a purchase of a ticket. Their findings show that prices for the tickets purchased on the weekends were 5% lower. These results also showed the industry has the ability to alter prices daily according to specific day and the type of airline travelers.

### **Competition and Price Discrimination**

There are several research papers that investigated the effect of competition on price discrimination in the airline industry. In general, it is suggested that a firm's ability to price discriminate increases with an increase in market power, which indicates that competition and the ability to apply and sustain markups are inversely related (Varian, 2010). However, Borenstein (1989) claims that dispersion in fares tends to increase, when a market transitions from monopoly to imperfect competition and concentration reduces. It was found that fares for travelers with price-elastic demand are more responsive to monopolistic competition in comparison with fares for travelers with price-inelastic demand.

One of the major empirical studies analyzing the relationship between the market structure and distribution of ticket prices in the U.S airline industry was conducted by Borenstein and Rose in 1994. Borenstein and Rose (1994) regressed the GINI coefficient as a measurement of fares' dispersion with the market concentration expressed as Herfindahl Index, and other variables. They find that routes with decreasing concentration in the market demonstrate higher dispersion of airline fares. In other words, they indicate the positive relationship between competition and the price dispersion of airline tickets. However, due to data limitations, the research paper mainly focused on changes in average airfares (Borenstein and Rose, 1994). Whereas, Stavins (2001) precisely analyzed price discrimination by observing patterns of individual ticket prices and ticket restrictions. She finds that monopolistic competition induces carriers to lower prices for leisure travelers (price-elastic) while retaining higher prices for business travelers with price-inelastic demand. Thus, Stavins (2001) concludes that an increase in competition in the industry increases price discrimination. The same evidence of positive correlation between price discrimination and competition was observed in European airline industry (Giaume and Guillou, 2004). In addition, considering the types of discriminatory pricing, it was empirically found that competition increases the effect of both second- and third-degree discrimination strategies on routes within Canada (Chandra, 2020).

In contrast with the previous studies, Gerardi and Shapiro (2007) find the negative and significant relationship between competition and price discrimination. They used panel data of 9 carriers within 1993-2006 and provided evidence that an increase in competition limits an airline company to set higher prices to consumers with price-inelastic demand in relation to

those with price-elastic. Therefore, their findings comply with the textbook theory.

### **The effect of consumer search and availability of Internet**

The concept of price discrimination is widely researched with its effective consequences. Basically, the price discrimination is experienced, if the firm can sort out their customers according to certain group level. According to Verlinda and Lane (2004), the growth of internet users is the potential measurement for increase of neither low or high search fares in the market. During 4 years (1998-2002), the tickets searched by internet accessed consumers, increased from 2 million to 65 million at the end of the year. The advancements of this web based programs allow to airline industries to extract information about preferences of customers and apply to charge different prices (Siva and Anandalingam, 2005). The findings of the research showed that, searching from the net has affected each fare type differently (Verlinda and Lane, 2004). They noticed that when people start to look for airline tickets via online, the price of unrestricted tickets was prone to sensitive because of competition in the market. Another important finding was that Internet cause to increase brand-rivalry. The search process of airline tickets gives an opportunity to sellers to collect data about potential customers, for example what kind of flight they prefer or so on (Arup and Sandeep, 2001). After this, firms might effectively use price discrimination with expanding their revenue budget.

Lewis (2019) analyzed the collection of fare prices data through the major aggregator website, called Global Distribution System (GDS). This investigation helped to show how US airline companies are managed to differentiate their customs to particular group, accordingly with the time, destination, ticket and operating carrier. The result was that airlines can compute the directional price difference equation to group level. The proposed method for directional price discrimination is empirical proof that popularity of Internet users helped to sort out airline passengers in US according to their willingness to pay. However, this examination heavily relies on the strong data analysis, airlines might set the prices which available information they have (Lewis, 2019).

### **Conclusion**

To summarize, it has been established by previous studies that strategies of price discrimination in the airline industry changes according to market concentration and market segmentation, availability of advanced technologies, status of passengers, market competition, and the timing manners. It must be mentioned that little research was made on the effect of market segmentation on price discrimination. All areas of market segmentation are substantially similar on their influence on application of price discrimination strategies. The extent to which airline companies are able to price discriminate is highly dependent on the passengers' valuation of time and the existence of substitutes. In addition, the effect of competition also differs: it was indicated that an increase in competition leads to an increase in price discrimination, while other research found an opposite effect. Moreover, preliminary results of research papers emphasize that wide usage of Internet intensify the competition of fare price. If firm manages to expand or clearly defines large price groups, then monopoly will be preferred over the duopoly.

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