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EVALUATION OF RIVAL PAIRS' COMPETITIVE ACTIONS: THE CASE OF TURKISH INTERNATIONAL AIRLINE MARKET [1]

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Abstract

Air transportation is a sector where more than one competitor faces each other in many markets simultaneously, and the competition is experienced based on the route. The study aims to classify the competitive actions performed by 26 airlines in the Turkish international airline market from 2014-2018. The study aims to classify the competitive actions performed by 26 airlines in the Turkish international airline market from 2014-2018. The evaluation of these actions will be conducted in the context of the rival pair. The study aims to classify the competitive actions performed by 26 airlines in the Turkish international airline market from 2014-2018. The study classified competitive actions based on their types and identified the preferred moves of airlines. The results indicate that traditional airlines tend to use schedule-based actions more frequently. Additionally, all airlines tend to use schedule and price-related actions the most. The analysis of the actions between competitors reveals an asymmetry of rivalry among the airlines.

Keywords: Competition, Competitive Dynamics, Strategy, Airline Management.

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Introduction

In the 1980s, economics became the focus of strategy research. In this process, strategic management was seen as an analytical process and strategy was often referred to as competition, which is an economic concept (Barca & Hızıroğlu, 2009: 132; Bakoğlu and Dinç Özcan, 2010: 58). One of the researchers who contributed to this process is Michael Porter (Erol et al., 2013: 88). Porter's Competitive Strategy, published in 1980, opened a completely different door in the development of research on the content of the strategy. A few years after the first work, a second work entitled Competitive Advantage was published in 1985, and the ideas about 'what strategy is' were put on a firmer footing. The greatest contribution of these two works to the development of strategic management thinking is that they placed the concept of competition, rather than planning, at the centre of strategy and caused a paradigm shift (Barca, 2005: 13).

With the evolution of strategy into competitive strategy and the placing of the concept of competition at the centre of strategic management thinking (Porter, 1980; 1985), it can be observed that research on competition in the field of strategic management has increased. One of the most distinctive features of this period is that strategy began to take on a concrete form. It was precisely during this period that research supporting this proposition under the name of competitive dynamics made significant contributions to the increasingly concrete state of strategic management thinking (MacMillan et al., 1985; Bettis & Weeks, 1987).

Competitive dynamics examines the firms involved in the industry and the competitive actions performed by them. Competitive dynamics analyses the actions of firms in real markets against each other and the consequences of those actions. The paper analyses the probabilities of moves and reactions, as well asthe conditions under which they will or will not occur, and the factors that increase or decrease their likelihood (Chen & Miller, 2012: 4; Grimm et al., 2006: 61).

In today's economic climate, airlines have the freedom to operate in a competitive environment due to the regulatory dimensions of market access, entry, price, and capacity. This has led to the emergence of competitive dynamics in both domestic and international airline markets. Upon examining the literature on competitive dynamics in the Turkish context, it becomes apparent that the scope of studies is limited. These studies only focus on a particular aspect of competitive dynamics, as evidenced by the works of Gündüz and Semercioz (2012), Gündüz (2013), Yaşar (2017), Sönmez and Eroglu (2018), Yaşar and Gerede (2020), and Sönmez and Eroglu (2020). Among these studies, Gündüz and Semercïöz (2012) evaluated the relationship between competitive tension and strategic innovation decisions. Gündüz (2013)

examined the moderating effect of tension on strategic innovation decisions, and Yaşar (2017) investigated cross-competition in the transport sector. In their study, Sönmez and Eroğlu (2020) examined the correlation between competitive moves and retaliation. Meanwhile, Yaşar and Gerede (2020) analysed the factors that lead to tension in the domestic airline market. Additionally, Sönmez and Eroğlu (2020) proposed a sector-specific typology by categorising competitive moves. The listed studies evaluated competitive actions at the firm level, without considering the specific competitors against whom the actions were taken. However, it is important to consider that each market has unique characteristics and dynamics. Therefore, different competitors may be required for different markets. This study analyses competitive actions at the competitor dyad level, revealing which actions airline operators take against each other. The study evaluated airline companies based on their business model. This research aims to contribute to the literature with its level of analysis. To achieve this goal, the competitive actions of 26 domestic and foreign airlines registered in the Turkish International Airline market were examined during the period 2014-2018, and each action was evaluated based on a pair of competitors.

1. Competitive Actions and Their Components

Most research on competitive actions is based on Schumpeter's theory of creative destruction and the Austrian School. Companies aim to create and maintain a competitive advantage by positioning themselves relative to their competitors and seeking ways to innovate (Kirzner, 1973: 79). Competitive dynamics has developed theories and empirical methods that precisely conceptualize strategy as competitive moves (Smith et al., 1992). In other words, the strategies that were previously analyzed at the macro level have now been reduced to the firm level. The actions of firms in real markets have been included in the field of analysis.

Competitive moves (attack) and (counter-moves/reaction/retaliation/counterattack) are defined as specific and observable actions that a firm initiates to strengthen its relative competitive position (Chen et al., 1992; Ferrier et al., 1999; Smith et al., 1991; Smith et al., 1992). This defitinition is widely accepted in competitive dynamics research, which has studied actions in various studies. Therefore, there are likely to be differences between industries in terms of specific types of actions. The majority of actions can be categorised as pricing, marketing, new product/service introduction, capacity, and scale-related, service and operational, signaling (intimidation) moves. (Smith et al., 2006: 319). Airlines can compete by offering discounts on ticket prices, entering new markets, increasing flightfrequency, or introducing innovative in-cabin services.

The initial studies in competitive dynamics focused on individual actions taken by firms, their reactions, and the relationships between sequences of moves and counter-moves. Research in this context indicates that counter-moves, or retaliations, can be predicted by analysing the characteristics of moves. In summary, the features that define the moves, such as radicality, scope, aggressiveness, and irreversibility, are crucial factors that determine the likelihood and speed of competitive reactions (Chen et al., 1992; Smith et al., 1991; Smith et al., 1992). Research in competitive dynamics has investigated the importance of responding to moves as a first-mover, second-mover, or late mover relative to competitors (Lee et al., 2000; Smith et al., 1992; Lieberman & Montgomery, 1988). MacMillan et al. (1985), Smith et al. (1989), and Chen and MacMillan (1992) examined the radicality of competitive moves, which defines the extent to which they depart from existing norms. Radical moves are difficult for rivals to interpret and lead to fewer and slower retaliations. Therefore, making a move that is uncommon in a competitive marketplace can greatly contribute to gaining a competitive advantage. In terms of generic strategies, the effectiveness of firms implementing differentiation strategies, particularly in their products and services, depends on their level of understanding and imitation of the differences. Price cuts are the easiest actions to imitate, and competing airlines are likely to quickly respond when a price action is implemented. However, the creation of Turkish Do &Co catering company in partnership with Austrian Do &Co by Turkish Airlines is a prime example of a bold strategic move. By doing so, Turkish Airlines has transformed its reliance on external resources into a competitive advantage, resulting in a substantial improvement in the quality of its catering services. Competitors view this move as a formidable challenge to replicate. The size of a competitive move is determined by resources required for its implementation. However, the scope of the move is measured by the number of potentially affected competitors. The degree of threat associated with a move is determined by the number of competing customers at risk of being lost when the move occurs (Chen et al., 1992). It has been suggested that as the size of a competitive move increases, it may become more challenging for competitors to respond. However, as the scope and threat of the move increase, so does the probability and speed of the reaction (Smith et al., 1992). It is important to note that there is a possibility of the rival losing its existing or potential market share.

Competitive dynamics also focus on the frequency of moves performed at a certain time. The aggressiveness of companies, measured by the number and speed of competitive moves, is a crucial factor in market performance. Ferrier et al. (1999) argue that a firm's profitability or market share is positively correlated with the total number of competitive moves made in a

given period and the average speed of these moves in a market. In competitive dynamics literature, the term 'competitive repertoire' refers to the range of moves made by a company within a certain period. A simple repertoire indicates a limited variety of moves, with firms often relying on a single type of attack (Miller & Chen, 1996b). Competitive repertoire incompatibility occurs when a company's repertoire differs from the industry norms. Firms with competitive repertoire incompatibility exhibit different moves compared to others. Competitors seldom use conflicting repertoires (Miller & Chen, 1996a). Another related concept is competitive repertoire inertia, which refers to the actions taken by a firm when changing its competitive stance in terms of type and number (Miller and Chen, 1994). It is important to make competitve moves in a certain period (Smith et al., 2006: 344). This view aligns with previous research on a unified chronological series of actions (Kirzner, 1973), patterns or coherences in behavioral flows (Mintzberg and Waters, 1985), a coordinated series of actions (MacCrimmon, 1993), or a sequential set of many actions (D'Aveni, 1994).

In a competitive market, if a firm takes an action that generates abnormal profits or distorts market position of its competitors, they will be motivated to retaliate against this action (Albers and Heuermann, 2013; Hitt et al., 2016: 151). Porter (1980) defines a competitive response as a clear and distinguishable counter-reaction carried out to defend or improve the current position of the firm(s) exposed to the move(s) initiated by the competitor(s).

Competitive dynamics focus on the characteristics of reactions, such as the probability of a response when a move is exposed, the type of reaction, the delay time, and the order of the reaction in the opponent's set (Lee et al., 2000; Smith et al., 1991). Furthermore, the study by Chen and Hambrick (1995) investigated additional dimensions, such as the extent and speed of retaliation, as characteristics of reactions. The probability of a competitor reacting to the firm's competitive actions was also examined by Smith et al. (1991). The frequency of a firm's reactions to a competitor's actions within a certain period is a crucial factor in predicting this probability. According to Smith et al. (2006: 325), a firm that responds to nine out of ten actions of a competitor is more likely to respond again in a similar situation in the future than a firm that responds to only one out of ten moves. Rivals have several intervention options when responding to an action, including the option to imitate the initiated action. The extent to which a reaction resembles the initiated action is defined as imitation reaction (Smith et al., 1991). If one airline increases frequency on a flight route where it competes with another airline, a similar response from the competitor sends a strong message that its market position will be defended (Chen & MacMillan, 1992). If resources allow, the competitor may retaliate to avoid losing

market share. On the other hand, it is important to consider the timing of retaliation in response to a competitive move. Reaction lag which refers to the time between the initiation of a competitive action and retaliation, can have a significant impact. It is suggested that the initiator may gain an advantage as the reaction delay increases. Competitors who fail to respond or respond late often experience a loss of market share or missed profit opportunities (Lee et al., 2000). It is assumed that the first mover will have an advantage if the action is effective. For this reason, companies that initiate the action prefer actions that will cause a delay in reaction (Porter, 1980: 98; Smith et al., 1989). The longer the reaction time, the more challenging it is to establish a relationship between the action and the reaction. Associating a response with a previous statement and perceiving a late response as a message to competitors in the market becomes difficult (Chen & MacMillan, 1992). For example, a price reduction is expected to be responded to in a short time. Because price cut is an easily applicable counteraction. If the counter-move takes a long time, it may be difficult for the initiator to perceive it as retaliation.

When a competitive action in a marketplace affects multiple competitors, each firm will respond. The order of response becomes important as it indicates the firm's ranking in the reaction to the competitive action among the competitors who made more than one counter-move (Smith et al. 1991: 62). A firm can be a first, second, or late responder.

2. Literature Review

Since the basis of strategic management is competition, the mutual interactions between the firms become one of the most important issues in strategic management. For this reason, it is important to analyze competitive actions and reactions, which are the tools of firms to compete (Chen, 1996). Because it becomes possible to gain a competitive advantage and earn returns above the industry average through competitive behaviors (Young et al., 2000; Chen & MacMillan, 1992). Therefore, competitive conditions should be assessed not only at the sector or group level but also at the firm level (Baum & Korn, 1996: 256). Competitive dynamics is a field that examines the competitive moves and retaliations of firms in an industry for advantageous market position and positive financial performance in a strategic and organizational context and examines the conditions that cause these competitive actions and the consequences of these actions within a model (Chen & Miller, 2012; Smith et al., 2006). There are many studies on competitive dynamics in different contexts. Some of these studies are summarised in Table 1.

Table 1
Literature Summary

Authors	Industry	Level of Analysis	Focus	Summary of Results
MacMillan et al. (1985)	Banking Sector	Firm Level	Competitors' reactions to products that are easily imitated in the marketplace	It would be appropriate to consider this research as one of the pioneering studies in the field of competitive dynamics.
Bettis & Weeks (1987)	Photography	Firm-Dyad Level Polaroid-Kodak	Action-reactions between two firms	Focuses on the competition between two firms directly in the competitive marketplace and reduces the competition previously evaluated to the micro level (firm pair).
Smith et al. (1989)	Technology firms	Firm Level 22 High Tech Firms	Retaliation time	Preliminary theories on this subject by investigating the impact of internal and external factors affecting the retaliation time of companies producing advanced technology on performance.
Smith et al. (1991)	Airline Industry	Firm-Dyad Level 32 US Airlines	Actions and Reactions	Type of actions affects the ability to imitate and perform counter-moves
Chen & MacMillan (1992)	Airline Industry	Firm Level 32 US Airlines	Actions and Reactions	The airline's action will put the affected business in a difficult situation (such as losing market superiority or losing a significant part of the market share to a competitor), the responding firm will tend to respond to this action instead of withdrawing itself and the probability of reaction will increase. In addition, if the action is irreversible (irreversibility), the opposite effect will occur compared to the first situation.
Chen et al. (1992)	Airline Industry	Firm Level	Actions and Reactions	First moves affected the realization of counter-moves, and the number

				of companies affected by the move and the importance of the market increased the number of retaliations.
Chen & Miller (1994)	Airline Industry	Firm Level	Actions and Reactions	The moves made to decentralized markets are not very noticeable and are less exposed to retaliation.
Chen & Hambrick (1995)	Airline Industry	Firm Level 28 US Airlines	Actions and Reactions	Small airlines do their competitive actions more quietly or secretly, and when they are exposed to any move, they are less likely to retaliate, and the speed at which they do so is slow.
Miller & Chen (1996a, 1996b)	Airline Industry	Firm Level 18 Major US Airlines	Actions and Reactions	They concluded that companies with high competitive interaction have a wider competitive repertoire
Ferrier et al. (1999)	41 Different Industries	N/A	Actions and Reactions	High industry competition or aggressiveness on behalf of an individual firm increases the likelihood of gaining market share.
Chen (1996)	Airline Industry	Firm-Dyad Level US Commuter Airlines	Competitor Analysis	It is argued that competitors with a high degree of market commonality are reluctant to take action against each other and that this situation leads firms to engage in mutual avoidance.
Chen et al. (2007)	Airline Industry	Firm-Dyad Level US Major Airlines	Competitive Tension	The larger the airline's size relative to its competitor and the greater the number of moves into the competitor's markets, the greater the competitive tension.
Gündüz & Semercioöz (2012)	Airline Industry	Firm-Dyad Level Turkish Domestic Airline Market	Competitive Tension	Examined the relationship between strategic innovation and tension.

Gündüz (2013)	Airline Industry	Firm-Dyad Level Turkish Domestic Airline Market	Competitive Tension	Assesses the moderating effect of competitive rivalry on strategic innovation decisions.
Yaşar & Gerede (2020)	Airline Industry	Firm-Dyad Level Turkish Domestic Airline Market	Competitive Tension	Increases in market commonality and market concentration increase the tensions that are thought to exist between airlines, but competitive asymmetry and resource similarity have no effect on tensions.
Tsai et al. (2011) with	Airline Industry	Firm-Dyad Level US Airline Industry	Competitor acumen	They concluded that the airline with higher competitive acumen increases its market share more than its competitor.
Albers & Heuermann (2013)	Transportation Industry	Industry Level German Cross-Competitive Market	AMC Perspective	The role of awareness, motivation and ability as drivers of competitive behaviour is explained in detail.
Yaşar (2017)	Transportation Industry	Firm Level Ankara-İstanbul Route	AMC Perspective	The results of the research show that bus operators consider airlines as important competitors, but this situation is not observed for airlines. This situation also points to competitive asymmetry across industries.

It is seen that the first academic research that came across in the field of competitive dynamics, which began to take place in the field of strategic management in the mid-1980s, was the work of MacMillan et al. (1985) in the banking sector. In Chen and MacMillan's (1992) research, authors have tried to measure the timing of the response to the type of competitive move. Strategic actions such as mergers and acquisitions and the creation of a hub are either not responded to or responded to too late. On the other hand, the response to actions such as price reductions seems to be faster. The research conducted by Chen et al. (1992) analysed the actions into two main categories (strategic and tactical) and found that strategic actions delayed retaliation. Chen and Hambrick's (1995) study assessed the challenges of visibility and

responsiveness to competitive tactical actions such as fare reductions, new routes and frequent flyer programmes, as well as strategic actions such as hub and spoke, mergers and acquisitions. Miller and Chen (1996a; 1996b) used action types from previous studies in their studies and they discussed variety of actions types.

In the research listed above, it can be seen that the first research has been carried out on classifying the types of competitive moves. These studies categorise competitive actions into strategic and tactical actions and clearly state which actions are strategic and which are tactical. In our research, competitive actions were evaluated in 5 different categories, taking into account the characteristics of the airline product beyond tactical and strategic.

The literature on competitive dynamics emphasizes that there are some signs that these are likely to happen before the actions or counter-actions that firms will make. These signs can give an idea of the possibilities of competitive actions for competing companies. Firms need to use various tools to achieve such a prediction. One of these tools is competitor analysis. With competitor analysis, firms have the opportunity to recognize competitors, and it is ensured that the competitor is diagnosed in advance before a possible encounter in the competitive market.

Competitor analysis is a topic that has been discussed in different contexts and at different levels of interaction by many researchers in the competitive dynamics literature (Chen, 1996, Chen et al., 2007; Tsai et al., 2011; Gündüz & Semercioöz, 2012; Gündüz, 2013, Yaşar & Gerede, 2020). In these studies, Chen (1996) conducted competitor analysis with market commonality and resource similarity, Chen et al. (2007), Gündüz and Semercioöz (2012), Gündüz (2013) and Yaşar and Gerede (2020) with competitor tension, and Tsai et al. (2011) with competitor acumen. Among these tools, market commonality and resource similarity are based on objective criteria, while tension and acumen are based on subjective criteria. Competitor analysis gives companies a head start on competitive moves and an insight into situations in which they can make moves. Yaşar and Gerede (2020) discussed the antecedents of tensions that will trigger competitive actions by airline operators. This section presents research to illustrate the relationship between competitor analysis and competitive moves. Competitor analysis is of great importance in shaping competitive actions. Firms are mobilised by competitor analysis. Figure 1 shows the relationship between competitor analysis and competitive actions, and the issues addressed under these two headings in the context of the studies conducted.

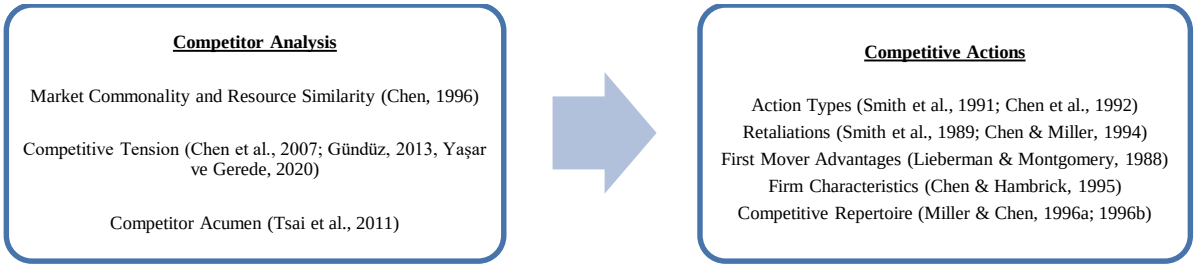

Figure 1.

Issues Covered Under Competitor Analysis and Competitive Actions

Source: Created by the author in the context of the studies analysed

When evaluating all studies in the field of competitive dynamics, the framework consists of actions and counter-actions between firms. This was the initial focus. Later, markets, as the places where competition takes place, were studied by examining market contact, market commonality, and multi-market relations. Following this, the study focused on the background of actions and reactions. The research covered topics such as competitor analysis and the AMC model. Competitive dynamics, which remains a popular subject today, continues to be researched with unique topics and expanding conceptual richness.

4. Methodology

4.1. Obtaining Competitive Actions

Competitive actions refer to the moves made by a focal firm against its competitors. In this study, we conducted a content analysis of the competitive actions carried out by 26 airlines in the Turkish international airline market between 2014-2018. These actions were grouped and discussed under five themes. The study aimed to provide insight into competitive landscape ot the market which is dominated by these 26 airlines that cater to over 90% of the total market. As the research was conducted at the level of rival-dyads, the actions of foreign airlines outside of the Turkish international airline market were also included.

To identify themes related to competitive moves, we used Doganis's (2005: 237) classification of airline product components. According to Doganis (2005: 237), the first group of components in the airline product is schedule-based. These components include the size and scope of the flight network, flight frequency, flight times, connection times, connection quality, and on-time performance. The classification includes price, comfort, service convenience, and image as its components. The components related to passenger comfort include cabin interior design, seat spacing, quality and variety of refreshments, availability of airport lounges, services provided in these lounges, and in-flight entertainment systems. Doganis (2005) identifies

another group of components related to image. This context discusses various elements related to airline firms, including their reputation, safety and security performance, brand value, Frequent Flyer Programs (FFP) characteristics, and advertising and promotional activities. In the study, based on the classification of Doganis, (1) Schedule, (3) Price, (4) Comfort, and (5) Image themes were determined. Although Capacity is not included in Doganis' classification, adding a new aircraft to the fleet of airlines or changing the types of aircraft operating on existing routes are considered important competitive moves and are discussed as a separate theme in this study. On the other hand, the list of competitive moves developed by Miller and Chen (1994) and added by Sönmez and Eroğlu (2020) was used for the types of competitive moves to be included under these themes. The themes and competitive move components related to them are given in Table-2.

Table 2

Themes Related to Competitive Actions and Types

Schedule	**Capacity**	**Price**	**Comfort**	**Image**
New market entry	Enlarging the type of aircraft	Market entry discount	Offering a new service	FFP
Frequency increase				
Code sharing	Reducing seat-capacity by the type of aircraft	Price cut		Advertising moves
Exit from a market			Service development	
Frequency decrease	Adding new aircraft to the fleet	A new promotion within the scope of fees		Promotional activities

Under the schedule theme, actions related to the presence or absence of airlines in the market are discussed. These actions include an airline's re-entry into a market that did not exist before or was withdrawn before the new market entry. It is indicated whether the airline has permanently or temporarily withdrawn from a market as of the relevant date and whether it will take part in that market exit. In addition, airlines may adjust the frequency of their flights in existing markets as a competitive strategy. An increase in the number of flights is referred to as a frequency increase, while a decrease is known as a frequency decrease. As frequency is a crucial factor in determining total travel time, it falls under the schedule-based components (Doganis, 2005: 314). Another competitive action under the scheduled theme is code sharing. Code sharing allows airlines to participate in the markets of other airlines they have agreements with, without using their own aircraft. This enables them to access markets that may be restricted due to regulations, and expand their flight networks. Passengers can travel to any

destination from any origin, reducing total travel time. Therefore, codesharing agreements are an important consideration under the scheduled theme.

Airlines can regulate the capacity they offer to the market without increasing the frequency by changing the types of aircraft they use on the flight route. Airlines can regulate the capacity they offer to the market without increasing the frequency by changing the types of aircraft they use on the flight route. Airlines can regulate the capacity they offer to the market without increasing the frequency by changing the types of aircraft they use on the flight route. This can increase or decrease the capacity. It is important to note that this does not affect the current flight frequency. In the context of this research, if an airline switches to an aircraft with greater seat capacity on a particular flight route, this is referred to as 'enlarging the type of aircraft'. If they opt for a plane with less seat capacity, it is referred to as 'reducing seat capacity by aircraft type'. Another competitive action related to airline capacity is the addition of new aircraft to their fleet. Airlines can increase their seat capacity and produce more seat-km in the market by adding a new aircraft to their fleet. Discounts on ticket prices are available under the price theme. Market entry discount refers to price cuts made by the airline when entering a new market. Immediate price cut refers to price reductions made at any time on any flight route. Incentives offered by airline operators for additional services or tickets, except ticket prices, are considered a new promotion.

Under the theme of comfort, offering a new service means providing a service that has not been offered before. For instance, providing wireless internet service inside the aircraft, improving the network structure of the currently provided wireless internet service, and increasing its speed are all considered service developments. The first component of the image theme is frequent flyer programmes (FFPs). FFPs are tools used to create customer loyalty, especially for business passengers. FFP moves can be given as an example of the miles campaigns offered by airlines to their customers. Additionally advertising and promotion are important components of the programme. These include sponsorship agreements, advertising activities, and promotional collaborations.

Table 3 present details on the data sources and data collection methods used to gather information on competitive actions. Routesonline was used for schedule-based moves, and the data was obtained through data mining using with the KNIME 4.2.1 program. News was extracted from airlines' official websites ofusing both manual and data mining methods with the Dataminer program. On the other hand, the Rapidminer program and manual methods were used to obtain news about price movements and other types of changes from the official Twitter

accounts of the airlines. Additionally, airline annual reports were used as a reference for other data sources in this context.

Table 3

Data Sources and Collection Tools for Competitive Dynamics

Data Source	Data Collection Tool	Programme Used
Routes online	Data Mining	KNIME 4.2.1
Twitter	Data Mining	RapidMiner
Twitter	Manual Scanning	-
Airline Websites	Data Mining	Data miner

The data obtained underwent content analysis, which identified the targeted airline, the type of move, and the time period in which it occurred. The data obtained underwent content analysis, which identified the targeted airline, the type of move, and the time period in which it occurred. The data obtained underwent content analysis, which identified the targeted airline, the type of move, and the time period in which it occurred. The analysis was conducted numerically.

4.2. Coding of Competitive Actions Based on Rival Pairs

After obtaining the raw data on competitive actionswe conducted content analysis and coding. During the coding process, we removed any data that was not related to the research. The codes were then categorised separately for each airline and grouped by year. Codes related to more than one route, particully those related to schedule, capacity and price, were organised into a separate group. The study involved determining the type of action and theme for each code, as well as identifying the airline to which each action would apply. The analysis was based on competitor pairs and evaluated at that level, revealing the number of moves. Table 3 provides examples of the raw news data analyzed for content and the resulting codes for types of competitive moves.

Table 4

Examples of Content Analysis and Coding

Date	Text in Raw Data	Action Type Code
26.09.2018	British Airways has unveiled its new cabin uniforms...	Service development
1.08.2017	...Gatwick- Ibiza from GBP 39…	Price reduction
30.3.2016	...started receiving multiple boarding passes with the mobile application.	Offering a new service
18.12.2017	...The new route Kayseri 89 Euro...	Market entry discount
8.2.2018	Empire State Building Run Sponsorship…	Sponsorship activities
7.6.2017	...Business Class upgrade with a difference of 100 TL…	New promotion
22.12.2016	...Miles-Smiles Hotel Rez. 1 Euro=5 Miles…	FFP
3.12.2018	Mesut Ozil is bringing the excitement of football to Dubai with the Emirates.	Advertising and promotion
1.12.2018	THY starts the Samsun - Stuttgart route in the summer of 2018	Entering a new market

26.2.2018	THY increases its four flights on the Phuket to six	Frequency increase
15.4.2018	THY expands code sharing with Garuda Indonesia	Code sharing
10.1.2017	THY will start using B777 instead of A330 on the İstanbul-Atlanta route.	Enlarging the type of aircraft
4.5.2018	..it has added a new A330 to its fleet…	Adding new aircraft to the fleet

Route-based actions will affect competitors offering direct and indirect flights. This study considers this situation and the analyses the actions separately for airlines that offer flight alternatives in a direct or transfer format on the relevant flight route.

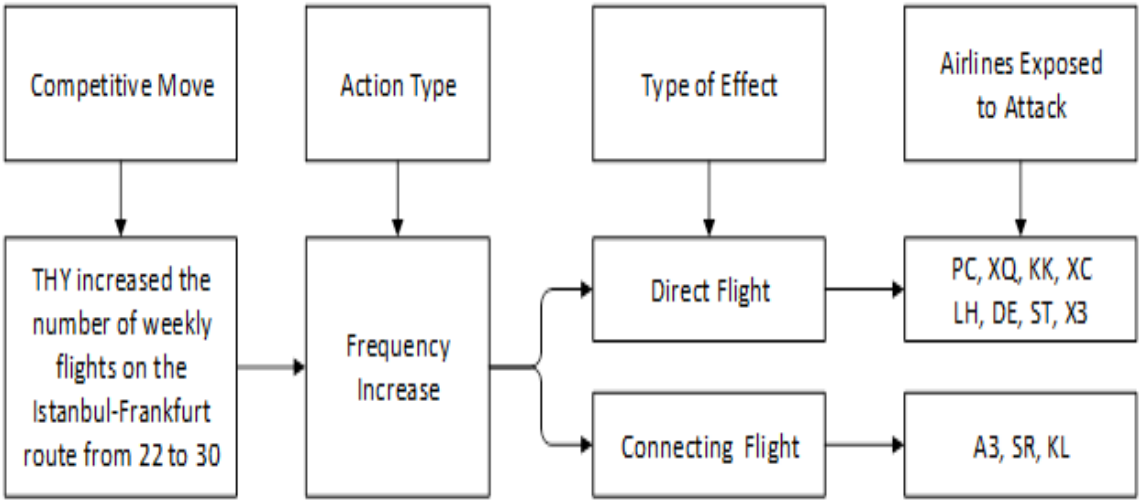

Figure 2.

Illustration of Competitive Action Analysis

Source: Authors

Figure 2 illustrates the analysis of the frequency increase made by Turkish Airlines on the Istanbul-Frankfurt route. The analysis divides the airlines that are likely to be affected by this move into two categories: those that offer direct flights and those that offer connecting flights. Airline companies offering direct flights are those that are registered in the relevant countries and have the traffic rights to operate flights within the Turkey-Germany country pair market.

Identifying airlines that compete with the players in the market for connecting flights is crucial for detailed analysis. The quality of connections and detours become important factors at this point. Research related to detours and route quality should focus on the ratio between direct and connecting flights, which can indicate meaningful connections up to 40%. Connecting flights become impractical if the value exceeds 40% (Danesi, 2006; Goedeking, 2010; Burghouwt & Redondi, 2013; Dobruszkes & Peeters, 2019).To compare the connecting flights offered for the relevant flight route with direct flights, we used the Great Circle Distance website. Figure 3 displays the analyses made for the example on the map.

Figure 3.

Istanbul-Frankfurt Route Transfer Options

Source: gcmap.com

The method outlined in Table-4 was used to determine which airline would be affected by the comparison. The distances for both direct and connecting travel options on the Istanbul-Frankfurt route, as shown in Figure 2, were calculated, and the detour factor for each alternative was determined based on these values. To calculate the detour factor, we determine a percentage value by comparing the direct flight distance to the distances of the transfer flight options. If this value is 40% or lower, we consider the relevant link to be 'significant'. In such cases, airlines offering these significant transfers will be affected by competitive actions aimed at increasing the frequency of flights on this route.

Table 5

Obtaining Meaningful Connections

Flight Route	**Flight Type**	**Transfer Point**	**Flight Distance**	**Detour Factor %**	**Meaningful Connection Decision**
Istanbul-Frankfurt	Direct	-	1841 km	-	
Istanbul-Athens-Frankfurt	Transfer	Athens	2372 km	+ 28,8	✓
Istanbul-Zurich-Frankfurt	Transfer	Zurich	2030 km	+ 10,3	✓
Istanbul-Amsterdam-Frankfurt	Transfer	Amsterdam	2555 km	+ 38,8	✓
Istanbul-Kiev-Frankfurt	Transfer	Kiev	2610 km	+ 41,8	X
Istanbul-Paris-Frankfurt	Transfer	Paris	2669 km	+ 45	X
Istanbul-London-Frankfurt	Transfer	London	3151 km	+ 71,2	X

For istance, in Table 5shows that the direct flight on the Istanbul-Frankfurt route is 1841 km. The transfer points from Istanbul to Frankfurt have been identified, and the flight distance has been calculated using the gcmap website. If the flight goes through Athens, there is a 28%

detour factor and if it goes through London, the detour factor is 71%. Athens refers to the meaningful connection, while London refers to the non-meaningful connection.

In other types of moves, the business model of the airlines and the specific elements of the airline firms are taken into consideration. On the other hand, it was thought that a competitive action taken by a firm using the traditional airline business model on the theme of comfort in Business Class did not affect airline firms using the low-cost or charter business model. Codes based on such pairs of competitors were excluded from the scope of the research.

5. Findings

In the research, five dimensions were obtained in the context of the themes in Table-1. The number of actions determined within the scope of these themes is seen in Table-6.

Table 6

Number of Action Categories

Action Category	N	(%)
Schedule-Based Actions	7003	48
Capacity Actions	1681	12
Price Actions	4354	30
Comfort-Based Actions	896	6
Image Actions	548	4
TOTAL	14482	100

Airlines make the most schedule actions, accounting for 48% of all moves, with a total of 7003. Price-themed actions come in second with 30% and 4354 moves, followed by capacity actions with 1681 moves. The themes of comfort and image have a share of 6% and 4%, respectively.

When selecting an airline, customers' decisions may be influenced by the properties of the product offered. Airlines must determine how to combine these features to meet the needs of customers in different markets. This is a complex process due to varying customer requirements on the same route, between departments, neighboring routes, and geographical areas. Airlines can offer different combinations of product components to their customers. For instance, reducing the number of seats on an airplane can provide more comfort, but this may require selling tickets at higher prices.

The price of the fare is a crucial product feature for many market segments, particularly in price-sensitive entertainment or VFR (visiting friends and relatives) markets. In business passenger markets, where the price elasticity of demand is low, the price may be less significant. However, airlines' significant differences in price may affect demand (Doganis, 2005: 237). It

is recognised that pricing can have a predatory effect on airlines, particularly in terms of deterring or eliminating competition (Dodgson et al., 1990). However, it is important to note that other factors may also contribute to this effect.

Airlines may increase flight frequency to prevent competitors from entering the market and to offer additional capacity (Beesley, 1986; Hanlon, 2007: 276). This data offers valuable insights into why airlines are making more schedule and price adjustments in their competitive actions. Table 7 presents the distribution of competitive actions taken by airlines and their types.

Table 7

Total Number of Airline Actions

Airline	**Schedule**		**Capacity**		**Price**		**Image**		**Total**
	N	(%)	N	(%)	N	(%)	N	(%)	N
A3	334	0.56	14	0.02	154	0.26	15	0.03	80
SU	167	0.47	105	0.30	25	0.07	36	0.10	22
G9	104	0.27	5	0.01	271	0.69	5	0.01	6
KC	54	0.18	16	0.05	146	0.48	61	0.20	29
AF	228	0.53	73	0.17	29	0.07	86	0.20	13
KK	119	0.56	13	0.06	66	0.31	12	0.06	3
BA	625	0.48	180	0.14	390	0.30	95	0.07	21
DE	215	0.41	9	0.02	271	0.52	16	0.03	8
XC	45	0.49	4	0.04	24	0.26	4	0.04	14
U2	450	0.73	6	0.01	105	0.17	40	0.07	14
MS	79	0.17	20	0.04	336	0.72	26	0.06	8
EK	667	0.55	213	0.18	179	0.15	87	0.07	70
ST	271	0.53	6	0.01	217	0.43	7	0.01	9
LS	221	0.48	5	0.01	223	0.48	5	0.01	6
KL	390	0.55	213	0.30	9	0.01	83	0.12	16
LH	432	0.53	174	0.21	138	0.17	56	0.07	15
PC	122	0.33	7	0.02	211	0.58	16	0.04	9
QA	549	0.51	294	0.28	90	0.08	56	0.05	80
RJ	70	0.40	36	0.20	31	0.18	20	0.11	20
SG	487	0.62	112	0.14	128	0.16	35	0.04	24
XQ	124	0.57	5	0.02	72	0.33	12	0.06	4
SR	140	0.56	35	0.14	2	0.01	55	0.22	20
MT	181	0.31	16	0.03	370	0.64	13	0.02	1
X3	62	0.21	3	0.01	221	0.75	6	0.02	1
TK	742	0.63	107	0.09	253	0.21	41	0.03	36
PS	125	0.23	10	0.02	393	0.71	8	0.01	19

A3: Aegean, SU: Aeroflot; G9: Air Arabia; KC: Air Astana; AF: Air France; KK: Atlas Global; BA: British Airways; DE: Condor; XC: Corendon; U2: EasyJet; MS: Egypt Air; EK: Emirates; ST: Germania; LS: Jet2; KL: KLM; LH: Lufthansa; PC: Pegasus; QA: Qatar Airways; RJ: Royal Jordan; SG: Singapore Airlines; XQ: Sun Express; SR: Swiss; MT: Thomas Cook; X3: TUIfly; TK: Turkish Airlines; PS: Ukraine International

Table 7 presents a breakdown of the competitive actions taken by airlines between 2014 and 2018, categorised by type. It indicates which types of moves each airline has employed and to what extent. British Airways emerges as the most active airline, having made 1311 moves over the five-year period. Of these, 48% (625) were schedule-based actions.

Schedule-based actions are followed by price actions, which account for 30% of the total actions, with 390 moves. British Airways has primarily relied on competitive actions, such as entering new markets, increasing frequency, code sharing, and discounting ticket prices, over the years. This is similar to other firms that stand out in terms of the number of competitive actions they undertake. For instance, Emirates (1216 moves) and Turkish Airlines (1179 moves) adhered to the schedule more frequently than engaging in competitive actions, which were mostly related to price or capacity (Emirates: 667/55%; Turkish Airlines: 742/63%). It is important to maintain objectivity and avoid subjective evaluations.

Some airlines, such as Air Astana (48%), Egypt Air (72%), Pegasus (58%), Ukraine Airlines (71%), Thomas Cook (64%), and TUI Fly (75%), prioritize price-related actions over other types of actions. It is worth noting that Royal Jordan is the most consistent airline in terms of the distribution of its actions. Although there are more schedule-based actions than others, they should not differ too much. The other types of actions should remain quantitatively close to each other to ensure consistency. In general, airlines tend to prefer capacity-related actions over other types, but they still resort to schedule and price actions frequently. Table 8 displays the distribution of actions taken by airlines based on their respective business models.

Table 8

Distribution of Actions According to Business Models

Airline	**Schedule**		**Capacity**		**Price**		**Image**		**Total**
	N	(%)	N	(%)	N	(%)	N	(%)	N
Leisure	1119	42	48	2	1398	52	63	2	43
Traditional	5208	50	1615	15	2369	23	772	7	476
Low-cost	676	49	18	1	587	43	61	4	29

Before presenting the information in Table 8, it is important to note the following. The research evaluates different airlines within various business models, but the number of airlines included in each cluster is not uniform. Therefore, when interpreting the information presented in the table, it is important to focus on the distribution of competitive move types within each business model. The research findings indicate that airlines operating under the traditional business model rely more on schedule-based moves than other types of moves. These airlines use Hub and Spoke (H-S) network strategies to transport passengers from surrounding airports to hub airports and then to their final destinations. According to O'Connell (2011: 339-340), airlines aim to reduce their unit costs by increasing their average flight length, using longer-range aircraft with higher seat capacity. These firms strive to maintain optimal flight frequencies with H-S network structures by keeping their flight networks large and wide and

reducing total travel time to ensure passenger satisfaction (Gillen, 2006: 370). Traditional airlines will likely resort to schedule-based actions in response.

Low-cost airlines extensively use price and schedule-related actions as their primary competitive tools. Low-cost airlines extensively use price and schedule-related actions as their primary competitive tools. It is important to note that the use of subjective evaluations has been excluded from this analysis. Low-cost airlines extensively use price and schedule-related actions as their primary competitive tools. Additionally, they use competitive actions in tariff contracts. Hanlon (2007: 276) suggests that airlines may increase their market share by opening new routes, holding on to existing routes, or increasing frequency. Increasing frequency is considered as important as reducing prices to retain a new route. Reducing prices can be perceived as predatory pricing in deregulated markets, leading to significant sanctions imposed on airline firms by competition protection authorities. However, an increase in frequency to prevent competition is not easily understood by these authorities. Therefore, airlines seeking competitive superiority may resort to increasing frequency instead of price (Hanlon, 2007: 276). This may explain why low-cost airlines are turning to schedule-based actions and prices.

In the Leisure sector, which caters to tourism destinations and is primarily served by charter airlines, pricing and scheduling decisions are of utmost importance. Tourists typically aim to save money on travel expenses and allocate their budget towards vacation activities. Therefore, they seek to secure the lowest possible ticket prices when making travel plans. Furthermore, the seasonal flights provided by leisure airlines to tourist destinations have a significant impact on tariff rates, particularly during peak tourist seasons.

In Table 9, the action matrix showing the number of actions made by airlines against each other between Jan. 2014 and Dec. 2018 is given.

Table 9
2014-2018 action matrix

PS	TK	X3	MT	SR	XQ	SG	RJ	QA	PC	LH	KL	LS	ST	EK	MS	U2	XC	DE	BA	KK	AF	KC	G9	SU	A3	
232	240	127	155	91	70	8	94	370	117	122	133	103	188	291	225	124	34	163	208	79	125	148	50	146		A3
194	201	5	77	87	45	232	81	281	85	152	185	4	22	383	148	8	30	111	242	72	142	174	55		87	SU
100	119	5	41	48	35	8	80	323	63	30	120	4	20	381	143	7	20	44	150	37	77	132		125	82	G9
133	111	3	36	77	35	147	66	190	58	129	140	4	20	166	117	7	20	60	162	39	127		56	168	69	KC
198	276	203	421	145	67	163	87	338	78	388	364	178	107	407	214	302	24	354	757	47		149	71	183	180	AF
188	520	91	128	80	193	10	85	182	287	103	123	70	154	94	97	82	76	101	148		113	173	47	145	116	KK
174	227	195	532	125	48	180	76	314	69	362	374	318	60	396	160	263	23	335		45	255	143	48	187	135	BA
123	263	284	197	81	126	13	67	52	101	378	213	235	417	51	122	170	71		295	53	131	42	30	159	207	DE
140	247	94	119	48	117	16	75	158	208	79	90	68	131	54	100	77		95	136	127	71	116	70	131	63	XC
109	126	257	332	112	46	33	75	162	64	122	127	375	192	20	151		24	160	469	30	126	26	57	128	257	U2
198	266	74	97	81	35	174	137	334	79	179	189	4	78	484		22	26	109	263	49	152	120	166	153	105	MS
166	233	5	74	92	35	206	90	576	63	184	235	4	18		200	7	20	96	284	38	156	137	280	155	83	EK
125	165	280	231	80	116	67	72	51	100	301	104	231		12	104	256	59	287	338	56	82	112	54	149	204	ST
94	97	195	440	57	52	17	56	66	62	110	98		114	39	63	282	31	103	412	30	83	37	24	137	125	LS
226	225	198	358	129	68	175	86	366	84	411		94	66	387	184	185	27	341	698	54	244	147	51	185	153	KL
279	305	281	289	142	110	191	87	389	115		382	128	289	410	235	259	58	454	696	66	264	160	54	211	232	LH
293	610	93	142	50	208	22	89	366		94	103	72	161	289	217	83	79	98	170	195	91	169	79	149	264	PC
166	236	5	74	92	37	205	93		66	180	238	4	18	767	214	7	20	96	250	39	156	136	280	155	83	QA
210	259	9	92	81	37	166		406	82	156	190	4	52	495	414	22	26	90	234	53	140	122	158	157	117	RJ
86	132	3	33	78	24		76	285	35	115	152	4	18	256	110	7	9	35	177	22	122	137	15	152	14	SG
116	412	98	92	49		18	77	151	265	84	88	66	132	34	79	76	74	99	143	133	77	115	50	123	97	XQ
243	290	256	273		69	177	96	361	98	409	365	117	105	419	230	216	26	322	671	61	205	157	58	184	255	SR
88	106	196		66	71	9	66	58	62	206	145	379	121	69	93	206	35	138	494	31	101	32	48	145	132	MT
121	150		247	80	124	66	75	140	105	309	105	342	474	12	110	261	68	286	361	40	84	33	31	151	237	X3
380		93	139	83	208	199	101	467	348	196	210	74	161	481	293	88	79	197	289	199	175	174	81	183	287	TK
	236	81	97	86	77	206	88	337	92	176	185	23	76	336	252	12	32	137	250	90	140	168	50	204	124	PS

Table 9 presents data on the competitive actions taken by airlines against their competitors from 2014 to 2018 and the corresponding number of exposures. The rows indicate the actions taken by each airline, while the columns show the number of times they were exposed. The data reveals that TK had the greatest impact on PC with a score of 610 ($NA_{TK-PC} = 610$). On the other hand, when examining the actions taken against TK, it becomes apparent that TK is highly vulnerable to the actions of EK ($NA_{EK-TK} = 481$). Upon reviewing the moves made by the airline, it is evident that TK is significantly impacted by them ($NA_{PC-TK} = 348$). Therefore, from both TK and PC's perspectives, there is a balance in the competition.

When looking at the traditional airlines based in Europe, it is evident that BA has taken the most actions towards KL ($NA_{BA-KL} = 698$). KL, in turn, has taken the most actions towards LH ($NA_{KL-LH} = 382$), and LH has taken the most actions towards SR. ($NA_{LH-SR} = 409$). On the other hand, of these airlines, the airline that causes BA to be exposed to attack is MT ($NA_{BA-MT} = 532$), while KL, and LH are BA ($NA_{BA-KL} = 698$; $NA_{BA-LH} = 696$). According to this information, there appears to be an asymmetry between these airlines at the firm-pair level.

Gulf carriers have taken steps towards becoming important transfer centers for remote geographies by turning their centers into important hubs in recent years with their long-range wide-body aircraft. When the competitive actions of the carriers in question are examined, the EK makes an attack at most to the QA ($NA_{EK-QA} = 767$) and QA in the same way as the EK ($NA_{QA-EK} = 576$). Therefore, there is symmetry in the competition between these two airlines. EK uses Dubai, and QA uses Doha as hubs for long-haul flights in the East-West direction. Proximity of the airports used by these airlines as hubs makes them important competitors. When examining the competitive actions of the two airlines, it is clear that they are most often directed against each other.

The findings indicate that geography and the simultaneous presence of competing airlines greatly influence the firms affected by competitive actions taken by airlines. Bilateral air transport agreements allow airlines to travel to the same destinations with flights starting from their own countries, even if they cannot fly in the same origin-destination markets. For example, Turkish Airlines and Emirates cannot operate simultaneously in the Istanbul-Singapore market. The availability of connecting flights puts airlines that offer them in competition with those that fly directly on the same route. If the countries' geographical locations make connecting flights a more time-efficient option, this can have a direct impact on the competition. TK-PC is positioned as the central hub for two competing airlines in Turkey, EK-QA in Dubai and Doha.

It also serves as a connecting point for LH-KL-BA airlines for flights over Europe due to its strategic location. This is an example of how geographical position can have a significant impact on competition. When evaluating the matrix in Table 9 as a whole, the effects of this situation can be observed in many pairs of competitors.

6. Conclusion

This research is based on the literature on competitive dynamics. It classifies competitive actions in the airline market and evaluates them in the context of the competitor pair. Competitive actions were obtained through content analysis and data mining. Unlike previous research, the competitive actions obtained were divided into themes based on Doganis' (2006) classification of airline product components. This study analyses the competitive actions of 26 airlines operating in the Turkish international airline market between 2014 and 2018. The competitive actions were classified based on their types, and the study reveals the airlines' preferences. The results indicate that traditional airlines tend to rely more on schedule-based actions. Furthermore, the most commonly implemented measures by airlines are related to scheduling and pricing. An examination of these measures based on the competition between airlines reveals an imbalance in rivalry. Normally, firms in an industry are considered to be natural competitors, but the literature on competitive dynamics suggests that pairs of competitors in an industry may not always be direct competitors. In other words, while one firm sees the other as its most important competitor, the other firm sees a third firm as its most important competitor, and this situation creates an asymmetry (Chen, 1996). This situation, suggested by the literature on competitive dynamics, is supported by the research.

When classifying actions based on the business model, it is evident that the types of actions vary depending on the model. Schedule-based moves make up almost 50% of traditional airlines' actions, while price actions constitute 43% of low-cost airlines' competitive actions. Comfort and image-related moves are generally the least preferred actions across all business models, with the ratio of these two types of moves in all competitive actions being less than 10%.

When a firm takes action, it affects the competitive dynamics of the market. Focusing solely on the action itself provides incomplete information. To fully understand the market dynamics, it is important to determine the action taken and who it is taken against. In the airline transportation industry, services are provided on a route basis. These routes are referred to as markets, with each route corresponding to a distinct market. Competitive actions, such as scheduling, capacity, and pricing, are often specific to each market. When an airline takes action

in a particular market, it affects those who offer the airline's product in that market. This research aims to provide more concrete results than previous studies by analyzing these propositions and contributing to the understanding of competitive dynamics.

Objective analysis is necessary to avoid biased evaluations and ensure a balanced approach. In a competitive market where airlines target similar demographics and operate with similar resources, it is crucial for them to analyse the market, their existing and potential competitors, and their resources. Furthermore, airlines must analyse their competitive actions, both past and potential, to maintain their advantageous market position. It is crucial to make strategic moves that do not provoke retaliation in order to gain or retain this position. Therefore, it is essential to conduct follow-up and analysis of competitive actions in the market. The research is expected to assist airlines in analysing competitive actions.

The research has several limitations. Firstly, it only covers the period between 2014 and 2018. This limitation was imposed due to the accessibility of the data and the time required to analyze the competitor pair. Another limitation is the number of airlines included in the study. The study evaluated 26 airlines operating in the Turkish international airline market as pairs of competitors. No changes in content were made. The selection of these airlines was influenced by factors such as data availability and their significant market share. However, analysing moves between a pair of competitors becomes complicated when there are too many airlines involved. Therefore, it is important to limit the number of observations.

After identifying the types of competitive actions in future research, investigate the reasons for performing these actions can be investigated in depth by referring to primary data sources. Additionally, evaluate the competitor pairs with Social Network Analysis to reveal different dimensions of their relationships.

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