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The Effectiveness of Intra-Segment Competition in Shaping the Air Transport Market in Poland

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Abstract:

Purpose: *The aim of this article is to identify the key factors influencing the effectiveness of activities undertaken in the air transport market segment in Poland. The discussion in this area is based on data published and analysed by the authorities that oversee aircraft operations and maintain statistics on the number of passengers checked in at Polish airports.*
Design/Methodology/Approach: *The research was based on available literature and data analysis, which aims to demonstrate the importance and impact of drivers and barriers in shaping a favourable competition model.*
Findings: *The results of the analyses showed that in the discussed market, the resulting competition model identified a set of key drivers and determinants, the analysis and significance of which can be useful in improving this competitive system.*
Practical Implications: *The growing intensity of competition is increasing suppliers' interest in seeking innovative solutions for aircraft design, and in some cases, adapting to the current requirements of the Polish market. New solutions must take into account improved quality and comprehensive customer service, as well as increased pricing flexibility.*
Originality/Value: *The results of the conducted analyses indicate that companies providing services in the passenger air transport market are facing increasingly demanding customer needs. In this situation, there is an urgent need to activate demand preferences, primarily by improving the quality, availability, competence, timeliness, responsibility, and safety of service provision.*

Keywords: *Aviation market, intra-sector competition, competitive strategy.*

JEL codes: *R41, N70, L90, L91, L93.*

Paper type: *Research article.*

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1. Introduction

Evolutionary changes in air transport have included demonopolization, deregulation, and liberalization, leading to multifaceted changes, creating an effective market selection mechanism. Although competition and its effects are widely known, as a process, it is constantly evolving, influencing dynamically changing market conditions and customer expectations in a variable manner.

Therefore, there is a justified need to re-examine each service delivery process to obtain up-to-date knowledge on the effects of competition management in service activities, particularly in passenger air transport.

Choosing the right competitive strategy requires not only creating innovative competitive actions but also considering the impact of micro- and macro-market conditions and the level of competitiveness, which is a universal measure for assessing the managerial competences of staff and the flexibility of enterprise management. The ability to quickly respond to new, changing market conditions is also crucial.

Contemporary market trends show that they reflect the relationships generated by mainstream competition and economic transformation. Their nature accelerates the adaptation of companies' own spheres of activity to the relationships prevailing in the global market.

The purpose of this study is to present the activities of entities offering aviation services, and above all, to identify their essence, nature, and the rules governing the Polish market.

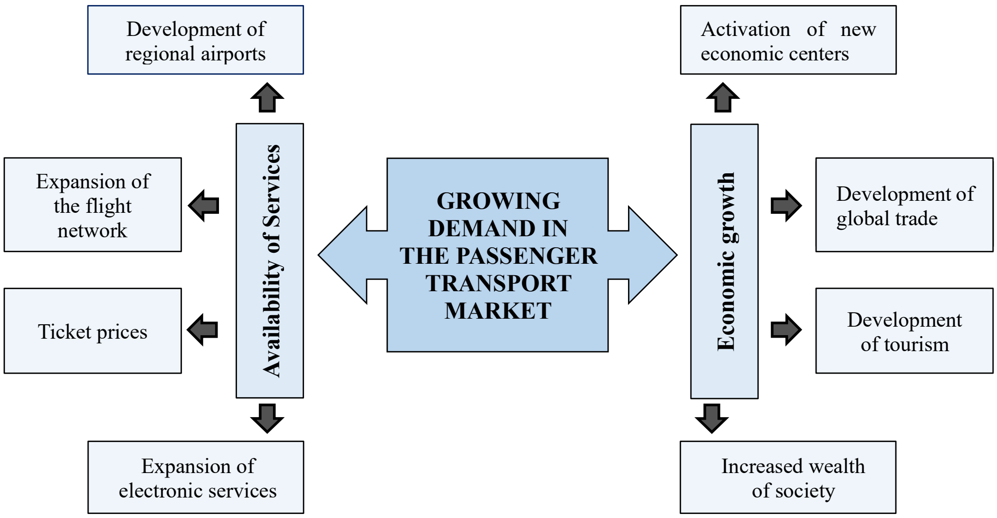
2. The Impact of the Environment on Relationships Between Market Entities

Environmental conditions not only significantly influence a company's position but also largely determine its characteristics and nature. Finding the right place in this environment should focus not only on attracting new customers for its offerings, but also on continuously assessing competitors and creating a system for effectively responding to their initiatives.

This means that companies must pursue their goals while maintaining favorable relationships with their environment, in which market conditions and entities such as customers, partners, capital investors, and equipment and information suppliers play a decisive role (Starowicz and Ejdys, 2024).

The way companies operate largely depends on the economic potential of the studied market, the level of infrastructure, and the availability of the proposed offer (Szymoni, 2025). These conditions impose specific rules of market behavior, which typically favor companies with high economic potential. The more effectively a weaker partner masters these rules, the faster it will achieve a higher position in the hierarchy of companies operating in the same service sector. Analysis of the factors determining the position of providers shows that each of them ultimately strives for leadership. It is important to note that the market determines the mutual relationships between entities participating in the process of growing demand in the passenger air transport market (Figure 1).

Figure 1. *Conditions determining the increase in demand in the passenger transpor Market*



Source: *Own creation.*

The need to operate effectively in a globally competitive environment forces service providers, including air transport companies, to actively seek new competitive solutions (Hoszman, 2019). Innovation plays a key role in this process, generating benefits that often become a decisive factor in gaining competitive advantage.

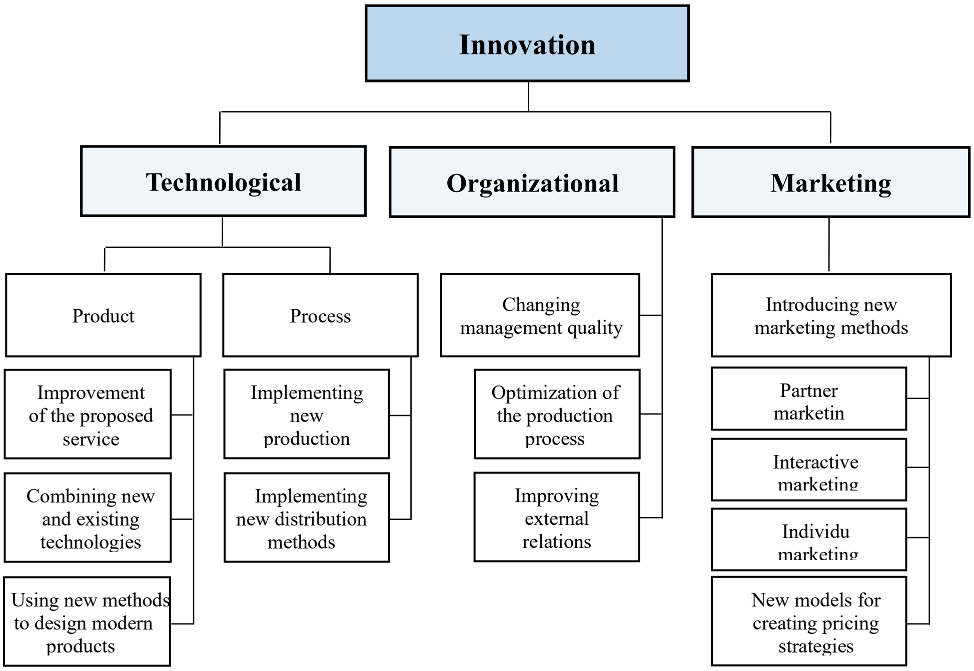
The market environment, shaping the scope of access to the transport services market, forces entities to effectively utilize economic, organizational, and marketing instruments to achieve competitive advantage (Figure 2).

The concept of "innovation" is defined differently depending on its area of application. Generally, the basic criterion for its functioning is the creation of unprecedented, unique added value in the area of market utility. In the case of air transport, this applies to the construction of aircraft adapted for short-, medium-, and long-haul travel, as well as the modernization of airports and increasing their transport accessibility (Rucińska and Ruciński, 2008).

The market environment of air transport companies clearly differentiates the rules applicable in domestic and international markets, caused by the different types of internal relations occurring in each (Neider, 2019).

Transport operators in domestic markets often face lower levels of competition and greater freedom, but at the same time achieve fewer benefits. Maintaining a strong position in the international market or building an advantage in these conditions requires overcoming numerous barriers. This process is associated with intense competition, limiting the freedom to provide services and subjecting them to legal, fiscal, administrative, ecological, and safety-related constraints (Zhang, 2023).

Figure. 2. *Schematic diagram of the scope of basic types of innovation in transport.*



Source: *Own creation.*

3. Deregulation and Liberalization of Air Transport as the Basis for Market Expansion

Although civil aviation began in the early 20th century, clear symptoms of significant structural changes and the emergence of a new economic model for airlines were not visible until the 1970s. The air transport business model used in the 1960s did not promote improved economic efficiency because it was dominated by regulations established by individual states.

As a result, entities operating in this sector showed little interest in cost levels and improved economic efficiency. The management system constructed under these conditions maintained artificial price levels for transport services, detached from costs and operational efficiency.

As a result of deregulation and liberalization of the transport market and integration transformations, significant changes occurred in the socio-economic systems of many countries and regions in which civil air transport played a significant role (Hoszman, 2019). This created the possibility of quickly reaching increasingly remote regions of the world, accelerating the activation of areas covered by the network of connections.

Consequently, air transport became a significant factor in economic growth, the development of trade, tourism, and interpersonal contacts on a global scale, enabling a compression of time and space unparalleled in other modes of transport (Roman, Górecka, and Roman, 2019).

As a result of these processes, market niches emerged in the air transport structure, creating attractive opportunities to exploit. These opportunities were effectively exploited by a group of carriers, offering the consumer market a new, flexible, and exceptionally competitive travel offer. These operators' actions significantly deviated from the previously prevailing market principles.

Customers received a simple offer in economic, marketing, and organizational terms, with unprecedented price attractiveness, yet characterized by reduced travel comfort, limited additional benefits, and a lack of differentiation between flight classes.

The development of this type of carrier – now called "low-cost carriers" – was a phenomenon characteristic of air transport in the late 20th century, when the principles of free competition began to fully operate (Hawlena, 2012a).

The term "low-cost carrier" is a common concept, lacking a precise scientific definition. It arose spontaneously alongside the development of passenger air services. Initially, it referred to airlines characterized by low operating costs, which meant significant price reductions were possible, resulting from limiting passenger service to the bare minimum compared to other market participants.

The need to compensate for lower revenues (resulting from lower ticket prices) was achieved by increasing revenues from non-ticket sources and utilizing funds from local governments in the regions served.

Operating within this model requires a specific operational and marketing strategy, enabling development and achieving the desired commercial efficiency and market position at the lowest possible cost (Hawlena, 2012b).

In these circumstances, tensions mounted as the strongest companies sought to achieve dominance and consolidate their advantage. Carriers with greater resources and broader participation in global partnership structures held significant advantages, while low-cost carriers outperformed their competitors in proactivity, flexibility, and efficiency, gradually leading to a shift in market relations (Exboro, 2015).

4. Pricing Policy and Pricing Procedure

The need to optimize the economic impact of service sales means that the financial benefits generated by exploiting a specific market play a dominant role in building a company's competitive position.

Pricing policy significantly influences the shaping of specific conditions, varying depending on the specificity of a given market, creating a mechanism for influencing the way companies operate. Offer selection is increasingly based on the customer's subjective price sensitivity and then on a direct comparison of prices from other suppliers (Mindur and Mindur, 2025).

In the area of air carrier operations, increased sensitivity to price volatility is observed, meaning that instead of a single price, companies typically establish an entire pricing structure reflecting varying demand conditions. Price plays a crucial role in this process, as it conveys information about the quality level of a given air service and has therefore become a key instrument in the marketing policy of service providers and airports (Wojewódzka-Król and Załoga, 2022).

Price elasticity is particularly important in passenger air transport due to the inability to store services, which requires building market potential in this sector at the level of maximum demand. Consequently, during periods of low demand, a certain amount of unused capacity is created.

Demand reduction and the resulting losses are reduced if a company effectively utilizes price elasticity, which allows it to offer customers a single fixed price or individually adjust its level depending on changing market conditions (Bilińska-Reformat, 2009).

This alternative choice is crucial in this situation, as it carries certain economic consequences. The seasonality of the passenger air transport market means that low prices during periods of low demand will shift some demand from peak to off-peak periods.

However, price elasticity across different periods requires precise analysis, as, for example, last-minute offers that minimize the number of unused seats can, in some cases, reduce regular demand and, consequently, increase company profits. These circumstances demonstrate that price differentiation is justified if it maximizes profits and evens out capacity utilization, which positively impacts companies' economic performance.

Effectively coordinating the proposed service with customer expectations and directing the resultant process in the desired direction are the foundation for creating a favorable market position, simultaneously creating the opportunity to define an appropriate position among partners and rivals (Zhu, Freeman, and Cavusgil, 2018).

5. Development Directions of Passenger Air Carriers in Poland

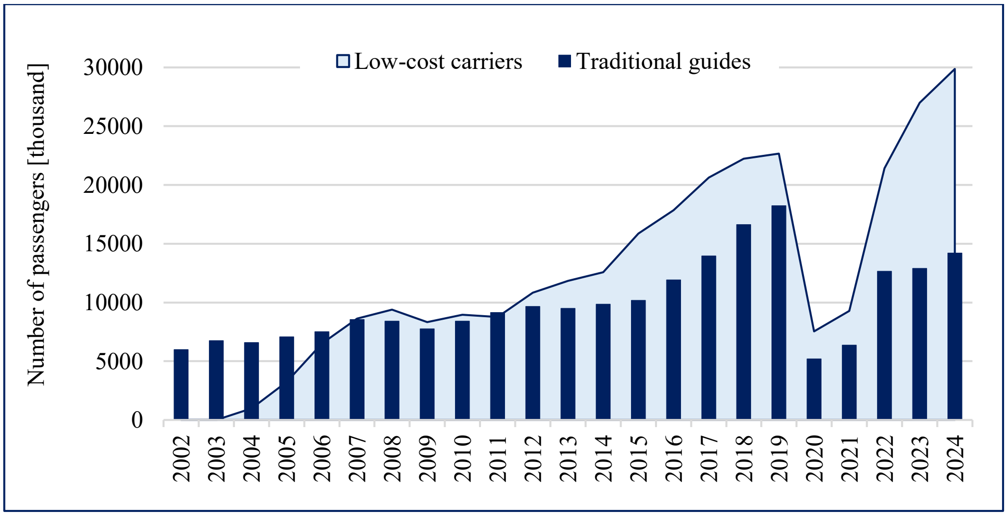
The turmoil in the global economy at the beginning of the 21st century led to the Polish passenger air services market entering a dynamic period of transformation, accompanied by increasing aggressive competition. This situation required defending the existing market position, primarily by seeking favorable cooperation with all Polish market participants, rationalizing costs, and adapting the operating model (Rucińska, 2015).

In this regard, low-cost carriers demonstrated much greater determination, allowing some of the most active entities to acquire an increasing share of the overall transport volume. The resulting increase in the intensity of competition led to increased economic stratification of companies in the segment. This led to a reevaluation of existing market rules and the entities participating in them, as well as a transformation of the sector's structure.

Over the past decade, a specific market structure has begun to emerge in the Polish air transport market, resulting from changes in the distribution of transport volume across individual air transport destinations (Figure 3).

The current market situation presents the management of all passenger carriers with a challenge: developing an effective economic and organizational model for their companies and the entire sector. Despite their relatively short period of operation in the Polish market, some dynamic airlines in the LCC sector have managed to establish bases at several airports and expand significant fleets in the region. This trend can be expected to continue in the coming years.

Figure 3. *Number of passengers carried by traditional and low-cost air carriers on the Polish market in 2002-2024.*



Source: *Own study based on ULC (2002-2025).*

Implementing tasks that minimize losses during periods of economic slowdown and increase profits during periods of prosperity will be a market success and will demonstrate which aviation organization can develop a more effective strategy. This is clearly demonstrated by the recent operating results of the most active passenger carriers in the Polish market (Table 1).

Table 1. *Number of passengers of the most active carriers served at Polish airports in international scheduled traffic in 2010-2024 [thousand]*

Year	Ryanair	Wizz Air	LOT	Lufthansa	Enter Air	KLM	Norwegian	Easy Jet
2010	3725,3	3920,2	5036,7	1235,4	-	188,2	382,9	529,9
2011	3840,4	4078,3	5522,3	1447,6	-	230,3	346,1	431,2
2012	4870,1	4185,4	6175,0	1500,9	-	232,7	375,6	429,1
2013	6585,0	4057,5	5857,8	1514,5	-	240,2	422,5	461,2
2014	6527,8	4499,5	5794,4	1796,7	-	240,0	590,4	497,8
2015	8211,1	5821,8	5518,5	1958,4	-	278,0	791,2	543,2
2016	9318,4	6591,2	6814,9	2026,8	15,3	378,1	809,5	687,1
2017	10999,8	7675,6	8480,5	2021,0	403,3	447,1	765,1	873,9
2018	11553,7	8718,5	10500,8	2257,0	610,3	835,5	546,6	883,5
2019	11971,0	9487,0	11792,7	2345,2	917,0	665,6	894,0	1043,3
2020	3911,5	3354,8	3585,5	562,1	273,2	264,0	157,8	237,0
2021	5689,8	3309,5	4395,6	753,4	753,4	415,4	120,3	138,6
2022	13313,8	7616,7	8469,1	1518,2	900,5	637,5	466,5	383,1
2023	15118,0	10516,5	7277,5	1817,6	1041,0	793,3	626,0	482,5
2024	16969,6	11451,7	7746,1	2107,8	1226,8	1041,3	659,8	555,0

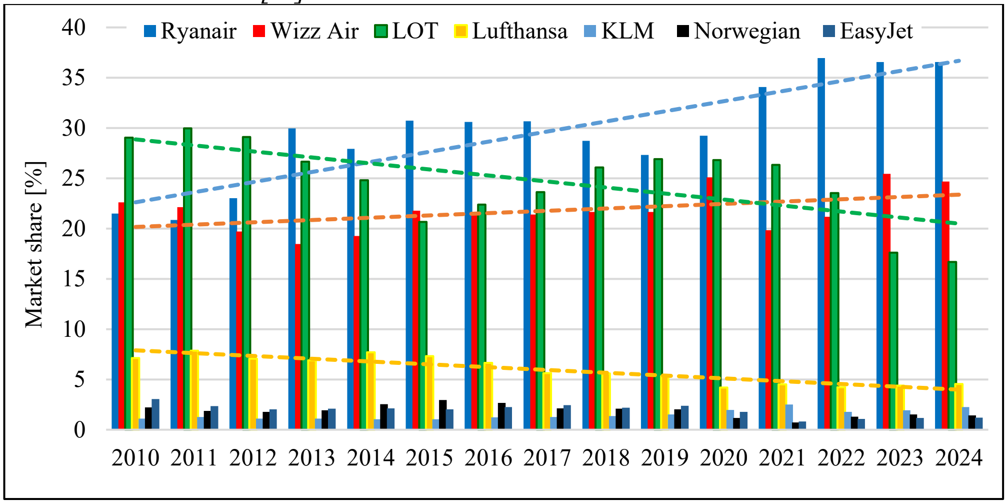
Source: *Own study based on ULC (2010-2025).*

While 2020 was a period of lowest demand for air transport, it was also a breakthrough year. In these circumstances, low-cost carriers demonstrated significant organizational strengths, regaining customers and regaining their competitive position in the market more efficiently than traditional airlines.

They demonstrated greater market flexibility, offered lower flight prices, attractive promotions, and responded immediately to customer needs. For example, Ryanair offered its passengers access to PCR2 tests, required in most countries, at a 50% discount, which reduced travel costs, encouraged people to fly, and positively impacted the entire air travel market.

In 2021, as a result of the easing of COVID-19-related restrictions and the further normalization of air transport, entities operating on the Polish market partially rebuilt their potential. It is also worth noting that in the post-pandemic period, low-cost carriers saw a greater increase in their share of the air transport market at the expense of traditional carriers (Figure 4).

Figure 4. *Share of the most active air carriers in international scheduled traffic in Poland in 2010-2024 [%].*



Source: *Own study based on ULC (2010-2025).*

During the analyzed period, low-cost carriers (Ryanair, Wizz Air) recorded the largest increase in their share of total passenger air transport volume, while traditional carriers (LOT, Lufthansa, KLM) recorded a decline in their growth rate.

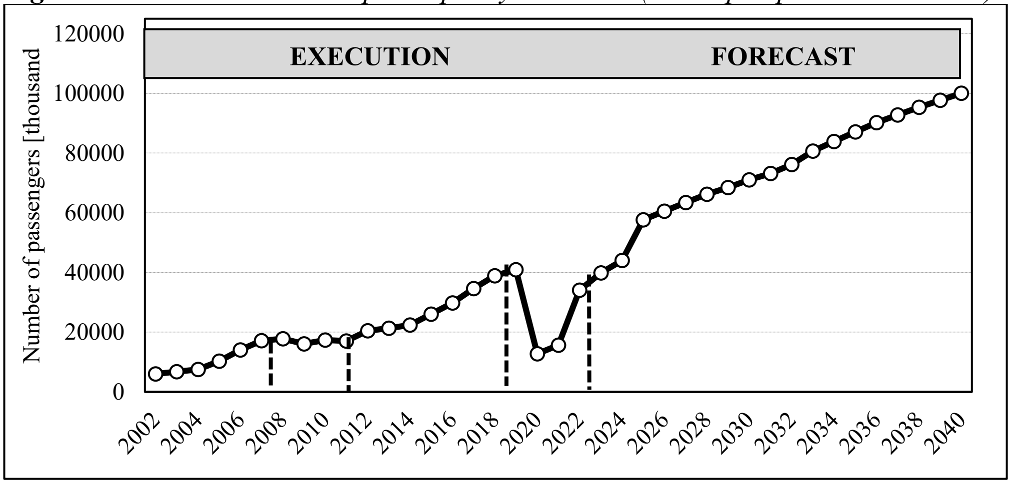
The growing share of low-cost airlines in the overall aviation market is primarily focused on short- and medium-haul flights, where time spent on board plays a relatively smaller role, as the priority is to reach the destination at the lowest possible cost. This means that comfort, including additional services, is not a priority in this area of activity.

Forecasting economic results for the coming years is only possible through estimates, as it relies on numerous interdependencies that are difficult to clearly define, the most important of which are: the stability of the global economic situation, the degree of aggressive competition, and the level of fuel prices. The pursuit of improved efficiency in the global air transport market in these conditions forces suppliers and partners to actively seek more effective methods for necessary cost reduction and increased demand.

6. Forecast of the Development of Passenger Air Transport in Poland

Analyses of long-term forecasts for the development of the aviation services sector indicate that crises are a natural phenomenon resulting from the cyclical nature of the global economic situation. After periods of recession, new, favorable conditions typically emerge, enabling improved operator efficiency, provided that companies increase their activity in all areas of activity (Figure 5).

Figure 5. *Civil aviation development policy in Poland (with a perspective until 2040).*



Source: *Own study based on ULC (2010-2025).*

The main goal of aviation policy in Poland is to define the development directions of the aviation market within a common global aviation market, thus contributing to Poland's long-term economic growth (Szymoni, 2025). Analysis of the demand and supply of passenger air services since the entry of low-cost carriers into the Polish market indicates a steady increase in the number of passengers carried across the entire aviation sector.

The financial crisis that airlines faced after the pandemic caused the most serious crisis in the industry since its inception. Recovering from this situation required new, multifaceted actions. Therefore, in this changing market environment, actions focused on meeting the needs of a broader group of customers are crucial.

Given the growing crisis and the associated demands placed on air carriers, competition from road transport and high-speed rail should also be taken into account (ULC).

The market situation that emerged after the crisis may determine the future of the Polish sector, which has the potential to further increase its potential and development in the long term. The success of this process depends on active participation in the effective utilization of this market's advantages. However, this requires a decisive change in strategy, primarily in terms of cost rationalization, tightening financial discipline, and active integration with regional market structures.

7. Summary

The analyses conducted indicate that all actions undertaken by entities in the passenger air transport market most often respond to the needs of a broader group of customers. This is the main goal pursued by operators, using price flexibility to regulate demand at different times. This is an instrument that determines the existence and development of various market segments and the behavior of the companies operating within them. A significant driver of this process is the dynamic development of low-cost airlines, whose relatively cheaper offerings and expanding network of connections to peripheral airports are enabling an increase in the number of people using this mode of transport.

Thanks to the expanding network of air connections and the construction of regional airports, favorable conditions are being created for increasing access to this type of transport services, which translates into increased air mobility in peripheral regions, distant from economic center

With increased access to regional airports and growing demand, air travel is becoming increasingly common and competitive compared to other modes of transport.

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