

## **INNOVATION IN TRANSPORTS – LOW COST**

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### **ABSTRACT**

*Over the past few decades, transports have undergone a profound transformation that has recently rapidly accelerated. The renovation regards more the management and electronic revolution than mechanical innovation. Because of these changes in the industry, numerous traditional companies have suffered from dramatic crises, which led to the closure of certain iconic airlines and numerous fusions and acquisitions, substantially modifying the structure of the industry and the networks development. Over the years, the complexity of the networks grew as airlines responded to the forces of economic and social changes. LCAs have also induced inter-modal competition with high speed trains and international buses. Intra-modal competition is emerging following the EU liberalization of international passenger services since January 1, 2010. Depending on negotiations between member States, the next steps could affect domestic regulations, with options ranging from competition for the market, to full liberalization.*

### **1. TRANSPORT AND TOURSIM**

Innovation in tourism proceeds along two kinds of directions: One is going by adopting on line full services, the other one is looking for all the ways for reducing costs [1]. The most appealing and innovative technological tools in considering tourism, continue to be, like always, the transport means, especially since they are managed and booked through the web, so the last innovation in travels have been realized in air transport.

The reciprocity between tourism and passenger transport companies is well emphasized [2]. Airlines are especially close to tourism, providing vital links particularly for long-haul travel. Tourism, in return, is a significant driving factor that enables many developments in air transport [3].

Over the past few decades, the airline industry has undergone a profound transformation that has recently rapidly accelerated [4]. The origin of this process of change lies in the deregulation of this industry, which began in the late 1970s in the United States and led to the entry of new actors and a subsequent increase in competition. Born as the most expensive means, air travels are now less exclusive than train travels. Low cost companies are born on the basis of charter style and serving short haul distances. They are now so established that future will let us to see the low cost - short haul companies expanding into low cost -long haul – companies [5].

The interplay of aircraft technology and network development continues to the present days, but along the way, some of small cities have become important gateways, providing access to national and regional markets. Their airports became hubs connected to dominant cities on the transcontinental routes and the regional emerging airlines began to serve nearby centers with feeder services. Over the years the complexity of the networks grew as airlines responded to the forces of economic and social development and technological improvement of aircrafts, affecting centrality, intermediacy and

proximity [6]. Internet services have undoubtedly helped the passage to cheap travels, especially in tourism, with on line reservation and check-in, walking access to the aircrafts, no frills hospitality, low salaries for hostesses, even for pilots, requested of personal payment of their experience-stages, private charges for their lodgment and nutrition. Clients too, have to pay for drinks and food on travel.

## **2. THE EXPANSION OF THE LOW-COST BUSINESS**

Ryan Air has reduced waste, expenses and costs for travelers on all the fronts, to become a model of profitable management not only for all the other low-cost competitors, but even for the stabilized official companies. Ryan air has reduced all the frills, it is in fact a type of “no-frills” company. Low cost companies are following the changing exigencies and habits of travelers, who pay attention to economy, travelers who also are sustainability sensitive, who like to reduce waste in every sense.

The model of air low cost travels is a new winning model of business management. It has turned upside down the rules of air traveling, which, from a kind of élite consumption, has become a popular mean of travel, following the globalization and the unrestrainable propensity of people to move [7].

The key of LCAs success is not only the reduction of all the costs, but the conversion of costs transformed into revenues, translating gadgets, offered on fly, into marketing goods. If it is not a great gain to cancel food and beverage during the fly, it is a major gain to convert food and drink, as a form of hospitality, into merchandise. This regards not only the question of nutrition, since the low-cost travels are short distance travels, but even of core services, like assurance, which has been converted into a surplus service.

Lean, or cost-effective management practices that focus on all the processes and business activities, on cutting both direct and indirect costs (except for those related to security) are the key to this common basic business model [8]. Costs reduction in this travel model can be achieved in various ways, through high airplanes and strong crew utilization, direct sales of tickets, often electronically, outsourcing, and minimized food and beverage service [9, 10]. Savings are also achieved by reducing frills related to physical-environment factors, e.g., more seats with a higher density than in traditional aircraft, reduced comfort, decreased electronic amenities for in-fly entertainment, while preserving the quality of sensitive safety and health-related subjects. Instead, loyalty can be obtained, improving perceived levels of image/value, providing positive affective and satisfactory experiences during a fly. LCAs are well known for their hard works conditions, restrictions on the role unions may play and employment contracts that may be signed under the laws of third countries, and more flexible labor management. Many workers are multitasking, performing ticket inspections at stations, managing boarding and possibly travelling with passengers as cabin crew. Working days are more variable than for traditional contracts, are possibly longer and can involve more days away from home, like more services per day, thanks to reduced time at both ends; in this way, the aircrafts ride twice the yearly conventional distance.

The rationale for serving such airports includes lower airport costs, a wider window for negotiating airport taxes, less or no congestion, making it easier to plan short turnarounds and niche markets.

On this subject, some authors have identified several industry-specific practices that relate to environmental innovations in the airline industry. These practices include biofuel use, winglet use, continuous descent approach, online check-in options, CO<sub>2</sub>-offset programs, and charges for checked luggage. Authors have classified these practices into two categories: technology-based and process-based environmental innovations. The former focus more on technological solutions that help to enhance environmental protection, whereas the latter primarily relates to innovations that occur in service processes that help to reduce airline’s environmental impact. Innovation material regards the use of new kind of fuel, like used burn oil or new kinds of vegetable oil. Economic innovation is realized profiting of dead hours, that means to travel during early morning or late in the evenings; following this schedule permits the companies to travel more times a day, requesting employees to make overdue hours, without syndicate’s problems, since employees are often out of category contracts. This extra exploitation has conducted the pilots of Ryan Air to go on strike in 2017, during a summer full season, creating a global loss of image for the group. To compensate beyond the reduced fares, the companies request travelers to pay for benefits usually included in the travel costs.

## **3. SURVIVING IN AN INCREASING COMPETITION**

Among new actors in transport industries and tourism, not only low-cost [4], but also Gulf-based airlines [11] are notable because of their novel and aggressive business models. Because of these

changes in the industry, numerous traditional companies have suffered from dramatic crises, which led to the closure of certain iconic airlines and to numerous mergers and acquisitions, substantially modifying the structure of the industry [12].

Even the Arab carriers are reducing on their flights the passengers' benefits, but they are obliged to maintain several standards, since they travel on long distances, and usually during the nights. This is a history of today, but histories of yesterday were not different. The strong famous company Swissair also has collapsed, for several reasons. First of all, it refused to enter the Star Alliance, not to submit itself to the strongest Lufthansa; second, it had acquired the Belgian Sabena and the German LTU when these needed high capitals to be saved. Nevertheless, the national company Sabena collapsed in 2011, in coincidence with the terroristic attack in New York, and for the failure to agree with France in organizing connections among the two important hubs of Paris and Brussels, for political reasons, due, overall, to the ethnic competition among the French and the Flemish population of Belgium.

#### **4. INTER-MODALITY SERVICES THROUGHOUT EUROPE**

The rush to cheap transport is not just involving air travel. Experimentation for trains has already begun in France, with a start that should initially concern goods. And the idea begins to move even in the world of ships. EU liberalization of international passenger services, since January 1, 2010 has increased the intra-modal competition, especially, since as never seen before, air travel has emerged as more cost effective than rail travel. Low costs have been inserted even in rail services, not so diffused like air travels [13]. Trains are the first ones to suffer the competition from airplanes, especially since the great investments on new lines, like the English Channel tunnel train, or in new carriages, like the TGV, in France, the AVE in Spain, ICE in Germany, Eurostar, and Italo in Italy, don't receive enough revenues, able to re-pay the great allocated funds [14]. To face this new competition, low cost rail services have been implemented before in Asia, later in Europe. More successful are now the bus connections in Europe through a low-cost network. In Japan and South Korea, HSRs (High Speedy Rails) also play a significant role in domestic inter-city passenger transport and the HSR networks of both countries are still expanding.

Such ambitious plans for the development of HSRs have important implications for the domestic aviation market. Intensified competition between HSRs and airlines on certain routes has been recorded, which may lead to various changes in airlines' route selections and service levels on the affected routes. The success of LCAs is lastly emulated by other vectors' agencies. A successful case is that of bus companies, travelling all Europe. The first European big bus service has contributed to the huge work force migration from Eastern countries to Western countries, after the collapse of the Soviet regime, freeing many countries, rich of people and poor of work and money. The last low-cost transport business has been implanted even on bus services, even if they never have suffered from costs' hindrances [15].

Now, after the dominance of Eurolines, through the European routes, new bus companies are appearing. Bus companies offer international services, especially German Touring with its Eurolines brand, but with the union of MeinFernbus/Flixbus comes an ambitious competitor which could become the market leader, according to the Managing Director Schwämmlein, who foresees that the cross-border sales will quadruple, or even raise fivefold (TTG News, Dec. 2017). Following a merger, Germany's largest long-distance bus company Mein Fernbus/Flixbus has accelerated its expansion throughout Europe. The network will grow to feature around 60-70 international connections. For the first time the company will offer completely foreign connections, initially between Amsterdam, Brussels and Paris, added to the schedule in the coming days will be Sweden, Denmark, the Netherlands, Belgium, France and Italy. Long-distance bus travel suppliers, such as MeinFernbus/Flixbus, offer competition to low-cost air carriers. They generally target young, flexible customers who travel spontaneously. Someone who, in two weeks' time, wants to fly Paris - Berlin return, must fork out 100 euro, or sometimes double that. In comparison, a bus return ticket is 50 euro, however, the overnight journey is 15-20 hours. If the travel is long, nevertheless it permits to save money in hotels, during sleeping time, transported by drivers during the nights. Bus are advantageous confronted with air travel, especially for workers or backpackers, since they permit to transport heavy baggage, not authorized, or too expensive in air travels. The competition will even more increase on the horizon, the British rival Megabus is promoting "1-euro tickets" between Cologne and Barcelona; Germany's Postbus has partnered with Eurolines, offering services cities-to-cities, such as Paris, Copenhagen, Zurich and Vienna. Whether LCAs have induced inter-modal competition with HSR, is

subject to debate, the results depending on authors' hypotheses and/or on the markets considered. For example, there are found a low-cost effect on air/HSR competition [16], while other cases founded a very small effect or not at all. Anyway, LCAs are still growing and could constitute a potential threat for future HSR operators.

## 5. CONCLUSIONS

Transports have always been the connection of men with the world, they represent the most significant part of development, and they represent the steps of evolution, which go even faster. In two hundred centuries, transports have changed dramatically, according with mechanical engineering innovation, but the introduction of electronics has revolutionized the sector, until to already have included transport services without drivers. The evolution is continuing, but a reflection time is needed for affording the prices of fuel increase, since people, often decide for the cheapest means, instead of the fastest ones, in these periods of economic downturn. The best would be to connect the advantages of speedy to the gains in prices. This is what has been realized with the “modern successful low costs travel companies”, which have originated a revolution in the modern travel: this makes the fame of the low-cost air travels

## 6. REFERENCES

- [1] Stathopoulos A., Cirillo C., Cherchi E., Ben-Elia E., Schmöcker J.D., Innovation adoption modeling in transportation: New models and data, *Journal of Choice Modelling*, Vol.25, 61-68, 2017.
- [2] Graham F., Humphreys I., Ison S., Aicken M., Airport and airlines competition: Incentives for vertical collusion, *Transportation Research Part B: Methodological*, Volume 43, Issue 10, 952-965, 2009.
- [3] Bieger T., Wittmer A., Air transport and tourism—Perspectives and challenges for destinations, airlines and governments, *Journal of Air Transport Management*, Volume 12, Issue 1, 40-46, 2006.
- [4] Pels E., Airline network competition: Full-service airlines, low-cost airlines and long-haul markets, *Research in Transportation Economics*, Volume 24, Issue 1, 68-74, 2008.
- [5] Castiglioni M., Gallego A., Galan J.L., The virtualization of the airline industry: A strategic process, *Journal of Air Transport Management*, Volume 67, 134–145, 2018.
- [6] O'Connor K., Global air travel: toward concentration or dispersal? *Journal of Transport Geography*, Volume 11, Issue 2, 83-92, 2003.
- [7] Han H., Effects of in-flight ambience and space/function on air travelers' decision, *Tourism Management*, Volume 37, 125-135, 2013.
- [8] Akamavi R.K., Elsayed M., Pellmann K., Xu Y. Key determinants of passenger loyalty in the low-cost airline business, *Tourism Management*, Volume 46, 528-545, 2015.
- [9] Dobruszkes F., Hello major airports, goodbye regional airports? Recent changes in European and US low-cost airline airport choice, *Journal of Air Transport Management*, Volume 59, 50-62, 2017.
- [10] Xia W., Zhang A., High-speed rail and air transport competition and cooperation: A vertical differentiation approach, *Transportation Research Part B: Methodological*, *Logistics and Transportation Review*, Volume 94, 456-481, 2016.
- [11] Anwar A.H.M.M., Yang J., Examining the Effects of Transport Policy on Modal Shift from Private Car to Public Bus, *Procedia Engineering*, Volume 180, 1413-1422, 2017.
- [12] Fan W., et al., Impact of Traveler Information on Road Network Travel Time Reliability, *Journal of Transportation Systems Engineering and Information Technology*, Volume 12, Issue 6, 93-99, 2012.
- [13] Delaplace M., Dobruszkes F. From low-cost airlines to low-cost high-speed rail? The French case, *Transport Policy*, Volume 38, 73-85, 2015.
- [14] Debrezion G., Pels E., Modelling the joint access mode and railway station choice, *Transportation Research Part E: Logistics and Transportation Review*, Volume 45, Issue 1, 270-283, 2009.
- [15] Eugenio-Martin J.L., Inchausti-Sintes F. Low-cost travel and tourism expenditures, *Annals of Tourism Research*, Volume 57, 140-159, 2016.
- [16] Cho W., et al., The impact of low-cost carriers on airport choice in the US: A case study of Washington–Baltimore region, *Journal of Air Transport Management*, Volume 58, 125-134, 2017.