# A brief overview on ground handling charges and some costs reduction

## BRANKO MIKULA¹ - STANISLAV SZABO² - RÓBERT ROZENBERG³ - ALICA TOBISOVÁ⁴ - TOMÁŠ PUŠKÁŠ⁵

<sup>1,2,3,4,5</sup> Technical University of Košice, Faculty of Aeronautics Slovak Republic

#### Abstract

This article identifies some ground handling charges and their impact on airlines' provisions to reduce turnaround costs. Also we have demonstrated a few precautions utilised by carriers in order to reduce ground handling costs. Lastly, we have mentioned how cost reduction can influence quality of the services provided from a ground handling service provider.

**Keywords:** Airline, Carrier, Airport, Airport operator, Ground handling service provider, Handling charges, Turnaround.

**JEL Classification:** L93

#### 1 Introduction

An aircraft turnaround consists of plenty of different services and operational processes with exactly described procedures required by international and local legislation and carrier requirements. Followed by a ground handling contract with agreed operational procedures, involves a complex of activities that must be completed in a specific time range, in favour customer experience and always safe while on ground or in-flight.

This complex issue is performed by numbers of ground handling teams using specific ground handling equipment. Manpower, new equipment acquision and existing ground handling devices maintenance surely absorb a huge financial portion from carriers' and handling companies' budget (Tobisová, Seňová, & Vajdová, 2015; Kolesár, 2016).

Airlines have been trending to shake off own passenger handling, aircraft handling and technical equipment and transfer as much as possible of those procedures on airport operators or handling

<sup>&</sup>lt;sup>1</sup> Mgr. Branko Mikula, DTTF; Technical University of Košice, Faculty of Aeronautics, Department of Flight training, Rampová 7, 040 21, Košice, Slovak Republic, branko.mikula@tuke.sk

<sup>&</sup>lt;sup>2</sup> doc. Ing. Stanislav Szabo, PhD., MBA, LL.M.; Technical University of Košice, Faculty of Aeronautics, Rampová 7, 040 21, Košice, Slovak Republic, stanislav. szabo @tuke.sk

<sup>&</sup>lt;sup>3</sup> Ing. Robert Rozenberg, PhD.; Technical University of Košice, Faculty of Aeronautics, Department of Flight training, Rampová 7, 040 21, Košice, Slovak Republic, robert.rozenberg@tuke.sk

<sup>&</sup>lt;sup>4</sup> Ing. Alica Tobisová, PhD.; Technical University of Košice, Faculty of Aeronautics, Department of Air Transport Management, Rampová 7, 040 21, Košice, Slovak Republic, alica.tobiasova@tuke.sk

<sup>&</sup>lt;sup>5</sup> Ing. Tomáš Puškáš; Technical University of Košice, Faculty of Aeronautics, Department of Air Transport Management, Rampová 7, 040 21, Košice, Slovak Republic, tomas.puskas@tuke.sk

companies. Ground handling service outsourcing grands massive savings for airlines. Although the outsourcing represents economization for airlines but still handling charges for services agreed in bilateral agreements must be paid.

Let us have look at a few types of charges and technological and service improvements which could reduce carriers' and operators' costs (Gajdoš, Socha, & Mihalčová, 2014).

## 2 Airline costs on ground handling services

Airlines can subcontract ground handling to airports, handling agents or other airlines as well. Airlines outsource more then 50 per cent of the ground handling from airports and handling companies. Ground handling we can define as a time between an aircraft arrival at a terminal gate and a time it departs on its next flight. A carrier requires a fast, efficient and quality services from a handling company. Safety and security is carrier's prime interest. Turnaround times must be as short as possible. Minimizing turnaround times correlate better profits.

Carriers' commercial interest is finding different ways for a reduction of direct operational costs. Apart from the standard operational costs, carriers must calculate with costs of fuel, maintenance, crew costs, passenger irregularity costs, landing fees, terminal and en-route navigation costs as well. Also we must mention carrier costs on own ground handling staff at an airport, costs on an operation of Airport Ticketing Office, Lost and Found Office, Weight and Balance Office in case these services are handled by an airline itself (Hulínská & Kraus, 2016; Petruf, Korba, & Kolesár, 2015).

Each airline can decide which ground handling company to choose in case more than one provide services at an airport. There are many airports in the world where only one handling company available and no competition exists. The competition in providing ground handling services is needful and determined according local needs and market orientation. In case, there is no competitive provider to be contracted then meaningful and sensitive consultation must be held.

A monopoly position of a ground handling provider can result in excessive charges but quality level of the services provided remains unchanged even worse. Ground handling charges should reflect real handling company costs plus added revenue value. But never maximize their revenue from unreasoning charges.

Ground operation services include a number of administrative and operational functions from a moment of aircraft touch-down till its take-off. Ground handling services provided to a carrier are usually described in an agreement called Standard Ground Handling Agreement. The document is designed to give clear specifications of all functions a carrier requires plus quote costs of services used (Socha, 2016).

IATA AHM 810 SGHA 2013 presents official wordings for a bilateral agreement between an airline and a handling company. The document gives a perfect negation room about charges and fees to the both participant parties. *IATA AHM 810 SGHA has* basic layout:

- MAIN AGREEMENT
- ANNEX A contains description of services
- ANNEXB contains location, agreed services and charges

Main Agreement and Annex A are standards and cannot be altered. Annex B can be amended and adapted to local conditions and needs of the both participants. Carrier brings whole lists of services required and negotiate some best price for. The negotiations and resulting price will have a crucial influence on a future airline profitability and budget planning. Airline requests and agrees only service which are not avoidable and for lowest possible charge.

Transparency during charges negotiations is ultimate. Open and honest discussions must be founded on real cost-related and non-discrimination basis (Pitas, Nemec, & Sousek, 2014).

## 2.1 A few cost reduction improvements and handling procedures

Carriers must develop new procedures in ground handling operations which will consider handling costs as main factor for a definition of their business model. Airport infrastructure, technical progress and handling procedures simplification allow carriers to negotiate more attractive handling charges. For example:

- Parking on an apron that eliminates a use of pushback vehicles. This reduce costs on equipment and manpower.
  - ( a carrier can decide whether parking at gates or no-pushback position)
- Remote passengers boarding and deboarding by stairs. No costs on boarding bridge. Some aircraft are equipped with own passengers stairs (F70, DH4, etc....).
- 2 or more passenger door boarding and deboarding. (decrease boarding time and minimum turnaround time, aircraft stays parked shorter)
- Aircraft parking at a walking distance. No passenger ramp bus needed.
- On request service like cleaning and lavatory service, potable water and fuelling services.

Named just few. The above mentioned costs reduction on services purchased are achieved by a self-sufficiency of a carrier. Also we can include here (Novák, Hospodka, & Endrizalová, 2016):

- Auxiliary Power Unit (APU)
- Large fuel and water capacity
- Ground level baggage handling
- On-board stairs

There are many other technological improvements which can make ground handling more effective and cheaper. For example, a baggage and cargo loading and offloading. Manufactures developed in-built sliding carpets in aircraft baggage compartments (e.g. on A320). The functional principle of all these devices is a roller or conveyor belt that moves the baggage in and out of the baggage compartment. The advantages and savings are in

- Avoidance of injuries from manual handling
- Reduction of required handling staff
- Faster loading/unloading process
- Less damage on aircraft door

Certainly, however the loading system is affective, the safety issue must go first.

A simultaneous loading and unloading would lead to an important reduction in turnaround time. But not in manpower. Also we have to mind loading and offloading aircraft specifications like a tail heavy aircraft (100, F70) where a negligence of offloading/loading procedures would lead to an aircraft tail tipping and make a huge and expensive aircraft damage (repair costs increase). The aircraft is off - operation and produces consecutive company loss.

Handling fees might be reduced not only on airside services but also passenger services (''departure hall passenger services'') that could be planned and operated in a way of cost savings. Current technological progress has a significant impact on handling charges. One of those improvements for a cheaper and faster air travel is self- service check-in kiosk. Apart from an airport self-service check-in kiosk, customers are allowed to use home check-in and mobile check-in as well.

These new technologies are beneficial for the both – passengers, who receive fast and reliable registration for a flight and also for carriers that will save on handling fees (Petruf, Korba, & Kolesár, 2015).

Also an airport can reduce costs on standard or special check-in desk maintenance and staff costs. Labour costs account typically for 80% of overall costs. Latest passenger surveys prove a very high number of passengers who prefers the use of any kind of self-service device at an airport. The self-service aspect not only gives the customers control but allows the airlines/handling companies to reduce operating cost by utilizing the "free labour" of passengers that self-service check-in provides.

Another trend how to reduce airline operational costs are Remote Ticketing Offices. Years ago, carriers were represented by Airport Ticketing Office almost at every airport where a service was operated. E-ticket and electronic form of other air travel charges like rebooking fee or excess baggage ticket have contributed to the office operation costs, material costs, office rental costs and own staff costs savings. Instead of a standard airport office, a carrier preferred remote ticketing services by his own department or outsource the service from other commercial entity.

Off-airport services have been implemented for aircraft Weight and Balance processes as well. Ground handling services provided by an airport operator or handling company during an aircraft turnaround has been reduced and very specific and qualified service like a weight and balance were finally ceased and transferred elsewhere. Instead, an airline agrees a Centralized Load Control Contract with an external company. Again here implements a form of outsourcing. Airline costs on staff special training, salary costs, hardware and software are reduced and increases carrier 's profit. But definitely this remote service is not beneficial for an airport operator or a handling company. This new form of outsourced service is technically possible thanks to an online connection between a weight and balance service provider and check-in facilities at an airport.

Landing, parking and passenger and aircraft handling charges are usually based on aircraft maximum take-off weight (MTOW). Depends on aircraft size. For example, a different handling charge is paid for DH4 and other for A321. This fee is a subject of Annex B negotiations and can be adapted to some best practice (Soušek, Rozová, Němec, & Šustr, 2017).

#### 3 Conclusion

In general we can say that handling costs vary depending on aircraft size, particular services needed and any non-standard services, and services required outside of normal operating hours.

It is operator's wish at which airport will land (if selection of more airports available in an area) and which handling company some airline will contract (certainly, if more handling company exists at the airport, not a monopoly one). Each carrier must decide which way to go in terms of provided passenger services. So called low- cost airlines have brought us absolutely new model for turnaround handling that saves millions of Euros. Savings on direct operational costs result in cheaper air tickets, increased demand on air travel and that brings some huge revenue profit for carriers. Classic, full service airlines, have already started to follow the low cost model but still preserve standard features of full cost carrier.

The future of the airline industry has been anticipated in technological innovations and automatization which will reduce a number of current ground handling devices and manpower used. Changes in technical progress must be reflected in ground handling agreements which will define new handling procedures and new charges. Carriers will become more self-sufficient on their turnarounds and require less service and shorter minimum turnaround times. Less services purchased from an airport will push airports to find other business activities like providing leisure facilities, dinning, shopping and much more. This will compensate their revenue loss from the handling charges. On the other hand ground handling company has always an opportunity to attract new carriers or operating carriers frequencies increase by means of negotiated charges or some other different incentives.

Current task to provide the same high quality at lower and lower prices is very difficult to execute. Carriers and handling companies have a different opinion on this issue. Ground handling companies and airports are under a constant pressure from all different corners. Either these are operators, government, local institutions, international organization and force majeure situations. The relationship between an airline and ground handler can best be described as a 'master servant relationship' and we can only guess which one is the servant.

Carriers push ground handling companies to minimize turnaround times and provide constantly updated services. Minimizing turnaround times, understaffed ground handling teams and fatigue lead to risks of safety negligence. Aircraft safety when down on the ground or in- flight is a goal of complex ground handling pre-departure activities. From aircraft technical check upon arrival, through passenger and baggage offloading and loading, aircraft trimming, fuelling, de-icing, named just few. But all ground handling services must be performed by a qualified and trained staff who is able to take a full responsibility for lives on board. Trainings and professional qualification development always cost handling companies serious part of their budget. Without adequate high airport charges, no handling agent would be able to guarantee IATA and other world airline organizations procedures and airline required qualification standards.

It is a dangerous spiral and one that may end up inflicting severe damage to all concerned. This ground handling service should not be degraded to only money earning factory but must be seen as a service – customer service. Instead of putting more and more demands on handling companies, restrictions and penalties we should recognize what services we wish to receive for published or private charge. And what service level is a handling company able to provide.

Certainly, any service provided by a handling company or airport must always be in compliance with all safety and security standards. This is the major concern for all carriers, handling companies, governments and the whole world. The safety comes first!

#### References

- Antosko, M., Korba, P., & Sabo, J. (2015). One runway airport separations informatics, geoinformatics and remote sensing. *SGEM 2015, Book Series VOL I: International Multidisciplinary Scientific GeoConference-SGEM* (pp. 241-248).
- Endrizalová, E., & Gandi, M. (2016). Evaluating environmental impacts of airport operations. *Acta Scientifica Academiae Ostroviensis. Sectio A.*, 2016(7), 536-544.
- Gajdoš, J., Socha, L., & Mihalčová, B. (2014) The use of penalty functions in logistics [Upotreba penalty funkcija u logistici] 2014 Nase More. *International Journal of Maritime Science and Technology*. 61(1-2), 7-10.
- Hulínská, Š. & Kraus, J. (2016). Fatigue Risk Management System in Aviation. *Risks of Business Processes 2016* (pp. 174-180). Ústí nad Labem: Univerzita Jana Evangelisty Purkyně v Ústí nad Labem.
- Kolesár, J., et al. (2016). Methodology of the Auditing Measures to Civil Airport Security and Protection. *MAD Magazine of Aviation Development*, 4(20), 38-44.
- Lališ, A., Vittek, P., & Kraus, J. (2016). Process Modelling as the Means of Establishing Semi-Automated Safety Management. *20th International Conference Transport Means 2016* (pp. 254-258). Juodkrante, Kaunas: Kauno technologijos universitetas.
- Novák, M., Hospodka, J., & Endrizalová, E. (2016). Implementation of the NDT into the Approved Maintenance Organization according to the Regulation (EU) No 1321/2014. Ostaševičius, V. (Ed), *Proceedings of 20th International Conference Transport Means 2016* (pp. 180-184). Juodkrante, Kaunas: Kauno technologijos universitetas.
- Petruf, M., Korba, P., & Kolesár, J. (2015). Roles of Logistics in Air Transportation. *Naše More*, 62(3), 215-218.
- Pitas, J., Nemec, V., & Sousek, R. (2014). Mutual influence of management processes of stakeholders and risk management in cyber security environment. *WMSCI 2014 18th World Multi-Conference on Systemics, Cybernetics and Informatics* (pp.94-97). Orlando, Florida: International Institute of Informatics and Systemics.
- Socha, V., et al. (2016). Training of Pilots Using Flight Simulator and its Impact on Piloting Precision. *20th International Conference Transport Means 2016* (pp. 374-379). Juodkrante, Kaunas: Kauno technologijos universitetas.
- Soušek, R., Rozová, D., Němec, V., & Šustr, M. (2017). Business continuity management system in the transport. WMSCI 2017 21st World Multi-Conference on Systemics, Cybernetics and Informatics. Orlando, Florida: International Institute of Informatics and Systemics.
- Tobisová, A., Seňová, A., & Vajdová, I. (2015). Simulation of an operational accident at an airport and its impact on the financial and economic situation of the airport company. CEFE 2015 (pp. 706-711). Košice: TUKE.
- Universal Weather Aviation, Inc. Operational Insight/Expert insight for business aviation operations./blog. © 2017. Retrieved from http://www.universalweather.com/blog/2016/03/estimating-aircraft-ground-handling-costs-part-1-basic-considerations/