

## IMPACT OF COVID-19 AND RECOVERY OF AIRPORTS IN THE FIELD OF HUMAN RESOURCES MANAGEMENT

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**Abstract.** The aviation industry is one of the sectors most affected by the COVID-19 pandemic. The aim of this article is to assess the impact of the COVID-19 pandemic on the area of airport human resource management and on the international airport network. COVID-19 had an unprecedented impact not only on the capacity of international seats for passengers and the gross operating income of airlines from passengers but also on airport companies, which, due to the measures taken and in order to maintain their existence, had to lay off employees. The research was carried out by the method of observation, observation of differences, technique of interviewing, recording of information, data, and results from statistics of secondary data. The aim of this procedure was a perfect description of the data on the object and process under study and to point out of consequences of COVID-19 and the possibility of recovery and saving costs of human resources. The goal of the companies is to fulfill the contracts, maintain the flow of money, and have a good name both for passengers and for the general public and all interested parties. When determining a suitable strategy using legislative conditions, it is possible to achieve cost savings in the area of human resources and the main business activities of the company. Forecasts for the recovery of air transport currently assume a complete recovery of the volume of traffic for the year 2025.

**Keywords:** Airport, aviation, COVID-19, human management, human resource, impact, recovery.

### 1. INTRODUCTION

In the beginning of this paper, we discuss the impact of the pandemic on the aviation industry, caused by travel restrictions and overall economic development. In the second part, we will assess the impact of the COVID-19 pandemic on the management of human resources of the Austrian airport company and the resulting complications for airport companies in recovering from the consequences of the pandemic.

Europe's airports have undergone a significant business transformation over the years, from infrastructure providers to standalone businesses competing for business and traffic in a liberalized European market. Currently, 80% of European airport operators are corporatized businesses with increasing private sector participation. European airports are one of the most important economic entities in the region, as they serve and play a central role in providing connectivity around the world.

In the period from 2010 to 2019, no one predicted that the global situation in the air transport industry would change from an unrelenting upward trend to a sharp downward trend. The turning point occurred in March 2020, when the world stopped overnight due to the spread of the COVID-19 virus. The outbreak of the COVID-19 virus had extensive and sometimes fatal consequences for all spheres of air transport, and it will take several years to recover from the negative impact.

Since 2019, airports and the aviation industry have faced constant challenges, such as the pandemic of a viral disease, and its consequences, such as the financial and economic crisis. The decisive factor for airports is, and will continue to be, passengers, which is ultimately reflected in the economic results of airports.

The air transport system is a source of great economic activity and creates many jobs directly related to the air transport process and to passengers, air carriers and air navigation service providers, and ground handling providers. Human resources are employed in the positions of providing check-in

services, handling, airport sales, cargo services, and catering services. Additional human resources are necessary to provide aviation technical and maintenance services and to operate aircraft. The production and innovation of aircraft equipment also require a considerable amount of human resources, which cover and create a number of job opportunities in the labor market. Aviation is one of the most efficient sectors measured in terms of GDP to workers. The generation of resources and employment in air transport results from the airport's own services and supply chains with the positive development of other industries. An essential development factor is the attractiveness of airports, locations, and service offerings for the satisfaction of customers on the part of air carriers as well as passengers and businessmen.

## 2. IMPACT OF COVID-19 ON HUMAN RESOURCE MANAGEMENT

Airports have a significant economic and social impact that often goes far beyond their immediate surroundings. ACI (Airports Council International) studies concluded that airports support an average of 4,700 direct, indirect, and induced jobs per million passengers. Airports make a significant contribution to the economy of the areas they serve. It is important that airports and stakeholders align their interests in order to ensure the sustainable environmental, social, and economic development of air transport [1].

The main groups of direct impacts on GDP include general airport activities (administration, management, maintenance, repairs, security, air traffic control), government, and the non-profit sector (Border Guard, Police, National Transport Authority, Transport Safety Authority, National Public Health Authority, and health services, tourist office, meteorological service), aviation services (airline offices, aircraft maintenance, Cargo, Check-in, security control, PHL services, passenger handling, baggage, and ground handling, aircraft cleaning, catering), commercial services (duty-free shop, restaurants, car rental, parking, taxi service, money exchange, tourist office, and others). Indirect economic impacts on GDP include employees and economic activities generated by suppliers to the aviation industry (suppliers of aviation fuel, construction companies for airport facilities, suppliers of aircraft maintenance components, manufacturers of goods offered in airport operations) and other activities in the business services sector (call centers, accounting, IT services) [2].

Analysis by Oxford Economics, in collaboration with aviation trade bodies, shows that since the outbreak of the COVID-19 pandemic, 3.19 million jobs have been lost in airlines, airports, and civil aviation groups, a 21% reduction compared to pre-pandemic levels [3].

Aviation and tourism support 87.7 million jobs worldwide under normal circumstances. There are more than 11 million jobs in the industry alone, which are created in airlines, airports, civil aviation manufacturers, and air traffic management [4]. These include highly skilled aviation roles, wider tourism jobs affected by lack of air travel and employment across the supply chain, construction, food service delivery, professional services, and all the other things needed to run the global transport system.

One of the biggest consequences of the pandemic and the problems currently facing the airline industry is the chronic shortage of personnel. According to Libor Kurzweil, Director of Quality, Safety and Process Management at Prague Airport, the difficulty of getting employees back is determined by the following aspects [5]:

1. People still do not fully trust the stability of employers in air transport.
2. Air transport is not alone in the labor market. Nowadays, there are many other industries that are attractive enough for technically oriented job seekers. Aviation has to compete for talented people with other industries.
3. Air transport is developing, modernizing, and automating slowly and in some cases still depends on manual work and the attractiveness of this manual work is generally decreasing. Working at airports generally comes with background checks, which means that the new employee is useless to the company for a fairly long initial period.

Rising travel demand during the 2022 summer season has resulted in passengers queuing for security checks, delays or cancellations as airports and airlines were understaffed to meet the resurgence in air travel demand. Personnel shortages are a problem both on the ground and in the air. Already before the start of the 2022 summer season during the Easter holidays, Germany's largest airport operator Fraport warned passengers of delays during the Easter holidays and British Airways canceled 662 flights in one week [6].

### **2.1. Impact of COVID-19 on the HRM of an Austrian international airport**

In this descriptive research, we focus on the area of Covid-19 impact and recovery from the consequences of Covid-19 in human resource management at European International Airport, with a closer focus on aircraft ground handling divisions. A detailed study was conducted on past available studies to understand the impact of COVID-19 and its relationship with employment trends. An analysis of the statistical data of the company involved in the research activity was carried out. The objective of the empirical, quantitative research is to point out of consequences of COVID-19 and the possibility of saving costs of human resources on the European air transport market, implemented by the method of scientific observation. Written materials were subjected to objective criticism, as well as determination of originality of sources, determination of reliability of information and arrangement of data obtained. The materials have been validated to ensure objectivity in drawing conclusions. The obtained primary and secondary information and data have descriptive, combined - quantitative but also qualitative attributes. The authors used this method of content analysis in their research. Primary information was obtained through the technique of interviewing between researcher and respondent through a formalized set of questions based on theoretical knowledge. The aim of this procedure was a perfect description of the data on the object and process under study. In the result, you can see the prognoses of the forecast savings costs. Prejudice in research is treated with the participation of several authors.

One of the busiest airports and the international civil airport, which is an important transport hub between Western and Eastern Europe, as well as the "gateway to the world", handled 31.7 million passengers in 2019. In the field of constantly increasing requirements for the quality of the services provided, the level of quality, the accuracy of the services provided, development and security, and well-trained personnel are of fundamental importance for the airport. The airport is one of the largest employers in eastern Austria. The sector, which includes airlines, airports, suppliers and ground infrastructure, creates approximately 72.700 direct and indirect jobs [7]. Due to the conditions of the employment relationship of one of the authors, was not possible to specify the specific name of the observed object in the publication.

Before the pandemic, the airport company employed 6.000 employees internally. Like every airport in the world, this airport was also affected by the COVID-19 pandemic, which had, and still has, negative consequences for the airport, from which it is still recovering. Due to the impact of the pandemic, the human community stopped trusting aviation and ceased to use air transport services.

The unfavorable result of the impact of the pandemic is financial losses. As part of the strategy of maintaining the flow of money and business, it was necessary to lay off employees. The number of employees fell to 4.800, resulting in a total of 1.200 dismissed employees [7].

### **2.2. The impact of the adopted COVID-19 measures on the performance of airports in the European Union, the Czech Republic and the Slovak Republic**

If the year 2019 was a record year from the point of view of air transport, then the same is true about 2020, but in the negative sense of the word. The outage of grounded Boeing 737 MAXs turned out to be insignificant in the final tally. On the other hand, the coronavirus pandemic, which not only caused restrictions and even complete stoppages of operations at Czech and Slovak airports, had a very strong impact on the results and manifested itself in the largest year-on-year drop in revenue from passenger kilometers in the history of transport.

According to data from the International Air Transport Organization IATA from 2020, revenues

from passenger kilometers (RPK - Revenue Passenger Kilometer; revenues from transporting one passenger per one kilometer) fell by 65.9% worldwide and occupancy (PLF - Passenger Load Factor; use of aircraft seat capacity) decreased by 17.8% to 64.8%.

In Europe, revenues from RPK fell by 69.9% and PFL by 17.4% to 67.8%. Worse results in the monitored indicators were achieved only in the Middle East, where RPK fell by 72.2% (PFL -18.5% to 57.6%), and in Africa with the lowest occupancy, -17.4% to 57, 4% (RPK -68.8%). The largest decrease in passengers was in North America, namely a decrease of 25.6% to 59.2% (RPK -65.2). The decline of RPK in the Czech Republic is the worst in Europe at 78%. In Slovakia, the decrease in RPK was 74% [8].

Behind the record declines in air transport are not only the concerns of passengers about the contagion of the COVID-19 disease, and thus the logical decline in interest in the mentioned type of transport, but also restrictions by the governments of individual states. It was no different in the Czech and Slovak Republics. For example, with effect from 14 March 2020 from 0.00 a.m., the Czech government prohibited the use of all airports except the public international airport Prague - Ruzyně in the framework of regular and charter air transport with passengers on board, during which the borders of the Czech Republic are crossed.

The Slovak government banned international operations with passengers on board even a day earlier. Only domestic flights, international cargo flights and operations within the Integrated Rescue System were exempted from the ban.

The only positive trend in air transport during this period was the increase in the amount of cargo handled at our airports. Of course, the interesting numbers are mainly due to the transportation of medical supplies from China.

The positive brought about by the drastic reduction in air traffic in 2020 is clearly the drop in CO<sub>2</sub> produced, which reflects the number of flights carried out in Eurocontrol's airspace. The aforementioned European organization reports an average drop of 56.9% for member countries. In the Czech Republic, the decrease was 71.2% (2nd best result in the EU), and in Slovak Republic 70.4% (3rd place in the EU) [9].

### **3. RECOVERY OF AIRPORTS FROM THE CONSEQUENCES OF THE COVID-19 PANDEMIC**

With the removal of travel restrictions and quarantine requirements for vaccinated travelers in 2022, there has been an increase in demand for air travel in many markets. The combination of layoffs forced by the coronavirus pandemic, employee career changes and pent-up travel demand presents a huge human resources challenge to the commercial aviation industry's recovery, at a time when airline finances remain under constant pressure. With the recovery and increase in demand for air transport in the summer season of 2021, it has become clear that it is necessary to emphasize the management of human resources. Solving an acute problem requires a systematic, defensive approach and the need to spend human, informational, financial, and material resources. The possibility of using outsourcing services provides the necessary overview and optimization during implementation. Eliminating the risks of a human resource deficit and the risks associated with the agile nature of air transport is essential in terms of process stabilization and cost optimization. Despite the losses, it is appropriate to realize the need for investments.

#### **3.1 Recovery of the Austrian International Airport in the area of HRM**

With the recession of the pandemic and the relaxation of anti-pandemic measures, the demand for air transport has an upward trend. In October 2021, the volume of air transport operations for 2022 was predicted to be 23%, which represents 40% of the volume from 2019. The reality in the period of the month of January 2022 shows 80% of the operations from 2019. This positive fact brings with it an extreme deficit of manpower in all branches of airport activities. On the basis of realized statistics, the international airport company expects the volume of traffic outside the summer season in 2022 to be 55-60% of 2019 and during the summer season up to 75-80% of traffic. As is generally known, 2019

is historically the most successful year in terms of the volume of air traffic [10].

Due to the impact of the pandemic, the airport company suffered losses of approximately one billion euros. From the point of view of the efficiency of air transport, it is necessary for managerial positions to eliminate the risks and optimize the state of human resources in order to maintain the top international position of the company as well as to fulfill the contracts of the airport and customers.

To recover in the area of missing human resources, the ground handling division of the Austrian international airport used the outsourcing services of the subsidiary Slovak company. The rapidly growing subsidiary provides services to aviation customers worldwide and constantly maintains a positive development trend in the field of Centralized Aircraft Balancing. The subsidiary also provides training services in specialist areas of air transport and has its own training center, accredited by the Slovak Transport Authority and, through the European Union, also accredited by the Austrian authority. Based on this attribute, it is the most suitable candidate for the implementation of a project aimed at the recovery of human resources management.

The main benefits of the project include reducing the costs of the airport's main business activities. The strategy of saving time and money consists in filling the positions with Slovak workers and narrowing down the necessary accreditations of the subsidiary company. The result of the use of outsourcing services is that in a relatively short time, the staff is ready for work without the need for time and funds for the necessary training process, without limiting the current airport operation and staff.

According to the regulation of the European Parliament and the Council no. 300/2008 on common rules in the field of security protection of civil aviation [11] all persons for whom is required access to the reserved security areas of the airport must complete basic professional and security training, before starting work and before issuing an identification access card. This activity falls under outsourcing services. Outsourcing services include the preparation of legislative conditions, the marketing of required positions up to the employment contract, and the entire process of recruiting and training employees. The whole process takes place in the shortest possible time.

Before the summer season in 2021, the subsidiary launched this project for the first time. All the results were obtained on a load of internal statistics of the company and will be used for the purpose of showing the efficiency of recovery in the field of human resources of the aircraft ground handling division. As a result of the pandemic measures, 1.200 employees are missing. The goal is to obtain a sufficient number of qualified employees.

If the project were implemented through a temporary employment agency providing workers, after a period of one year, as long as the job position is maintained, administrative complications would arise. The reason is that the worker is dispatched for a maximum period of one year, and the outcome of the cooperation needs to be an employment contract at the place of work. Cooperation with a temporary employment agency performing a tied and controlled business is not attractive due to the legislative and administrative burden on all parties involved, and due to the need to conclude an employment contract.

At the beginning of the project, the company implemented two rounds of recruitment for the job position. The interim results of the recovery of human resources during the implementation phase show that a total of 405 applicants showed interest in the job offer, of which 183 were suitable, taking into account the performance of work activities and the necessary language skills. The final number of employees after two rounds of recruitment and the fulfillment of the security clearance conditions was 62 people. The implementation phase of the 2 rounds of recruitment lasted a total of 4 months, mostly before the start of the summer season, and continues to be optimized over time. During the implementation period, the data used were recorded on an internal basis. Employees were subjected to intensive theoretical and practical training based on job classification. Unattractive attributes deterring potential employees include reluctance, failure to provide the information required for security clearance, and failure to meet security clearance conditions.

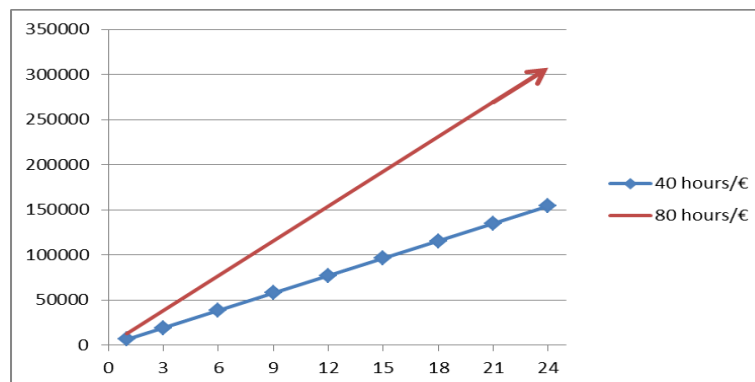
To evaluate the effectiveness of the project, we present an example where during the same time period an identical recruitment took place on the Austrian side with the result of finding 2 employees to 62 on the Slovak side and with 90% cost savings associated with recruitment activities on the Slovak side.

The goal of outsourcing services is to relieve the airport company of the need for an additional professional and qualified workforce, and the related duties, training process, and cost reduction of the division's main business activities. Cost savings are realized through the legislative conditions of the given country. For the sake of completeness of information, we state that cost savings result from levy activity and part-time employment contracts. An Austrian employee whose annual income does not exceed €15.000 is subject to a levy of 11% of the total price of work or super gross salary. An employee whose annual income exceeds €15.000 is subject to a levy of 38%. The cost saving is 27% of the levies of the total price of the employee's work. An overview of the cost savings from levy activity is shown in Table 1.

**Table 1** Savings from HR levies

Employee for:	Hourly rate – net	Levies	Total labor cost	SAVINGS	SAVINGS 1 person
	€/ 1hour	%	€/ 1hour	€/ 1hour	€/ 40 hours
<b>Full-time</b>	9.58	38	13.22	-	-
<b>Weekend hours</b>	9.58	11	10.63	<b>2.59</b>	<b>103.6</b>

With the number of 62 employees who work a minimum of 40 and a maximum of 80 working hours resulting from the contractual conditions based on the collective agreement and a labor price of €9.58 per hour, the cost savings amount to €6,423.2 or €12,846.4 per month, which is €77,078.4 to €154,156.8 per year. The forecast of savings is shown in Graph 1.



**Graph 1** Savings forecast

### 3.2. Air transport recovery forecasts for 2023

In order to bring tangible insight into the future, ACI EUROPE relies on its pool of experts to provide detailed economic forecasts. The ACI EUROPE forecast for European passenger transport development is derived from the Delphi Method with contributions from traffic forecasters from the 25 largest European airports. All countries which have airports with membership of ACI EUROPE are integrated [12].

According to ACI EUROPE's passenger air traffic volume forecast report for the European airport network, passenger volumes in 2023 are set to fall by 9% compared to the pre-pandemic period (2019), and the full recovery of air traffic has been pushed to 2025 instead of 2024, as originally expected in May 2022.

According to the CEO of ACI Europe, Oliver Jankovac, despite the current geopolitical and economic influences, passenger traffic remains resistant to the aforementioned influences and maintains a positive growth trend. Nevertheless, based on forecasts, the passenger difference in 2024

is expected to be -220 million compared to 2019, which means that volumes will be at the level of 2017 [13].

Ongoing geopolitical tensions and the war in Ukraine will continue to affect several national markets, and dominate downside risks. A deteriorating macro economy and inflationary pressures will also affect demand, with airfares rising sharply during Q3 and Q4 2021. Higher regulatory costs will also result in sustained inflationary pressures on airfares. On the supply side, further traffic growth will also be limited by strict capacity management, especially by full-service carriers, and the persistence of travel restrictions to China.

At the same time, ACI EUROPE expects that the impact of these negative determinants on passenger transport will be partially offset by some degree of resilience in demand for leisure activities and the continued expansion of ultra-low-cost carriers. The above factors will affect airports differently depending on their location, size, market position and business model.

ACI EUROPE also expects a pessimistic scenario for the recovery of air traffic, which would occur in the event of a risk of a slower recovery of traffic resulting from the geopolitical situation, the risk of a recession, or the risk of continued travel restrictions, e.g. in China [13].

From the point of view of employment, it is advantageous when the airport is doing well and the number of passengers increases. With the growing demand for air transport, employment at airports is also growing. Most of the employees are local residents, which increases the standard of living in the surrounding localities.

Growing trade, investment, entrepreneurship, and tourism and related activities in air transport lead to increased economic productivity, GDP and employment. On the other hand, economic activity is driving the demand for air transport services and for further improvement of quality, increasing the capacity of transport infrastructure and the availability of a wide range of destinations.

In parallel with the business transformation of airports over the past two decades, there has been a shift in capabilities, skills and corporate culture in airport companies in the European region. According to Oliver Jankovec, CEO of ACI EUROPE, the focus is on the importance of good management of the air transport industry not only at the highest level but across different departments within the airport [14].

#### **4. CONCLUSION**

The contribution of this descriptive research is the evaluation of the consequences of COVID-19 on the aviation industry and human resource management, pointing out the possibilities of human resource recovery and forecasts of possible savings in human resource costs. Human resource management (HR) naturally adapts to transformations and develops into a strategic activity that contributes significantly to the commercial and organizational performance of airports. The importance of HR management is important in creating a successful and sustainable corporate brand, and corporate culture in a dynamically changing and multicultural world. The airport industry is increasingly focusing on human resources in order to increase the attractiveness of the airport as an employer and to develop the professional skills of employees.

In order to support cooperation between airports and the exchange of knowledge between member airports, ACI EUROPE Leadership & HR has developed Guidelines for personnel exchanges. The goal is to exchange experience and knowledge. Employees can be inspired, learn from each other and work together on solutions to similar challenges. Exchanges provide an opportunity to develop the professional, cultural, personal and language skills of employees.

Due to the aftermath of the pandemic and the ongoing crisis caused by the disease COVID-19, there is great uncertainty regarding the pace of recovery in the aviation industry worldwide. The main positives that could bring a significant increase in economic activity and air traffic would be the end of the war conflict in Ukraine and the end of all travel restrictions.

The agile characteristics of the aviation industry require a dynamic approach and response to current situations and challenges and Human resources are the essential in aviation industry. Based on the obtained information and data evaluation, we came to the conclusion that the use of outsourcing services is an advantageous solution in the field of recruiting missing human resources. The added

value on the part of the airport company is high-quality, trained personnel ready to perform the work, without the need for additional financial and time investments, limiting the airport operation itself and personnel who are still struggling with a lack of time and manpower. The aim of descriptive empirical research is organized database of data. The research was carried out by the method of scientific observation, technique of interviewing, and results from statistics of secondary data. The aim of this procedure was a perfect description of the data on the object and process under study. This databases will be source of empirical facts for the next researches. Secondary goals are also intermediate results for the main research of doctoral study. Part of this goals is deeper knowledge of problematic human resource management in the aviation industry and understanding cooperation between theory and practice.

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