

MANAGEMENT OF TOURIST PERSONAL DATA PROTECTION IN COVID 19 – IT PERSPECTIVES, LEGAL AND ECONOMIC ASPECTS

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Abstract: *During 2020, the Covid-19 pandemic left its mark on almost every sphere of the economy. Travel bans, bans on entry and exit and the countries in which people live, mandatory quarantine after entering another country, fear of mutual contacts and locking of large European and world cities have affected tourism to feel the effects of the pandemic. In order to reduce the movement of the population infected with this virus, it was not uncommon for the personal data of those infected to be published. This paper aims to analyze the legal and economic aspects of the protection of personal data of tourists during the Covid-19 pandemic. The paper also proposes a software solution that would enable better control and registration of infected persons, all with the aim of preventing the spread of the virus by travel.*

Keywords: *Covid-19, GDPR, IT solution, Deficit, Restriction of movement.*

1. INTRODUCTION

At the time of writing (December 2020), Covid-19 infected over 64 million people and caused the deaths of over 1.5 million worldwide³. Since the beginning of the year, more precisely since the beginning of the Covid 19 pandemic, the overall situation has affected people's daily activities. Common activities such as commuting, socializing, thinking, behaving have changed a lot under the influence of this virus. Covid-19 also impacts almost every aspect of the world economy, society and mental health. The way we conceive our privacy and the importance which we attach to the protection of our personal data has also been heavily impacted by this ground-breaking chain of events. As it has put into perspective other fundamental rights, which until then we would never have accepted seeing restricted by state measures, the pandemic has required us to balance privacy with health and security (Ventrella, 2020).

In response to the pandemic and as one way to reduce its spread, a large number of countries have closed their borders to both visitors and tourists. Such closure has had a great impact on the economy of the countries themselves. Also, the tourism of these countries has been significantly affected. According to the data of the World Tourism Organization⁴, during the second quadrant of 2020, for the first time, 100% of global destinations introduced some travel restrictions (Gossling, et.al., 2020). This locking caused international tourism to be almost totally suspended, and domestic tourism was curtailed by lockdown conditions imposed in many countries. Although some destinations have started slowly to open up, many individuals are afraid of international travel or cannot afford it due to the economic crisis. Research shows that before

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³ World Health Organization, Retrieved 20.08.2020, from: <https://www.who.int/>

⁴ World Tourism Organization, Retrieved 20.08.2020, from: <https://www.unwto.org/>

2020, tourism was considered as one of the fastest-growing economic sectors and is an important driver of economic growth and development. For example, in 2018 there were 1,407 million international tourist arrivals, a 6% increase from the previous year. Tourism receipts amounted to \$1,480 billion, an increase of 4.4%, higher than global GDP growth as in the previous 8 years. Passenger transport is worth another \$250 billion. Tourism exports account for 6% of global trade in goods and services, or \$1.7 trillion. In 2019, the most popular destinations were France, Spain, the USA and China. During 2020, these countries had the highest number of patients, locking in a long period, and thus large losses in tourism. The U.S. alone has seen more than \$297 billion in losses from the decrease in travel since the beginning of March (Farzanegan, et. al. 2002). In addition to these countries, there are a very large number of developed and developing countries for which tourism is the main source of income. In countries like this, the tourism sector is a major source of employment, government revenue and foreign exchange earnings. Without this vital lifeline, many countries may experience a dramatic contraction in GDP and a rise in unemployment. OECD now estimates that international tourism will fall by around 80% in 2020.⁵ The application of information and communication technologies in the field of personal data protection can greatly help reduce movement restrictions caused by the Covid-19 pandemic. Also, the application of software solutions can provide facilitation and management of patient data, their records, categorization of those whose tests showed that they are positive for the virus, and their separation from those whose tests returned as negative, while providing different privacy policies. In this way, greater possibilities of movement of those persons who are not infected can be allowed, while patients in whom the presence of the virus has been confirmed can be more strictly controlled. Management tools created with the specific purpose of monitoring Covid-19 positive people enable easier work and more accurate information at any time. The proposal of the software solution described in this paper coordinates and consolidates data from the databases of the health system, the administrative system of state administration and local self-government, as well as the system of tourist organizations. The proposed system has multiple benefits, ranging from protecting patient data recorded as covid positive, to reducing the potential for virus spread and increasing travel and income opportunities in the field of tourism. In this way, better control of persons who should be in isolation would be enabled, and thus restrictions on movement would be reduced for persons who adhere to epidemiological measures and those whose testing showed that they are not positive.

The paper is organized as follows: The second part of the paper presents a review of relevant literature. The third part presents an analysis of the tourism sector during the pandemic Covid-19. The fourth part of the paper presents the legal review of the protection of tourists' personal data during the Covid-19 pandemic in 2020. The fifth part of the paper presents a description of a software system proposal intended for coordination between several administrative sectors, in order to relax measures in the tourism sector. Within the sixth part of the paper, some of the key conclusions and ideas for further research are given.

2. LITERATURE REVIEW

In one of the conducted researches, the author provides legal insights on the general discussion about the balance between the fundamental right to privacy and the general public interest (Ventrella, 2020, p. 381). The main goal of the published article was to describe the most critical and controversial processing operations whose task was to suppress the epidemic and reduce its effects. These operations were conducted by government agencies across the planet. A focus on

⁵ OECD Better Policies for Better Lives, Retrieved 15.10.2020, from <http://www.oecd.org/>

the increase in cybercrime during the pandemic then provides insights on the relevant risks and remedies for the security of personal data. The main conclusion of the author based on the conducted research is that GDPR, its principles and obligations, passed the first major test of their short existence, demonstrating to the world how high privacy standards can be maintained even in emergency circumstances. Viewed from an angle of supervisory authorities their task was to provide useful guidance regarding the development and deployment of invasive measures. Such measures were intended to mitigate the effects of the pandemic. Viewed from another angle, businesses and organisations may have discovered that compliance with the security-related requirements of the GDPR already provided the necessary technical and organisational measures to combat the rise in cybercrime during the pandemic. If we compare the readiness of the EU in the fight against a pandemic with the readiness to protect the personal data of its citizens in crisis situations, the author concluded that the EU is far more prepared in terms of personal data protection than is the case with pandemic protection.

A survey conducted in the United Arab Emirates showed losses of 121 million jobs and \$ 3.435 billion in GDP (Aburumman, 2020, p. 4). The main goal of the research was to examine the impact of Covid-19 on the global and UAE MICE (Meetings, Incentives, Conferences and Exhibitions) market by way of quantitative and qualitative analysis. The study revealed that in the conditions of severe travel restrictions and closed borders, travel-dependant industries like MICE or passenger air services were significantly hit by the pandemic. The research showed that the most significant drop in profit compared to the same period in 2019 was on June 1, 2020 and amounted to 82%. This decline relates to scheduled departure flights in the UAE. The research is based on multiplicative analysis to evaluate the profitability of the MICE industry and the impact of operating costs on the competitiveness of MICE companies. When it comes to the possibilities of recovery of the MICE industry, research has shown that the 5p model is the optimal choice for the recovery of MICE business companies, through outsourcing. Since the major resource of organisations under consideration is people and the product, it is advisable to use the competitive marketing strategy when developing a management approach. However, because the product in the MICE industry is a result of multi-stage cooperation, the MICE service provider should simultaneously focus on the external environment. According to the author, the results obtained by the research can certainly be used by travel agencies, in order to overcome the problems caused by the Covid-19 crisis, and in order to increase the competitiveness of MICE business. In order to determine the impact of the Covid-19 pandemic on the tourism industry research is conducted by Kumudumali (2020). The starting point of this research was the data obtained from UNWTO⁶, according to which losses in the tourism industry were estimated at approximately 1.1 billion international tourist arrivals, with a loss of \$910 to 1.1 trillion export revenues and 100-120 million jobs due to the wider spread of the novel coronavirus. The research covered all countries of the world, which made it possible to identify as many challenges as possible faced by the tourism industry. The study also identified short-term and long-term strategies to overcome the challenges posed by the Covid-19 pandemic. The task of the identified strategies was to minimize the economic consequences for tourism caused by the current pandemic. The researchers use a secondary source of data due to the unavailability of essential data for further statistical analysis. The significant findings highlighted the negative impact of the Virus outbreak on the tourism industry and the decline of supporting sectors such as air travel and the hospitality industry in a global context. The paper illustrated the adverse effects of Covid-19 on the tourism industry with the data available.

⁶ World Tourism Organization, Retrieved 20.08.2020, from: <https://www.unwto.org/>

3. ANALYSIS OF THE TOURISM SECTOR DURING THE COVID 19 PANDEMIC

The impact of the Covid-19 pandemic, in addition to wearing masks and keeping distance, or less socialization of people, is visible in almost every sphere of human life and work. There is almost no industry that has not felt the economic consequences caused by locking, shortening working hours, the inability to travel and distribute products (Sigela, 2020). Tourism, as one of the economic branches of each of the countries, certainly did not remain without consequences. The consequences of the Covid-19 pandemic on both domestic and international tourism are certainly more significant precisely because the tourism sector is largely dependent on the free movement of people. This is especially the case when it comes to international tourism (Andrades & Dimanche, 2019). The economic deficit of international tourism due to the closure of borders directly impairs the survival of a large number of families whose livelihoods are directly based on income from foreign tourists (Bakar & Rosbi, 2020).

If we look at the movement of tourists through data on travel to other countries available from the World Tourism Organization for the period from 2000-2019, a prediction of the decrease in arrivals for 2020 has been made. Based on the data obtained from the first quarter of 2020 after the first wave of the pandemic was officially declared, three possible scenarios can be seen in Figure 1. According to preliminary data, in the first quarter of 2020, the impact of aviation losses can reduce global GDP from 0.02 to 0.12% (Aburumman, A. A., 2020). Besides, if events develop according to the worst-case scenario, before the end of 2020, these aviation losses can be as high as 1.41– 1.67%, with job losses of about 25–30 million (Iacus et al., 2020).

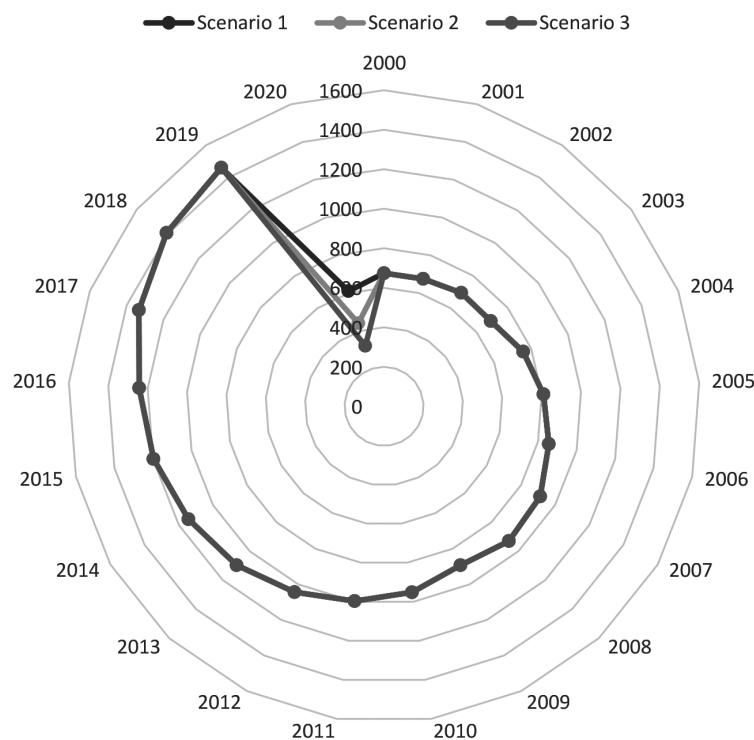


Figure 1. International tourist arrivals, 2000-2019 and scenarios for 2020 [millions]

Based on the available data for international tourist arrivals for the first eight months of 2020, the diagram shown in Figure 2 was created. Based on the diagram, a small decrease can be seen during the first months of 2020, while in other months the decrease is significantly higher.

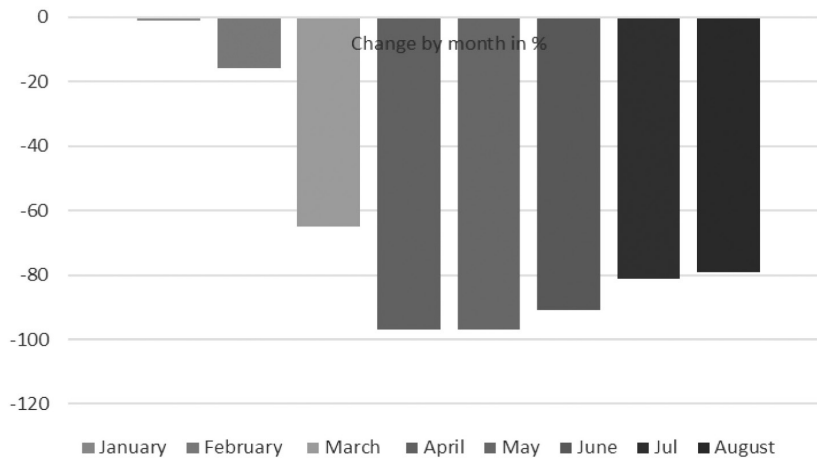


Figure 2. International tourist arrivals on global level in first eight months of 2020 [%]

If we look at international tourist arrivals by region, the largest losses were recorded in the Asia-Pacific region, as can be seen from Figure 3.

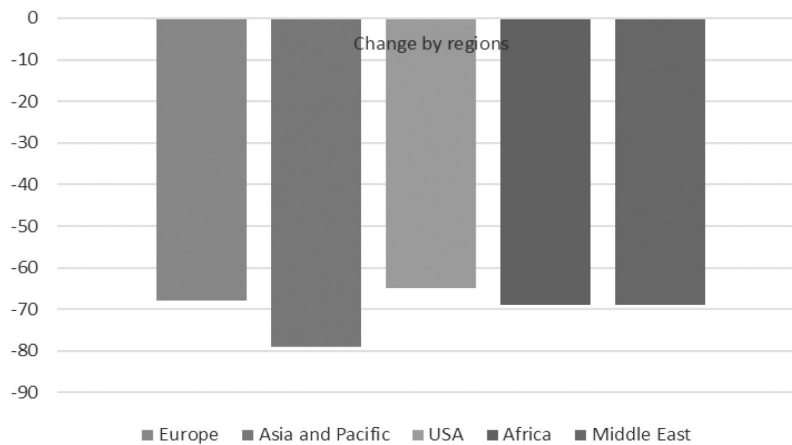


Figure 3. International tourist arrivals on regional level in first eight months of 2020 [%]

According to the UNWTO World Tourism Barometer, international arrivals plunged 81% in July and 79% in August, traditionally the two busiest months of the year and the peak of the Northern Hemisphere summer season. The drop until August represents 700 million fewer arrivals compared to the same period in 2019 and translates into a loss of US\$ 730 billion in export revenues from international tourism. This is more than eight times the loss experienced on the back of the 2009 global economic and financial crisis.

If we look at the percentage change in the number of tourists coming to the territory of the Republic of Serbia and the surrounding countries, we can see that the situation is more or less similar to global changes as can be seen in Figure 4. It can also be seen that the percentage change in the number of arrivals in the Republic of Serbia in the first two months is slightly higher than the number of arrivals in the surrounding countries. This situation can be justified by the fact that the Covid-19 virus was later registered in the territory of the Republic of Serbia concerning the surrounding countries, which led to the later closing of the borders. Also, because the pandemic abroad was already in full swing, the increase in the number of arrivals can be justified by the fact that Serbian citizens who are working abroad are returning.

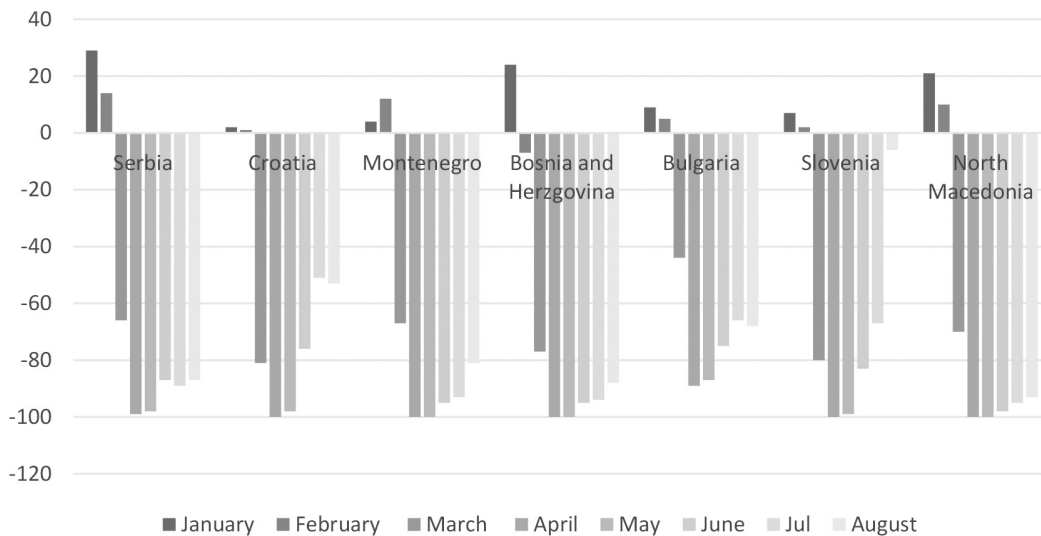


Figure 4. International tourist arrivals for R. Serbia and surrounding countries in first eight months of 2020 [thousands]

If we compare the data for the same months during 2019 and during 2020 for the Republic of Serbia, there is an evident increase in the first two months of 2020 compared to 2019, which can be seen from Figure 5.

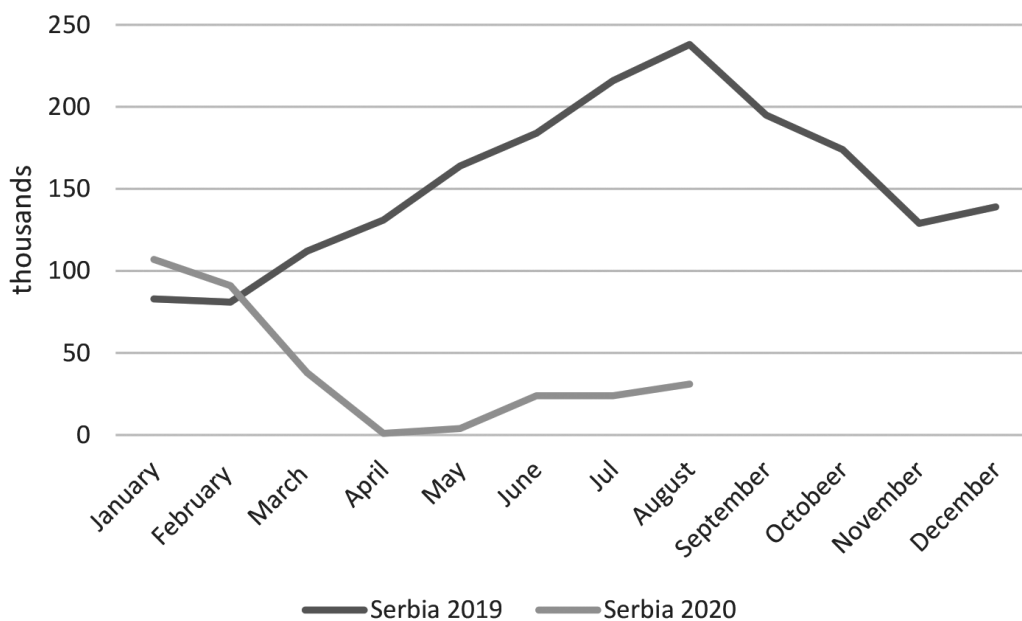


Figure 5. Comparison of # of international tourist arrivals for R. Serbia in 2019 and 2020.

As the data for 2020 are available ending in August, the period from August to December in Figure 4 is given only for 2019. Observed at the global level after the first wave and after the introduction of measures to combat the spread of the Covid-19 virus, some tourist destinations began to relax measures following the recommendations. The relaxing of measures was one of the ways to save the tourist season. At the same time, it can be said that most countries have maintained some form of restrictions despite pressures from the tourism sector. Some of the forms of restrictions were travel bans as well as a mandatory quarantine for people coming to the country. The data show that 69 tourist destinations kept the originally introduced measures regarding the closing of borders. The number of arrivals in these 69 tourist countries represents

57% of the total number of world tourist arrivals. In addition to the mentioned 69 tourist destinations, an additional 53 destinations introduced some other types of measures, such as the obligatory negative test for the Covid-19 virus. Observed in the number of arrivals of these 53 destinations, they represent approximately 14% of the world's tourist arrivals.

If we look at the regions, the countries of the European Union and tourist destinations belonging to the European Union recorded the largest easing of measures related to the closure of the border and the prohibition of tourist arrivals. For example, from the initial 92% of the total number of arrivals to the region of the European Union to 8% at the beginning of September. The European Union market was reopened at the end of May and June when the struggles of the tourist sector to save the season began. As for the Asia-Pacific region, the decline is also visible, but to a lesser extent. The percentage decline in the region was from 88% in April to 64% in September. The smaller decline compared to the European Union is caused by the fact that many destinations in the Asia-Pacific region are still closed. One of the still closed tourist destinations is certainly the cinema. The data show that complete closures in the territory of America dropped from 40% to 25% in the same period. This rate of decline is caused by the opening of the borders of some of the most popular tourist destinations, for example in the Caribbean. Although destinations such as the Caribbean followed, the United States and Canada remained closed due to a large number of infected people.

As for Africa and the Middle East, in contrast to the others already mentioned, the share of total closures increased between April and June. Following this increase, the share of closures fell during July and September. The subsequent increase in the share of closures and the introduction of measures can be explained by the later impact of the pandemic in this area, in relation to Europe and Asia. In the African region, the share of destinations with complete exclusion reached a maximum during June and amounted to 91%. As for the fall in the share, the biggest drop was to 63% in September. As for the Middle East, data show that the largest share reached 80% of closures during June. The decline in the Middle East was 49% during September. Observed since the beginning of September, Africa with 64% and America with 63% had the largest share of destinations with complete closure of borders and introduction of measures. Africa and America are followed by the Asia-Pacific region and Europe with 49% and 25% respectively. Within the Middle East, tourist destinations that have remained completely closed represent only 8% of the total number of arrivals in the region.

In addition to the number of tourist arrivals, an important parameter when assessing the impact of any crisis situation, and thus the impact of the Covid-19 virus on tourism, is certainly the number of reservations of accommodation units. Based on the data available on the portal Sojern⁷ that collect and analyze travel data, including flight and hotel booking data, from 1,000s of partners all around the world, an indexed display of the number of reservations was created for some of the countries of the European Union. The mentioned graphic representation is given in Figure 5.

Also, based on the available data, an overview of changes in the number of searches of accommodation units and the number of reservations for Greece as one of the most popular destinations of the people from our area was created. A graphical representation of changes for Greece is given in Figure 6.

⁷ Sojern's Real-Time COVID-19 Travel Data Insights Dashboard, Retrieved 05.11.2020, from: <https://www.sojern.com/covid-19-insights-eu/#report>

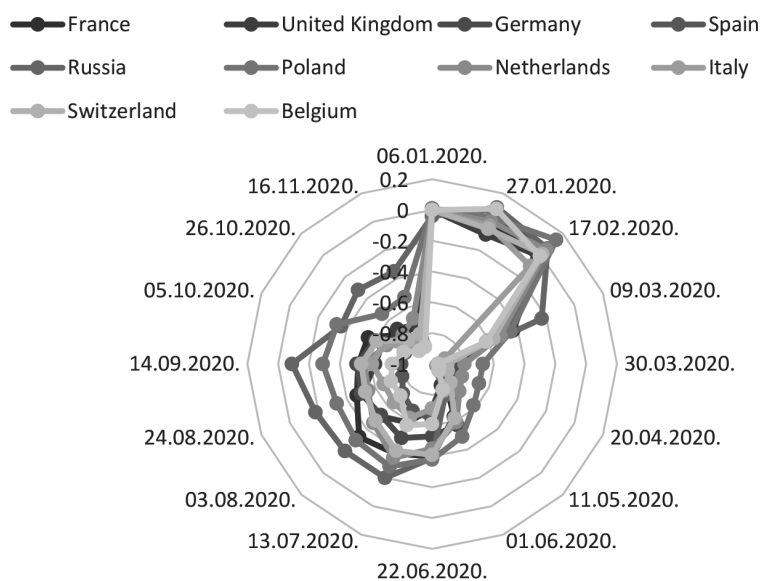


Figure 6. Indexed number of accommodation reservations during 2020

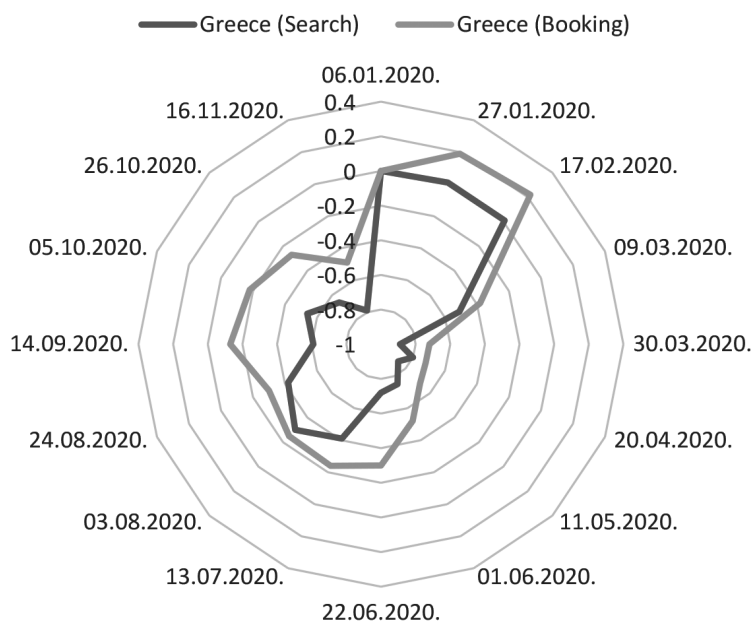


Figure 7. Indexed number of accommodation searches and reservations in Greece

In order to overcome the problem of closing the borders of countries around the world, which led to the closing of tourist destinations, cancellation of reservations and in many cases the impossibility of refunding money, each of the countries individually found a way to restart tourism, both international and domestic. If we take the Republic of Serbia as an example, at the initiative of the tour operator, the Government of the Republic of Serbia adopted the Decree on the offer of a replacement trip for a tourist trip that was canceled or not realized due to the Covid-19 disease. The Decree stipulates that tour operators can offer a replacement trip (which is paid in full or partially ending with 15th March 2020), which should be realized until 31st December 2021. The traveler then concludes a new travel contract that is insured in accordance with the Law on tourism⁸. Otherwise, the tour operator is obliged to return the money from 1st January 2022, within 14 days. From May 18 airline transport is restored. From May 22 the borders are

⁸ Law on tourism, „Official Gazette of RS”, no. 17/2019

fully opened without mandatory testing for coronavirus and request for a 14-day quarantine. From May 22 all persons entering the territory of Serbia will be given health warnings and information issued by the Institute of Public Health of the Republic of Serbia.

When it comes to domestic tourism in 2020, the Government of the Republic of Serbia set aside 2.8 billion RSD for 560,000 tourist vouchers worth 5,000 RSD intended for (at this moment maximum) 560.000 citizens of Serbia who want to spend their vacation (or part of it) in the Republic of Serbia. Vouchers can be realized only in touristic facilities in the Republic of Serbia. In that way, domestic tourist traffic is encouraged, as well as support for the domestic hospitality industry.

4. PERSONAL DATA PROTECTION DURING THE COVID-19

Due to its devastating consequences, the Covid-19 pandemic has taken on a global focus in all spheres of human life and work. Within the scope of their work, various institutions are trying to find solutions to reduce the spread of the pandemic and reduce its harmful effects on human lives, health and the global economy. Observed from the angle of collecting and publishing personal data in emergencies, there were problems with what is the data that can be collected and published, and what is the personal data that should certainly remain secret even in emergencies (Brouder, 2020). The issue of publishing personal data is especially important from the point of view of the health system. For example, the publication of personal data of Covid-19 positive persons or deceased persons as a result of this virus. Research has shown that collecting, using and sharing data can reduce the spread of viruses, and thus enable you to stop the infection faster as well as faster recovery. In particular, digital monitoring of covid-positive contacts stands out as a good way to combat the spread of the virus. Such data collection and processing, including digital contact tracing and general health surveillance, may include the collection of vast amounts of personal and non-personal sensitive data. This could have significant effects beyond the initial crisis response phase, including, if such measures are applied for purposes not directly or specifically related to the Covid-19 response, potentially leading to the infringement of fundamental human rights and freedoms⁹.

The collection, sharing and use of personal data, in particular digital data obtained by monitoring the movements of patients and persons with whom they have had contact, may in itself be a problem if it becomes a common practice even after the end of a pandemic. Precisely for these reasons, it is necessary to clearly define in which cases and for how long it is possible to collect such data. Also, any collection of data, as well as their processing by various organizations in terms of combating the spread of the Covid-19 pandemic, should certainly be in accordance with basic human rights, applicable international laws, personal data protection laws and privacy laws. If we look at the health care system, the principle of confidentiality of patient data can be applied here¹⁰.

Since these measures involve the processing of different types of personal data –including health data, privacy and data protection is critical in their rollout. Meaning that organisations should be aware that certain measures do have an impact on the privacy of individuals and that they have a choice where to draw the line between safety measures benefiting public health and invasive controls impacting the privacy of individuals. This last consideration should serve as

⁹ World Health Organization, Joint Statement on Data Protection and Privacy in the COVID-19 Response, Retrieved 05.11.2020, from: <https://www.who.int/news/item/19-11-2020-joint-statement-on-data-protection-and-privacy-in-the-covid-19-response>

¹⁰ Deloitte, Privacy and Data Protection in the age of COVID-19, Retrieved 12.10.2020, from: https://www2.deloitte.com/content/dam/Deloitte/be/Documents/risk/be-risk_privacy-and-data-protection-in-the-age-of-covid-19.pdf

a catalyst for organisations to refute the idea of the inevitable trade-off between privacy and data protection on the one hand, and effective measures protecting public health on the other. The data protection principles and the technical tools that allow striking the right balance are available to privacy professionals.

As the situation caused by the Covid-19 pandemic requires the implementation of all possible measures, and therefore those that are not typical and unpopular, it was necessary to decide on the collection and use of personal data, as well as data containing information on whether or not someone was in contact with infected persons. As Italy is one of the first countries in Europe and the world to be affected by this virus, the problem of data collection and protection, as well as the possibility of publishing such data in order to combat the virus, was first solved by the state administration of this country. Therefore, the Italian DPA (the Garante) was the first one to deliver guidelines concerning Covid-19 on the 2nd March 2020. The Italian authorities envisage that the task of detecting and preventing the coronavirus is exclusively within the competence of the subjects of civil protection of citizens and professional health institutions, which do so following the prescribed instructions. Accordingly, employers are obliged to refrain from taking self-initiated measures regarding data collection. According to the adopted Garante “The investigation into and collection of information on the symptoms typical of Coronavirus and on the recent movements of each individual are the responsibility of healthcare professionals and the civil protection system, which are the entities tasked with ensuring compliance with the public health rules that were recently adopted.” The key takeaway from the Garante was that “employers must refrain from collecting, in advance and a systematic and generalised manner, including through specific requests to the individual worker or unauthorized investigations, information on the presence of any signs of influenza in the worker and his or her closest contacts, or anyhow regarding areas outside the work environment.”¹¹

Just a few days after Italy, Belgium also adopted and published instructions for handling personal data during the Covid-19 pandemic. First, the DPA mentioned that companies and employers may not rely on the vital interest of the data subject ex Article 6(1)(d) GDPR as a legal ground for the processing. The DPA also mentioned that companies and employers may not rely on the public health processing ground ex Article 9(2)(i) GDPR concerning the processing of health data unless they are executing explicit instructions issued by the Belgian authorities. Organisations are thus advised against “systematic and generalized” monitoring and collection of data related to the health of their employees outside official requests and measures of public health authorities. Secondly, the DPA expressed that the processing of personal data collected through the measures implemented to prevent the spreading of Covid-19 must comply with all the fundamental principles of data processing of Article 5 GDPR¹².

In order to regulate the protection of personal data in the digital world during the Covid-19 pandemic, the EU Directive on Privacy and Electronic Communications¹³ was adopted, which explicitly stipulates that personal location data may be processed only after being made anonymous or with consent. persons to whom this data relates. However, if it is not possible to carry out processing anonymously, the Directive authorizes the EU Member States to prescribe special measures in national law to protect national and public security.

¹¹ Ibidem

¹² Ibidem

¹³ Coronavirus/COVID-19 Data Privacy Guidance, Retrieved 12.10.2020, from: <https://www.cov.com/-/media/files/corporate/publications/2020/03/overview-of-covid-19-data-privacy-guidance.pdf>

The opportunity provided by the Directive has been used by many European countries, as well as some parts of Asia. For example, the Italian government has developed cooperation with mobile operators, who submit the collected location data to the Ministry of Health, thus providing them with information on the number of citizens who have disobeyed the prescribed measures of restriction of movement. Polish authorities have launched an application intended for citizens who are in quarantine. The application, from time to time, requires the phone owner to take a selfie with the geo-location included so that the competent authorities can be sure that the issued orders are respected. Interesting emergency measures have been issued in Hong Kong for citizens who have arrived from abroad - on arrival they are given a bracelet that records the movement of the person wearing it and sends a notification to the competent authorities if the isolation order is violated. In Singapore, all data on infected people was made public, after which an application was launched that allows tracking the location of the victims of the coronavirus. Needless to say - the legality of this measure is questionable¹⁴.

EU data protection law (“GDPR”) qualifies health data as a “special category of data”. Therefore, employers must ensure that no form of communication contains information about an employee who is absent for health reasons, including his or her symptoms (Bradford et. al. 2020). Employers are obliged to consider in detail whether certain information should still be disclosed, ie the identity of a specific employee should be revealed. If there is an employee within the work collective who has been confirmed to be infected with the virus, it is advisable to consider all other measures, in order to avoid naming that worker or his health problems. Given that health data belong to a „special category of data”, the GDPR provides for appropriate exceptions. Namely, a derogation from the prohibition on processing special categories of personal data is permitted if: (i) it is provided for by Union or Member State law, (ii) to protect personal data and other fundamental rights, (iii) when it is in the public domain. interest, and in particular in the interest of health protection (among other areas), including the prevention or control of infectious diseases and other serious health threats. Such derogations are permitted for health purposes, including public health and health system management¹⁵.

In this regard, Art. 6 and 9 of the GDPR provide a legal basis to allow employers and competent public health authorities to process personal data in the context of an epidemic, without the obligation to obtain the consent of the data subject. This applies, for example, when it is necessary for employers to process the data in question in accordance with the public interest in the field of public health, as well as to protect vital interests or fulfill a legal obligation. As more and more cases of coronavirus positives are detected daily, employers are obliged to monitor the spread of the epidemic and, if necessary, take steps to protect their employees. However, the exchange of information for these purposes must be proportionate to the risk and need for exchange, which should be assessed regularly and carefully. It is up to employers to decide what steps should be taken to ensure employee safety¹⁶.

In addition, Article 15 of the ePrivacy Directive allows the Member States to adopt legal measures to ensure national and public safety. In any case, these measures do not allow everyone open access to personal data, nor do they reflect the application of the principle of stronger

¹⁴ Zunic Maric, T., & Djukanovic, J. (2020). Personal data protection (not) stayed because of covid-19. Retrieved 12.10.2020, from: <https://zuniclaw.com/covid-19-zastita-podataka/>

¹⁵ Gecic, G., & Okiljevic, M., (2020). Virus COVID-19 does not care about the protection of personal data, Gecic Law, Retrieved 12.10.2020, from: <https://www.coronavirus.geciclaw.com/sr/virus-covid-19-ne-mari-za-zastitu-podataka-o-licnosti/>

¹⁶ EDPD, Statement of the EDPB Chair on the processing of personal data in the context of the COVID-19 outbreak, Retrieved 12.08.2020, from: https://edpb.europa.eu/sites/edpb/files/files/news/edpb_covid-19_20200316_press_statement_en.pdf

rule in the collection of this data¹⁷. As far as domestic law is concerned, no emergency measures have been introduced to make exceptions to the protection of personal data. Unlike the above-mentioned countries, the domestic authorities did not issue an explicit statement on this issue, except for the appeal to the citizens to act in everything in accordance with the instructions of the competent authorities. The question is whether the reaction was accidentally absent or the Serbian authorities did not see the need for such regulation. We hope for a response from the domestic state authorities as soon as possible. The Covid-19 virus pandemic will certainly greatly affect many aspects of life even after it is over, but that may not be the case with the protection of personal data. Employers must establish safety rules and procedures on time, in order to minimize the impact of the epidemic on labor relations. Employee identity data should remain protected to the greatest extent possible, all following the rules provided by the GDPR and the instructions of the competent authorities (Dwyer et. al., 2016).

In the Republic of Croatia recital 46 of the General Regulation provides as follows: “The processing of personal data should also be considered lawful if it is necessary to protect the interest necessary to preserve the life of the respondent or another natural person. The processing of personal data based on the vital interests of another natural person should in principle only be carried out if the processing clearly cannot be based on another legal basis. Some types of processing can serve both important public interest and vital interests of respondents, such as if the processing is needed for humanitarian purposes, including monitoring epidemics and their spread, or in humanitarian crises, especially in cases of natural disasters.”¹⁸ The right to the protection of personal data is not an absolute right; it must be considered in relation to its function in society and it must be equated with other fundamental rights in accordance with the principle of proportionality. In this context, it should be emphasized that the processing of personal data on the health of respondents should be necessary and proportionate, and personal data appropriate, relevant and limited to what is necessary for the purposes for which they are processed, in accordance with the principles set out in Article 5 of the General Regulation.

5. PROPOSAL OF PERSONAL DATA MANAGEMENT SYSTEM IN TOURISM

Preventing the spread of the Covid-19 virus in the previous months can be said to have been the main focus of almost all countries in the world. The big problem that was also worked on was how to preserve the economy in the period when there was a mass work stoppage. Tourism, as one of the branches of the economy that is directly dependent on the movement of people, travel to and mass gatherings can be said to have suffered the greatest economic losses, endangering the existence of a large number of families (Gretzel, et. al. 2020). Relaxation of measures in the tourism sector is possible only if the problem of spreading the pandemic is worked on jointly at a higher level within one state.

In this part, we give a proposal of a software system which on the one hand should enable better control of Covid-19 positive people, while on the other hand should enable improvement of conditions for the movement of people and further work of the tourism sector for people who are not virus-positive. they have no obligation to be in self-isolation due to contacts with

¹⁷ Gecic, G., & Okiljevic, M., (2020). Virus COVID-19 does not care about the protection of personal data, Gecic Law, Retrieved 12.10.2020, from: <https://www.coronavirus.geciclaw.com/sr/virus-covid-19-ne-mari-za-zastitu-podataka-o-licnosti/>

¹⁸ Processing of personal health data in the context of the emergency situation caused by the covid-19 virus, Retrieved 10.10.2020, from: <https://azop.hr/aktualno/detaljnije/obrada-osobnih-podataka-o-zdravlju-u-kontekstu-izvanredne-situacije-izazvan>

positive people. The actors of the proposed system are the health system, tourist organizations, local self-government and border administration. Their interconnection can be seen in Figure 7, which represents the architecture of the proposed software system.

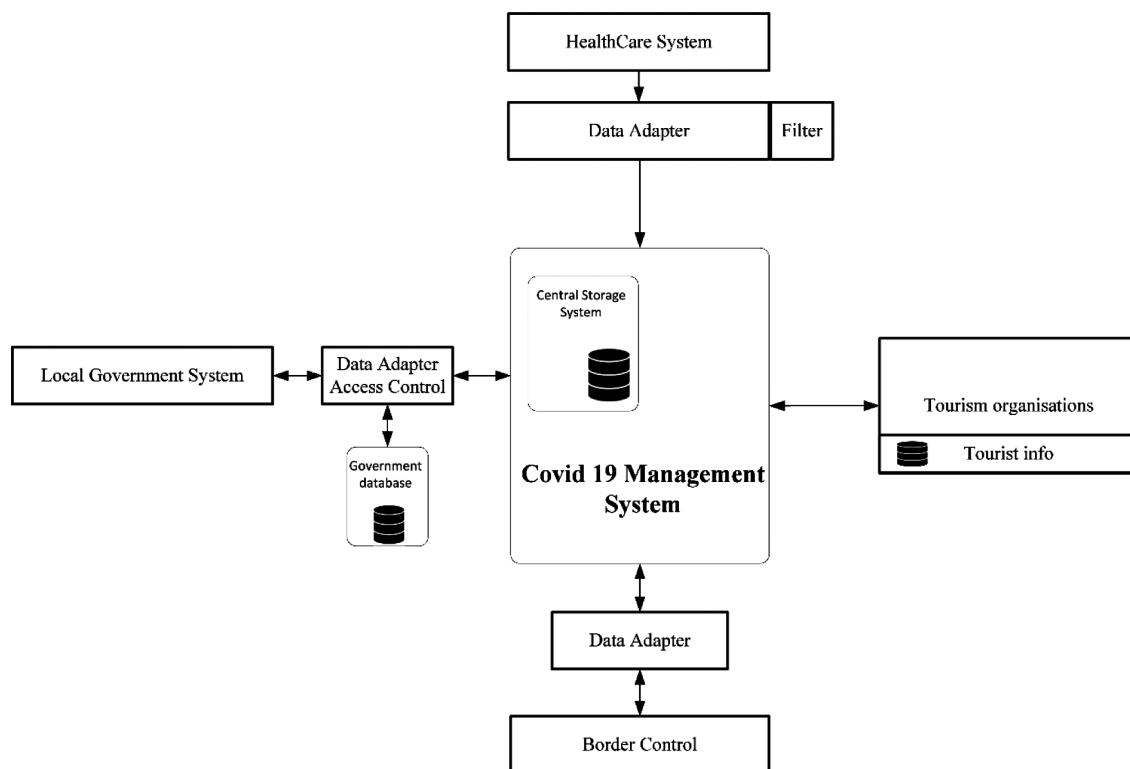


Figure 8. Architecture of proposed software solution

Within the proposed system, a key role in terms of collecting personal data of patients belongs to the health system of each of the countries that are at the forefront of the fight against this virus (Zwitter & Gstrein, 2020). Practically, the role of the health system is to provide the data to the proposed system for persons who were tested and whose tests returned as positive. In this way, the proposed software solution would not additionally burden the already overburdened health care system, given the fact that data on patients who were tested are already recorded by healthcare professionals. The integrated management system would access the database of health professionals and create data tables only with persons positive to the virus. The central place in the system called management data system is the integration of data from multiple databases into one centralized register. In doing so, each of the actors in the system accesses only that part of the data that is important for their work. In this way, it will not unnecessary to share personal data of patients. By creating, testing and approving a vaccine against Covid-19 one of the current strategies for protecting the population is certainly mass vaccination. Mass vaccination reduces restrictions on population movements. Also observed from the point of view of the health system, two groups of potential tourists are created by vaccination: a hygiene-free group (vaccinated against Covid-19) and a risk group (not vaccinated).

Viewed from the point of view of travel agencies, their task is to create a central register of reservations. Practically when booking accommodation or a tourist tour, each tourist would be checked. The proposed system would allow checking the data of a particular tourist through an integrated management system in order to find potential matches. If it turns out that the person

requesting the reservation should be in home isolation because it is positive for the Covid-19 virus or has been in contact with infected people, the reservation will not be approved. Each of the checks would refer to the period of stay in a tourist destination. This practically means that a Covid-19 positive person can make a reservation if the period of stay that is booked is after the prescribed time that the person must spend in isolation. Also, such persons should, after the expiration of the isolation, submit a certificate from the health organization about the negative PCR test. As far as vaccinated tourists are concerned, they must submit to the age certificate a confirmation that they have performed both vaccination and revaccination. As the form of confirmation has not yet been officially created and as there is still no data on whether it will be in paper or some of the digital forms, it remains for the state system to be harmonized with the state systems of the surrounding countries.

The role of local self-government in the proposed system is reflected in the registration of residence for tourists who visit the tourist destinations in their organization. It is the legal obligation of every accommodation issuer to register each of its guests. When registering guests, it is necessary to provide personal data for each person, the beginning of the stay and the end of the stay. Based on the report made, the local self-government, as well as the local tourist organization, would check whether the person who registered on their territory is in the central management system of infected persons, or the person is vaccinated. If it turns out that there is such a person in the system and that he should be in home isolation, the local self-government can take measures to penalize such a person.

The role of the part of the system related to border control is to create a central register of entry and exit from the country. Of course, this part of the system is functional as long as there are no border closures. Practically, the border control would check every citizen on his / her departure from the country whether he/she is in the system of positive persons for the Covid-19 virus. If a person in his organization has gone abroad and if he is positive or if his period of isolation has not expired, the system informs the border control and the person is returned from the crossing. In this way, the possibility of reckless travel outside the borders of the country of those persons who have this virus is eliminated. As for the control of vaccinated tourists, the best possible approach is to create a universal document which confirms by the state administration of the country of which the person is a resident that it is vaccinated and revaccinated, so it is considered safe and able to travel. Such a document should be accepted by the border authorities of each of the countries, regardless of which of the vaccines the person has been vaccinated with.

The proposed system would be based on cloud architecture. The goal of such a system organization is data availability and at the same time data access control. Data Adapters at each of the system actors provide visibility of only the necessary data and at the same time reduce the possibility of intrusion into the central Covid-19 management system and data forgery (Fahey, 2020). A data adapter is a resource that specifies how and where to obtain data. Specifically, it is an object that contains information about how to connect to or retrieve the data, and the logic to do that. Data adapters are stored in XML files and simplify porting of the report configuration and data source creation between environments. Furthermore, they can be used to provide additional privacy policies among different user roles, or filtering data. The advantages of using such a system are reflected in the fact that the restrictions on the movement of potential tourists who are not positive for the Covid-19 virus are reduced. In this way, on the one hand, a safer environment is provided for tourists, while on the other hand, opportunities are opened for increasing the number of tourists in tourist destinations.

6. CONCLUSION

The tourist season during 2020 was marked by major problems caused by the Covid-19 virus pandemic. Closing borders, restricting movement, postponing mass gatherings, affected large economic losses. A large number of countries whose economies rely on tourism have tried to adapt to the current situation and save the tourist season as much as possible. One of the mechanisms was to keep records of Covid-19 positive patients and to manage the personal data of these patients. In order to prevent the misuse of health data, the countries of the European Union, as well as the countries outside the European Union, have adopted many regulations related to the collection and use of personal data during the pandemic. Within this paper, in addition to the economic and legal analysis of the state of tourism and the state of use of personal data, a proposal of a software solution was given that would enable the creation of conditions for the sustainability of tourism during the current pandemic. Future research will be focused on the development of the software solution itself and its testing in real conditions.

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