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The Impact of Covid – 19 on Hospitality and Tourism Industry in Greece



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Angelos Ntalakos*¹, Dimitrios Belias¹, Nikolaos Trihas²

¹Department of Business Administration, University of Thessaly, Larissa, Geopolis, 41500, Greece

²Department of Business Administration and Tourism, Hellenic Mediterranean University, Heraklion, Greece

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ABSTRACT

Covid – 19 pandemic has been spread dramatically during the past three years. Its effects have changed the ordinary lives of millions of people worldwide. According to World Health Organization (1), 6.137.553 people died since the pandemic's outbreak, while the total amount of confirmed cases is 485.243.022 (2). Apart from the above negative impact on the health department, Covid – 19 pandemic has caused several problems in the trade and economic world. Poverty and unemployment have been rapidly and globally increased since the beginning of the coronavirus pandemic. One of the major economical markets that were seriously "hurt" by this pandemic is the Tourism Industry. According to (3), 100.8 million people, working in the tourism industry, have lost their occupations during the past three years. Greece is one of the most favorite tourist destinations. From a long-term point of view, services make up around 70% of total GDP. Hence, the Greek tourism market was severely "injured" because of Covid – 19 pandemic. The purpose of the current paper is to study the impact of the Coronavirus pandemic on the Greek tourism industry. The methodology that will be used is the literature selection of papers, studies, articles, and journals retrieved from online bibliographic databases.



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INTRODUCTION

Covid – 19 virus, also known as Coronavirus, is a contagious disease that is caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). The first known case was identified in Wuhan, China, in November 2019(4). Afterward, the disease has been dramatically spread worldwide, leading to an ongoing global pandemic crisis. The World Health Organization (WHO) officially declared COVID-19 a pandemic on the 11th of March 2020.

During the past 20 years, the world has experienced several diseases, which affected the tourism industry. According to (5) SARS virus created a short-term crisis, which had significant effects on tourism in China. Moreover, (6) suggested that the foot and mouth disease decreased tourism expenditures in the United Kingdom. (7) explore the effect of SARS disease on tourist arrivals in Asia. They discovered that tourist arrivals rapidly decreased in SARS-affected countries. Similarly, (8) discovered the negative impact of SARS on tourist arrivals in SARS-affected countries. Last but not least, (9) examine Malaria, Yellow Fever, Dengue, and Ebola's effect on tourist arrivals in affected countries. They discovered that those diseases caused a significant decline in tourism arrivals. Especially, Malaria risk in-country leads to a 47% decrease in tourist arrivals.

The coronavirus pandemic has been changing the global economy for the past three years. One of the economic sectors that were mostly “injured” by the Covid – 19 pandemic, is the tourism industry (10). The rapid spread of the virus has forced many governments to apply very strong measures, often referred to as lockdown. Lockdown has caused the breaking of the links of tourist services, such as transportation, hospitality, hotel business, tourist attractions, museums, restaurants and bars, travel agencies, and tourist guides (11). Hence, millions of people working in the tourism industry have lost their jobs unexpectedly (more than 100.8 million jobs lost) (12).

Greece is a country located in Southeast Europe that is very popular as a favorite tourist attraction in both its variants, not only its mainland but also its islands (13). The Gross Domestic Product (GDP) of Greece is distributed in three major sectors: agriculture, industry, and services. Figure 1 shows the distribution of GDP (on percentage) across economic sectors from 2010 to 2020. From a long-term point of view, services contribute around 70% of the total GDP (14).

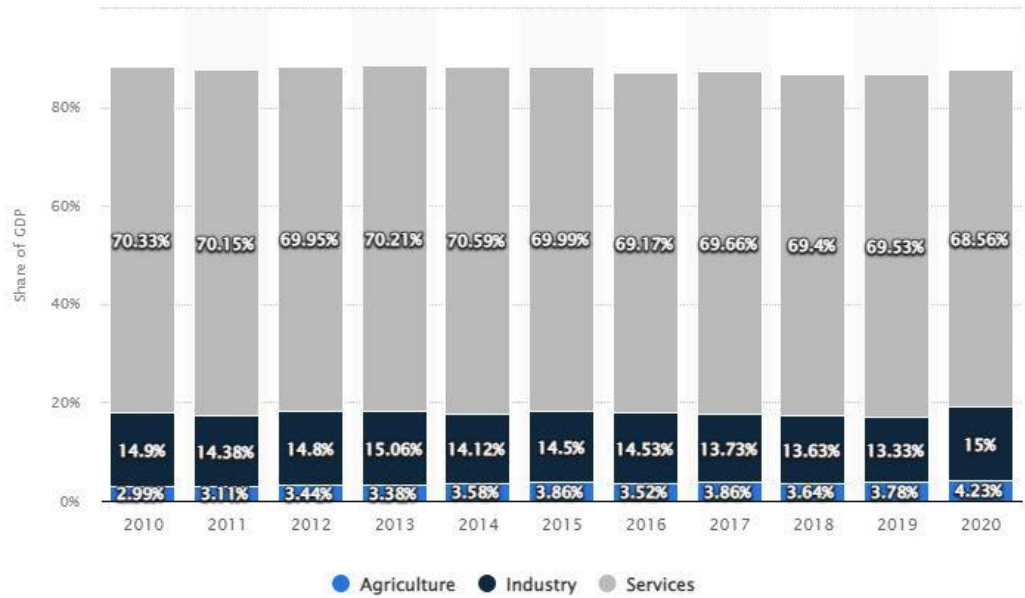


Figure 1. Greece: Distribution of GDP across economic sectors from 2010 to 2020 (15)

Hence, services (and more specifically tourist services) play a very important role in the economical “life” of Greece. The aim of the current paper is to study the effect of the Coronavirus pandemic on the Greek tourism industry. The methodology that will be used is the literature selection of papers, studies, articles, and journals retrieved from online bibliographic databases (such as Science Direct and Google Scholar). Finally, this paper hopes to trigger future research in the field of the tourism industry.

Covid – 19 Impact on the Greek Tourism Sector

Except for the negative impact on people’s health, Covid – 19 pandemic has led the tourism industry to a huge decrease. As it is already said the rapid spread of the virus has forced many governments to apply very strong measures, such as the lockdown measure. From the same point of view, the Greek government has applied the lockdown measure several times during the past three years. More specifically, the first lockdown started on 23 March 2020. From that date, movement outside the house was permitted only for seven types of reasons (16):

1. Moving to or from someone’s workplace during working hours
2. Going to the pharmacy or visiting a doctor

3. Going to a food store (supermarket)
4. Going to the bank for services that cannot be done online
5. Assisting a person in need of help
6. Going to a major ritual (funeral, marriage, baptism), or movement, for divorced parents, is essential for contact with their children
7. Moving outdoors for exercising or taking one's pet out, individually or in pairs

The above measures kept the spread of the disease as well as the number of deaths to a very low level; as a result, Greece was credited internationally as one of the safest (Covid-free) countries in all of Europe (17; 18; 19). These restrictions were extended until the 4th of May 2020, when Greece began to gradually lift restrictions on movement and restart business activity. However, the Greek government placed new measures and restrictions on movement and business from 7 November 2020 (20). These measures eased on the 3rd May of 2021 when the government announced that from the 14th of May Greece, including its islands, would be opened to tourists from several countries (21).

As a result, Covid – 19 pandemic caused a severe decrease in the tourism industry of Greece. More thoroughly, the Institute of Greek Tourism Confederation (INSETE) announced that country's travel receipts in 2020 decreased by 76.5% compared to 2019 (22). In addition, INSETE presented the following effects of Covid – 19 pandemic on Greece's tourism industry in 2020 (23, 24):

- International arrivals at Greek airports were reduced by 72.5%, compared to 2019. In other words, international arrivals at Greek airports reached 5.9 million against 21.5 million during the same period in 2019.
- International road arrivals were reduced by 78.7% compared to 2019 (international road arrivals reached 2.6 million instead of 12.3 million in 2019).
- Cruise arrivals dropped by 99% compared to 2019 (cruise arrivals reached 64 thousand compared to 1.5 million in 2019).

- Domestic arrivals at Greek airports were reduced by 61.4%, reaching 3.1 million instead of 8.1 million in 2019.
- In coastal shipping, there was a 50% reduction in the number of domestic travelers (9.4 million travelers instead of 18.8 million travelers in 2019).
- Hotel revenues dropped by 78.1% (1.8 billion euros instead of 8.3 billion euros in 2019).
- Arrivals to Greek hotels were reduced by 69.3% compared to 2019, while overnight stays dropped by 73.2% compared to 2019.
- The number of employees in accommodation was reduced by 8% compared to 2019 (396 thousand employees instead of 429 thousand during 2019).

As it has been mentioned before, on 14th May 2021 Greece eased its measures and re-opened for tourists from several countries. As a result, Greece gained the opportunity to recover, at some point, from the huge reduction in the tourist economy due to Covid – 19 pandemic. According to the Tourism Minister of Greece, HarisTheoharis, “Greek tourism, thanks to both foreign and Greek travelers, has been given a vote of confidence in the Greek summer” (25). More thoroughly, the results for Greece’s tourist season for the year 2021, are the following (26):

- International arrivals were increased by 96.8% compared to 2020 (14.3 million arrivals in 2021) and they were decreased by 41.2% compared to 2019.
- Tourism revenue came to 10.195 billion euros compared to 4.213 billion euros in 2020 and 17.568 billion euros in 2019.
- International road arrivals were increased by 50.5% compared to 2020 (international road arrivals reached 3.9 million instead of 2.6 million in 2020) and they were decreased by 67.9% compared to 2019 (12.3 million).
- Cruise arrivals dropped by 75% compared to 2019 and they increased by 1973% compared to 2020.
- Domestic arrivals at Greek airports were reduced by 40.8% compared to 2019 (reaching 4.8 million instead of 8.1 million in 2019) and they were increased by 63.3% compared to 2020.

- Hotel revenues dropped by -34.9% compared to 2019 (5.4 billion euros instead of 8.3 billion euros in 2019) and they increased by 199.3% compared to 2020.
- The number of employees in accommodation increased by 3.7% compared to 2019 (445 thousand employees instead of 445 thousand during 2019).

Figure 2, describes the increase and the reduction of the number of employees, working in the tourism industry during the four semesters of 2019, 2020, and 2021. In the first semester of 2021, the number of employees dropped by 40% compared to 2019, while in the second semester of 2021, the number of employees dropped by -21.4%. On the contrary, in the third semester of 2021, the number of employees increased compared to 2019.



Figure 2. Greece: Number of Employees in the Tourism Industry during the 4 semesters of 2019, 2020, 2021 (27)

Opportunities for developing the Tourism Industry in Greece during Covid – the 19 Era

Although Covid – 19 pandemic has severe negative effects on the global economy as well as the global health system (28), there seems to be an opportunity for the development of the Greek tourism industry.

Because of the massive lockdown, many airlines grounded their air crafts, which lessen the global air – pollution (29). Similarly, the lockdown situation (less transportation pollution) has

rapidly decreased the concentration of NO₂ emissions in the air (30). These facts can give a chance for people to be environmentally “awaken” (31). Greece has many destinations of environmental interest. Hence, this is a great opportunity for the Greek tourism industry to develop ecotourism. There are a lot of environmental attractions, such as Central Greece, Evia & Skyros, Epirus, Pelion, and Lake Karditsa in Thessaly, where tourists rarely go and where there are no crowds (32). So, Greece’s Ministry of Tourism can organize a very attractive marketing plan to “seduce” tourists from all around the world to travel to discover the hidden green treasures of Greece.

Moreover, Covid – 19 pandemic has caused insecurity and fear to many tourists all over the world. To make tourists feel more secure, safe, and comfortable Greek government (in association with the European Union) has established a health protocol for travelers. This contains the following elements:

- Greek Digital Covid Certificate: Greek Digital Covid Certificate is proof that a person: a) has been fully vaccinated against Covid-19, b) has recovered from Covid – 19, c) has a negative test result. It is used for access to venues, leisure activities, and facilities, theater, cinema, gym, indoor sports, museums, and restaurants and bars (33).
- EU Digital Covid Certificate: This is an extension of the Greek Digital Covid Certificate, issued by the European Union. It has the same features as the Greek Digital Certificate, plus it can be used by travelers in EU countries. Holders of EU Digital Covid Certificate are exempted from quarantine and testing upon arrival in EU countries unless emergencies require more strict protocols (34).
- Covid – 19 Safety Seal. This is used to outline a model for standardized health and safety protocols in the tourism services (such as vaccinated personnel, Covid tested personnel, and a clean and sterilized environment). A safety seal offers security to visitors to ease their fear of getting infected by Covid – 19 or similar viruses and diseases (35).

In addition, the tourism industry should introduce new features in the organizational culture (36; 37; 38; 39) as well as the training its personnel (40; 41; 43). Human resource management should induct new methods and strategies to prepare the staff for an upcoming crisis, not only in the health department but also in general terms of organizational crisis (43; 44;45;46).

Last but not least, technological applications and robotics (47) can play a very important role in the development of the tourist sector in the Covid – 19 era. Apart from the reduction of labor costs and improvement of guest experience (48), one of the greatest benefits of the use of robotics in the Covid – 19 era, is their contactless function. This feature may increase the sense of safety not only from a traveler's point of view but also from the personnel's point of view (49).

CONCLUSION

Covid – 19 pandemic has created many difficulties and problems in everyday life. Except for the negative impact on people's health, the Coronavirus pandemic has caused a global economic crisis, especially in the tourist industry. Greece is one of the most popular traveling attractions worldwide, especially in the summer season. Unfortunately, Covid – 19 has brought a severe reduction in the Greek tourism industry which had a serious negative impact (decline) on the GDP of the country. Nevertheless, the pandemic can be a change for the Greek tourism industry not only to recover but also to be developed in the following elements: ecotourism, marketing plan, technology and robotics, the strategy of Human Resource Management, personnel training, and safety and health protocols.

REFERENCES

1. World Health Organization (WHO). *WHO Coronavirus (Covid – 19) Dashboard* [online]. Retrieved from: <https://covid19.who.int/> (Last access on 25 March 2022) (2022).
2. World Health Organization (WHO). *WHO Coronavirus (Covid – 19) Overview* [online]. Retrieved from: <https://covid19.who.int/> (Last access on 25 March 2022) (2022).
3. Statista. *Forecast employment loss in the travel and tourism industry due to the Coronavirus (COVID-19) pandemic worldwide in 2020, by region.* [online] Retrieved from <https://www.statista.com/statistics/1104835/coronavirus-travel-tourism-employment-loss/> (Last accessed on 25 March 2022) (2021).
4. World Health Organization (WHO). *Coronavirus disease (COVID-19) pandemic* [online]. Retrieved from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019> (Last access on 25 March 2022) (2021).
5. Zeng, B., Carter, R.W. & De Lacy, T. Short-term perturbations and tourism effects: The case of SARS in China *Current Issues in Tourism*, 8 (4), pp. 306-322 (2005).
6. Blake, A., Sinclair, M.T., & Sugiyarto, G. Quantifying the impact of foot and mouth disease on tourism and the UK economy. *Tourism Economics*, 9 (4), pp. 449-465 (2003).
7. Kuo, H.I., Chen, C.C., Tseng, W.C., Ju, L.F. & Huang, B.W. Assessing impacts of SARS and Avian Flu on international tourism demand to Asia. *Tourism Management*, 29 (5), pp. 917-928 (2008).
8. McAleer, M., Huang, B.W., Kuo, H.I., Chen, C.C. & Chang C.L. An econometric analysis of SARS and Avian Flu on international tourist arrivals to Asia. *Environmental Modelling & Software*, 25 (1), pp. 100-106 (2010).
9. Rosselló, J., Santana-Gallego, M. & Awan W. Infectious disease risk and international tourism demand. *Health Policy and Planning*, 32 (4), pp. 538-548 (2017).

10. Ntalakos, A., Belias, D., Koustelios, A. and Tsigilis, N. Effect of Covid-19 on the Tourism Industry: Opportunities and Threats in Covid-19 Era. *In Proceedings of the 4th International Conference on Finance, Economics, Management, and IT Business*, ISBN 978-989-758-567-8, ISSN 2184-5891, pages 107-114 (2022).
11. Universitas Terbuka. Tourism and Creative Industry: Opportunities and Challenges during and after the Covid-19 pandemic. [online] Retrieved from <https://www.ut.ac.id/en/news/2021/08/tourism-and-creative-industry-opportunities-and-challenges-during-and-after-covid-19> (Last accessed on 25 March 2022), (2021).
12. Statista. *Forecast employment loss in the travel and tourism industry due to the Coronavirus (COVID-19) pandemic worldwide in 2020, by region*. [online] Retrieved from <https://www.statista.com/statistics/1104835/coronavirus-travel-tourism-employment-loss/> (Last accessed on 25 March 2022) (2021).
13. Medová, N., Macková, L., Harmacek, J. The Impact of COVID-19 on Hospitality Industry in Greece and Its Treasured Santorini Island. *Sustainability*, 13, 7906. <https://doi.org/10.3390/su13147906> (2021).
14. Statista. *Greece: Distribution of gross domestic product (GDP) across economic sectors from 2010 to 2020*. [online] Retrieved from <https://www.statista.com/statistics/276399/distribution-of-gross-domestic-product-gdp-across-economic-sectors-in-greece/> (Last accessed on 25 March 2022) (2021).
15. Statista. *Greece: Distribution of gross domestic product (GDP) across economic sectors from 2010 to 2020*. [online] Retrieved from <https://www.statista.com/statistics/276399/distribution-of-gross-domestic-product-gdp-across-economic-sectors-in-greece/> (Last accessed on 25 March 2022) (2021).
16. Covid19.gov.gr. *Covid-19 live analytics* [online]. Retrieved from <https://covid19.gov.gr/covid19-live-analytics/> (Last accessed on 25 March 2022) (2022).
17. Bloomberg. Giugliano, Ferdinando (10 April 2020). "Greece Shows How to Handle the Crisis" Retrieved from <https://www.bloomberg.com/opinion/articles/2020-04-10/greece-handled-coronavirus-crisis-better-than-italy-and-spain> (Last accessed on 25 March 2022) (2020)
18. New York Times. Stevis-Gridneff, Matina (5 April 2020). "The Rising Heroes of the Coronavirus Era? Nations' Top Scientists" Retrieved from <https://www.nytimes.com/2020/04/05/world/europe/scientists-coronavirus-heroes.html> (Last accessed on 25 March 2022) (2020)
19. LeFigaro.fr. Kefalas, Alexia (20 March 2020). "L'infectiologue Sotirios Tsiodras, nouvelle coqueluche des Grecs" Retrieved from <https://www.lefigaro.fr/international/l-infectiologue-sotirios-tsiodras-nouvelle-coqueluche-des-grecs-20200320> (Last accessed at 25 March 2022) (2020)
20. Covid19.gov.gr. *Covid-19 live analytics* [online]. Retrieved from <https://covid19.gov.gr/covid19-live-analytics/> (Last accessed on 25 March 2022) (2022).
21. Reuters. "I'm finally here: Greece formally opens to tourists". Reuters. 15 May 2021. Retrieved from <https://www.reuters.com/world/europe/im-finally-here-greece-formally-opens-tourists-2021-05-15/> (Last accessed on 25 March 2022) (2021).
22. INSETE. Statistical Report (February 2021). (In Greek) [online] Retrieved from https://insete.gr/wp-content/uploads/2021/02/Bulletin_2102.pdf (Last accessed on 25 March 2022) (2021).
23. INSETE. Statistical Report (March 2022). (In Greek) [online] Retrieved from https://insete.gr/wp-content/uploads/2022/03/Bulletin_2203.pdf (Last accessed on 25 March 2022) (2022).
24. ITEP. Performance of Greek Hotels in 2021. Survey (In Greek) [online] Retrieved from <https://www.itep.gr/wp-content/uploads/2022/01/itep-annual-survey-2021-public-en.pdf> (Last accessed on 25 March 2022) (2022).
25. Greek Reporter. Patricia Claus. Greek Tourism Rebounds in 2021 as Visitors Flock to Destinations. 27 August 2021. [online] Retrieved from <https://greekreporter.com/2021/08/27/greek-tourism-rebounds-in-2021-as-visitors-flock-to-destinations/> (Last accessed on 25 March 2022) (2021).
26. INSETE. Statistical Report (March 2022). (In Greek) [online] Retrieved from https://insete.gr/wp-content/uploads/2022/03/Bulletin_2203.pdf (Last accessed on 25 March 2022) (2022).
27. INSETE. Statistical Report (March 2022). (In Greek) [online] Retrieved from https://insete.gr/wp-content/uploads/2022/03/Bulletin_2203.pdf (Last accessed on 25 March 2022) (2022).

28. Ntalakos, A., Belias, D., Koustelios, A. and Tsigilis, N. Effect of Covid-19 on the Tourism Industry: Opportunities and Threats in Covid-19 Era. *In Proceedings of the 4th International Conference on Finance, Economics, Management, and IT Business*, ISBN 978-989-758-567-8, ISSN 2184-5891, pages 107-114 (2022).
29. Khan S.A.R., Janjua L.R. & Yu, Z. Opportunities and Obstacles in the Global Tourism Industry: A Story of Post-Covid-19, *Tourism*, Syed Abdul Rehman Khan, IntechOpen, DOI: 10.5772/intechopen.93683. Available from: <https://www.intechopen.com/chapters/73254> (2020).
30. Khan S.A.R., Janjua L.R. & Yu, Z. Opportunities and Obstacles in the Global Tourism Industry: A Story of Post-Covid-19, *Tourism*, Syed Abdul Rehman Khan, IntechOpen, DOI: 10.5772/intechopen.93683. Available from: <https://www.intechopen.com/chapters/73254> (2020).
31. Belias D., Rossidis I., Valeri M. Tourism in crisis: the impact of climate change on the tourism industry. Valeri M. (Eds.), “*Tourism risk. Crisis and Recovery Management?*” Emerald pp (Article in Press), (2021).
32. Ecotourism. *Five Lesser-Known Spots in mainland Greece* [online] Retrieved from <https://ecotourism-greece.com/five-remote-virus-free-spots-in-mainland-greece/> (Last accessed on 25 March 2022) (2019).
33. Gov. gr. *Greek Covid-19 Certificate* (In Greek) [online]. Retrieved from <https://www.gov.gr/ipiresies/ugeia-kai-pronoia/koronoios-covid-19/pistopoietiko-emboliasmou> (Last accessed on 25 March 2022) (2022).
34. Ec.Europa. European Commission. *EU Digital COVID Certificate* [online] Retrieved from: https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/safe-covid-19-vaccines-europeans/eu-digital-covid-certificate_en (Last accessed on 25 March 2022), (2021).
35. Ec.Europa. *New European Tourism Covid-19 Safety Seal available* [online] Retrieved from: https://ec.europa.eu/growth/news/new-european-tourism-covid-19-safety-seal-available-2021-05-19_en (Last accessed on 25 March 2022), (2021).
36. Belias D., Velissariou E., Koustelios A., Varsanis K., Kyriakou D., Sdrolias L. The Role of Organizational Culture in the Greek Higher Tourism Quality. In: Kavoura A., Sakas D., Tomaras P. (eds) *Strategic Innovative Marketing. Springer Proceedings in Business and Economics*. Springer, Cham. https://doi.org/10.1007/978-3-319-56288-9_10, (2017).
37. Belias, D., Velissariou, E., & Rossidis, I. The contribution of HRM on the development of effective organizational culture in hotel units—The case of Greek hotels. *In “Exploring smart tourism: The cultural and sustainability synergies” Springer proceedings in business and economics*, (2018).
38. Belias, D., Mantas, C., & Tsiotas, D. The impact of corporate culture in the performance of the front desk employees—The case of five-star hotels in Greece. *In Smart tourism as a driver for culture and sustainability* (pp. 563-576). Springer, Cham, (2019).
39. Ntalakos, A., Belias, D., Koustelios, A. & Tsigilis, N. Organizational Culture and Group Dynamics in the Tourism Industry. *Conference Proceedings of 5th International Conference on Tourism Research 2022*, 19 – 20 May 2022, Vila do Conde, Portugal (in the press, 2022).
40. Belias, D. & Trihas, N. Human Resource Training of front-office employees and change management in hospitality sector during the crisis. *4th International Conference on Finance, Economics, Management and IT Business* 24 – 25 April 2022 (Conference Proceedings, in press) (2022).
41. Belias, D. & Trichas, N. Strategic HRM approaches as mediators to change management in the tourism industry: Potential and prospects for future research. *Proceedings of Academicsera International Conference*, Hamburg, Germany, 03 – 04 February, (2022).
42. Viterouli M., Belias D. True Organizational Learning Culture as a key to unlocking Operational Performance: A Critical Review. *Proceedings of the 37th International Business Information Management Association (IBIMA)*, ISBN: 978-0-9998551-6-4, 30-31 May 2021, Cordoba, Spain, p 648-655 (2021).
43. Belias, D. & Trihas, N. The relationship of the changing context with the resilience of hotels: Proposal for a Research Framework on Hotels during the Covid-19 crisis. *ECRM, 21st European Conference on Research Methodology for Business and Management Studies*, 2 - 3 June 2022, Aveiro, Portugal (Conference Proceedings, in press) (2022).
44. Belias, D., Vasiliadis, L., & Mantas, C. The Human Resource Training and Development of Employees Working on Luxurious Hotels in Greece. *Cultural and Tourism Innovation in the Digital Era*, pp 639-648, (2020).

45. Belias, D., Rossidis, I., Papademetriou, C., Lamprinoudis N. The Greek Tourism Sector: An analysis of Job Satisfaction, Role Conflict, and Autonomy of Greek Employees. *Journal of Human Resources in Hospitality & Tourism*. <https://doi.org/10.1080/15332845.2021.1959825>, (2020).
46. Belias D., Trivellas P., Koustelios A., Sedaris P., Varsanis K., Grigoriou I. Human Resource Management, Strategic Leadership Development, and the Greek Tourism Sector. In: Katsoni V., Upadhya A., Stratigea A. (eds) *Tourism, Culture and Heritage in a Smart Economy. Springer Proceedings in Business and Economics*. Springer, Cham. https://doi.org/10.1007/978-3-319-47732-9_14, (2017).
47. Belias, D. Entrepreneurship in the age of digital tourism: The prospects from the use of robots. *Malopolska Journal* (Special Issue: Entrepreneurship theory and practice: current trends and future directions), 42(2), 89–99, (2019).
48. Ivanov, S. H., & Webster, C. Adoption of robots, artificial intelligence and service automation by travel, tourism and hospitality companies—A cost-benefit analysis. *International Scientific Conference 'Contemporary Tourism—Traditions and Innovations'*, Sofia University, October 19–21, 2017. <https://ssrn.com/abstract=3007577>, (2017).
49. Ntalakos, A., Belias, D., Koustelios, A. and Tsigilis, N. Effect of Covid-19 on the Tourism Industry: Opportunities and Threats in Covid-19 Era. *In Proceedings of the 4th International Conference on Finance, Economics, Management, and IT Business*, ISBN 978-989-758-567-8, ISSN 2184-5891, pages 107-114 (2022).

