



## TOURISM AND HOSPITALITY INDUSTRY DURING COVID-19: AN ECONOMIC PERSPECTIVE

Muharis Mohamed<sup>1,2</sup>, Ataul Karim Patwary<sup>1,3</sup>, Ahmad Edwin Mohamed<sup>1,4</sup>

<sup>1</sup>School of Tourism, Hospitality and Event Management, Universiti Utara Malaysia, <sup>2</sup>Email: muharis@uum.edu.my

<sup>3</sup>Email: raselataul@gmail.com <sup>4</sup>Email: edwin@uum.edu.my

### ARTICLE INFO

#### Article History:

Received: November 15, 2020  
Revised: December 09, 2020  
Accepted: December 11, 2020  
Available Online: December 12, 2020

#### Keywords:

COVID - 19  
Tourism  
Hospitality  
Global Economy  
Pandemic  
Economic Perspective

#### JEL Classification Codes:

F01, L83, Z32.

#### Funding:

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

### ABSTRACT

The COVID-19 pandemic has caused an ongoing tourism crisis. The most significant threat to the global economy since the Second World War is the product of unparalleled global travel constraints and residency orders. Tourism is particularly vulnerable to intervention to fight pandemics due to limited movement and social distance. Global markets, including tourist services such as world travel, domestic tourism, day trips, and parts as varied as air, cruises, transport, hotels, cafes and restaurants, conferences, festivals, meetings, or sports activities have automatically been affected by international, regional, and local travel restrictions. Leading to the dramatic stagnation of global air traffic and the fact that many countries have placed travel restrictions, closed borders, or initiated quarantine times, international and domestic tourism has reduced dramatically. Several countries have failed to return tourists home, with hundreds of thousands of people in all areas of the world participating in vital outbound markets. This study contributes to the tourism and hotel industry, particularly from an economic perspective, by reviewing related research, reports, and working papers.



© 2020 The Authors, Published by iRASD. This is an Open Access Article under the [Creative Commons Attribution Non-Commercial 4.0](https://creativecommons.org/licenses/by/4.0/)

Corresponding Author's Email: [raselataul@gmail.com](mailto:raselataul@gmail.com)

Citation: Mohamed, M., Patwary, A. K., & Mohamed, A. E. (2020). Tourism and Hospitality Industry During COVID-19: An Economic Perspective. *iRASD Journal of Economics*, 2(2), 53-60.

<https://doi.org/10.52131/joe.2020.0101.0016>

### 1. Introduction

On December 8, 2019, the Government of Wuhan, China, announced the treatment of hundreds of new virus cases known to be coronavirus disease (COVID-19) by health authorities (Bakar & Rosbi, 2020). COVID-19, a new SARS strain (SARS-CoV-2), has since become a global pandemic and distributed to various countries. COVID-19 travels to other infected people with signs of strongly transmissible respiratory disease such as fever, cough, and breathing difficulty (Yang, Zhang, & Chen, 2020). Asymptomatic patients can also be spread, with up to 40% of affected individuals remain asymptomatic (Oron & Topol, 2020).

The Covid-19 pandemic shut down the global economy nearly overnight (UNWTO, 2020). The pandemic has brought an unprecedented situation to the tourism and hospitality industry. Implementing several strategies to reduce human to human transmission,

including lockdown, social gap, homestay requests, travel and mobility constraints, has forced several hospitality firms to close temporarily and have dramatically diminished market demand. That could continue operating (Bartik et al., 2020). Almost every restaurant was demanded to limit their activities to taking outs only. Restrictions on transport and sit at home directives. Authorities give a rapid decrease in hotel occupancy and profits.

Nonetheless, the reopening has started slowly, and authorities have started to easing regulations, for example allowing dining establishments to reopen at reduced capacity with strict social distance. Guidelines and reducing domestic and international transport limitations steadily. As the hospitality industry recovers steadily, the COVID-19 crisis appears to have profound implications for hospitality firms' service. In the COVID-19 corporate climate, companies are required to make major improvement significant procedures to gua health and welfare of staff and consumers and to increase custos' readiness to sponsor their businesses (Gossling et al., 2020). The pandemic would also have a major effect on the hospitality marketing and management science agenda. With the hospitality industry facing unprecedented challenges in the COVID-19 era, hospitality researchers are expected to concentrate on finding solutions for this issue.

One of the most drastic shifts in modern times is the beginning of COVID-19. In just a few months of the first case found, it brought our planet to a standstill, and our lives, economies, and cultures had an uncertain and unexpected effect. Governments worldwide have taken numerous containment steps to deter the transmission of the epidemic, such as transport restrictions and lockdowns (Gormsen, & Koijen, 2020). These limits on transport and related delays have had a strong and immense effect on tourism. A paper issued by the U.S. Travel Alliance and Oxford Economics is projected to see a decrease in direct travel expenditure of up to \$519 billion, reflecting a reduction of \$1.2 trillion in economic production nine times more than 9/11 financial effects. These statistics illustrate the destructive impact of COVID-19 on the travel and tourism market. While policymakers worldwide have developed social advice and lockdown initiatives, anecdotal data is still available about individuals who behave carelessly or selfishly and disregard public advice (Gormsen & Koijen, 2020).

Moreover, there is no consensus on the most effective measure for coping with public health issues without unnecessary damage to societal well-being. A variety of methods to counter the contagious transmission of COVID-19 around the world have been adopted. For others, being able to observe nature or work outdoors is a crucial aspect of everyday life that is greatly disturbed by lockouts. Many people viewed COVID-19 at the height of the COVID-19 pandemic clearly as the seasonal flu. They were not informed of COVID-19 and did not take precautionary steps. Some only began paying attention when there was an unprecedented uptick in COVID-19 victims in their immediate area. On the other hand, since this contagious illness is easily and invisibly spread, many individuals experience paranoia and unnecessary fear about the disease, opting for the best possible means of distancing and cutting off non-essential travel behaviors to avoid infection. Despite the increased condition of COVID-19 and numerous lockdown steps, it is not clear how people change their travel behavior, particularly given the different attitudes to the disease (Barrios et al., 2021; Goolsbee and Syverson, 2021).

## **2. The COVID-19 and Vulnerability in the Global Economy**

The COVID-19 pandemic is the greatest exam of many, if not all, industries' founders, developers, and workers. Contagion has, among other impacts, significantly impacted the global economy, including the transport, tourism, and hospitality sectors (Eggers 2020; OECD 2020). Moreover, the extraordinary existence of COVID-19, with many drawbacks for companies and far-reaching impacts on hotels, restaurants, bars, and others, has had significant and almost insurmountable overall problems for the hospitality sector.

More importantly, after the activities of the COVID-19 outbreak in January 2020, China's hotel occupancy dropped by almost 90% (Nicola et al., 2020).

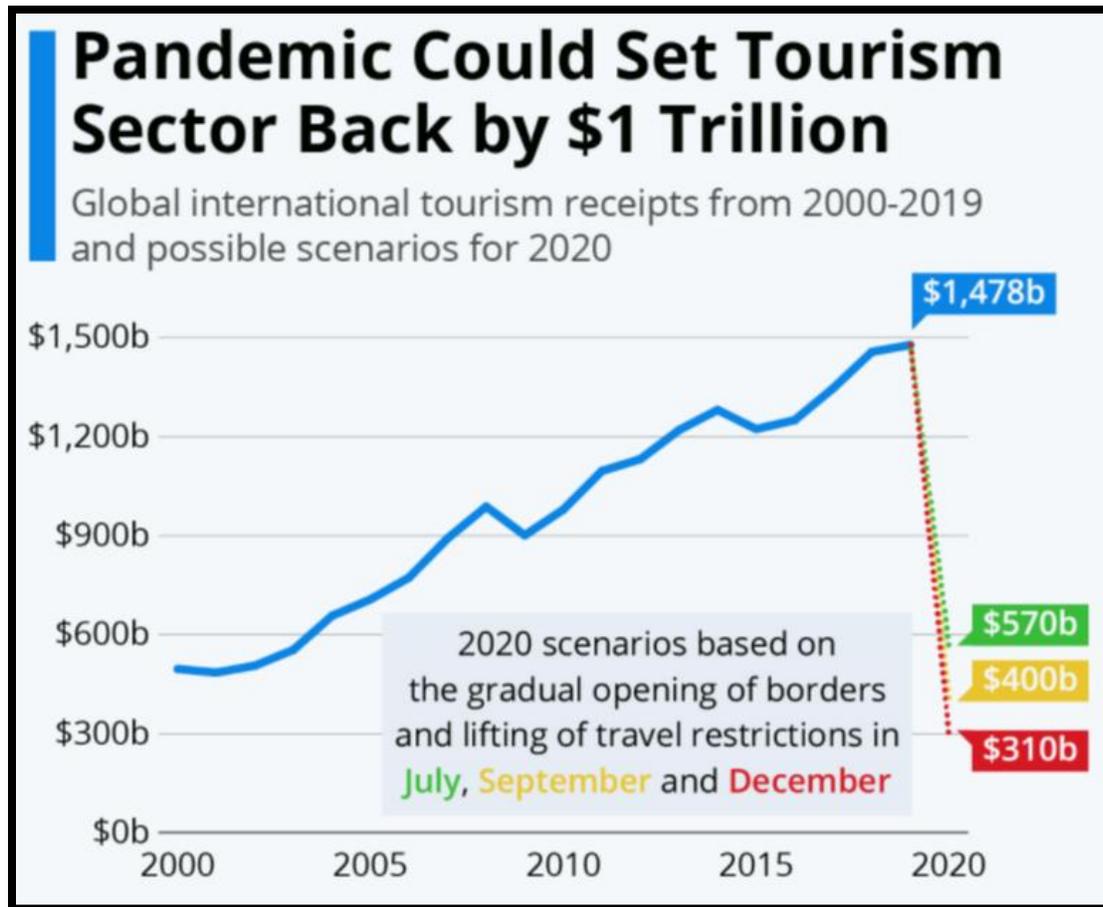
Figure 1 demonstrated the scenarios of most 15 affected countries due to COVID 19. Revenue per available room declined in the U.S. by 11.6 percent, and in March 2020, restaurant investment dropped by one-third (Baker et al., 2020). Similar effects have been observed in Europe, where the latest figures indicate a monthly reduction of EUR 1 billion in tourism revenues from COVID-19 (Hall et al., 2020). With the accelerated advances of the COVID-19 hazard, most or primarily speculative analysis is currently under construction. For example, researchers offered critique (Baum & Hai, 2020) aimed at predicting short, medium, and likely long-term effects. Empirical analysis with the perspective of the 'coal' face of hospitality and tourism, including the opinions of owners/managers, could be highly useful for the sector in terms of realistic tactics and reactivity. At the same time, theoretical impressions could be more beneficial for the research group to better consider.

Country	% Change (GDP)	Country	Value Change – GDP (US\$Millions)
Jamaica	-11	United States of America	-187,038
Thailand	-9	China (inc. Hong Kong SAR)	-104,690
Croatia	-8	Thailand	-47,728
Portugal	-6	France	-47,289
Dominican Rep.	-5	Germany	-46,260
Kenya	-5	Spain	-44,119
Morocco	-5	United Kingdom	-37,096
Greece	-4	Italy	-34,324
Mauritius	-3	Japan	-30,706
Senegal	-3	India	-28,120
Ireland	-3	Republic of Korea	-22,092
Egypt	-3	Indonesia	-20,713
South Africa	-3	Canada	-18,480
Malaysia	-3	Mexico	-17,376
Spain	-3	Portugal	-13,922

**Figure 1:** 15 Most Affected Countries by COVID 19 (United Nations Conference on Trade and Development, 2020)

According to the United Nations World Tourism Organization (UNWTO, 2020), intentional tourism expects a severe setback of 1 Trillion USD in 2020 (Figure 2). As the world economy is now globalized, the COVID-19 epidemic in China was bound to influence the whole world. China is the center of production and the largest producer of energy. On December 31, 2019, China told the WHO of a virus that had already struck the first victim in China on November 11, 2019 (World Health Organization, 2019). Since China suffered from SARS experience, it produced a rapid response and shut down its factories by subsequent lockdowns and citizens' homes. The industry's shutdown has delayed the supply chain and logistics. Restrictions on the movement of people and their homelessness have contributed to a decline in demand for commodities. As a result, Apple Inc. announced a drop in sales, which immediately led to S & P 500 dropping by 30 points. Borders were closed in most countries, and aircraft were grounded. The aviation industry will incur a loss of \$25 billion (World Bank, 2020). A significant number of employees have lost their jobs because of the quarantine policies that have brought their businesses or factories to close and bankrupt. In China, China percent down. Since economies interdepend in a globalized reality, however the effect of any slowdown would also have an impact on other big economies in China. Germany depends on the Chinese economy in several ways since China manufactures the machinery that the German industry requires. In 2018, China exported goods worth € 93 billion to Germany. Moreover, China is the second-largest German auto importer after the U.S. (with German car

imports worth 24 billion euros). Another big economy directly tied to China is the United States. China is America's biggest holder of shares.



**Figure 2:** International Tourism Receipts (Source: UNWTO, 2020)

China imports commodities worth \$150 billion from the U.S. The U.S. economy has some major problems, such as massive corporate debt, car loans, and student loans. Interest rates are now poor, and there is no use for further quantitative easing most of the financial exposure to the Asian markets of the gigantic European bank, the HSBC. Half of the income came from Asian markets and was lost just \$883 million in Hong Kong attacks. This will probably approximate the magnitude of the damage sustained by the COVID-19 termination. Before the COVID-19 outbreak, China began to experience lower annual GDP growth. This statistic increased by 6.4% in 2019, while it grew by 6.6% in 2018.

Even such a small proportion of the decline in economic growth is not insignificant to an economy like China that has a deficit equal to three times its GDP. Due to the shutdown in the Chinese market, businesses are likely to opt to move their production from China. The threat of a financial market collapse must be paid heed to if economic growth ceases. Markets responded quickly, and the stock of large airlines and associated tourism firms plummeted.

### 3. Methods

This study contributes to the tourism and hotel industry, particularly from an economic perspective, by reviewing related research, reports, and working papers. The researchers conducted a general search by using the keywords "COVID -19 and Tourism industry", "COVID - 19 and hospitality industry", and "Economic Vulnerability due to COVID

- 19". Then the researchers collected relevant information from the articles and reports and summarised them at the end.

#### **4. Discussion and Conclusion**

The world has seen many major epidemics/pandemics over the past 40 years, but none have any consequences on world economy as this pandemic (COVID-19) did. Although, COVID-19 is not being considered as having spreading power and cannot harm people as Ebola. Several companies worked on implementation and future protocols and concentrated on the future of the business. These situations underline the desperate need to channel additional funding to recipients to escape the domino effect urgently. In this case, employees lose their critical income; vendors are exposed provided they are unable to relocate or collect compensation, and that other firms that are dependent on employees and providers are also affected seriously.

Another field of future study could consider the links between hospitality and medical science. Wen et al. (2020) stress the importance of bringing together medical and hospitality professionals and tourism professionals in joint research projects. These activities can be informative and effectively fruitful while prioritizing key stakeholders, including tourists and workers. Based on these concepts, research should aim to determine how hospitality and tourism operators can better cooperate with healthcare professionals for mutual profit. Many companies can plan new health-related cases and react quickly to prevent further lockdowns that could have disastrous consequences for companies, workers, customers, and the economy. Besides, future studies could examine, assert their general validity, or theoretically complement the various theoretical constructs presented in this exploratory analysis by new dimensions that could be found.

#### **Conflict of Interests/Disclosures**

The authors declared no potential conflicts of interest w.r.t the research, authorship and/or publication of this article.

#### **References**

- Al-Tawfiq, J. A., Zumla, A., & Memish, Z. A. (2014). Travel implications of emerging coronaviruses: SARS and MERS-CoV. *Travel medicine and infectious disease, 12*(5), 422-428. doi:<https://doi.org/10.1016/j.tmaid.2014.06.007>
- Alom, S., Patwary, A. K., & Khan, M. M. H. (2019). Factors Affecting the Turnover Intention of Bangladeshi Migrants in the United Arab Emirates: An Empirical Study on the Hotel Industry. *International Journal of Innovation, Creativity and Change, 8*(3), 344-360.
- Azim, M. S., Tarannum, L., & Patwary, A. K. The Effects of Leadership Style into Fisheries Business Sector in Bangladesh. *International Journal of Business and Technopreneurship, 7*(1), 13-22.
- Bai, Y., Yao, L., Wei, T., Tian, F., Jin, D.-Y., Chen, L., & Wang, M. (2020). Presumed asymptomatic carrier transmission of COVID-19. *Jama, 323*(14), 1406-1407. doi:<https://doi.org/10.1001/jama.2020.2565>
- Bakar, N. A., & Rosbi, S. (2020). Effect of Coronavirus disease (COVID-19) to tourism industry. *International Journal of Advanced Engineering Research and Science, 7*(4), 189-193. doi:<https://dx.doi.org/10.22161/ijaers.74.23>
- Baker, S. R., Farrokhnia, R. A., Meyer, S., Pagel, M., & Yannelis, C. (2020). *How does household spending respond to an epidemic? consumption during the 2020 covid-19 pandemic* (26949). Retrieved from
- Bank, W. (2020). *World Development Indicators*. Retrieved from: <https://data.worldbank.org/indicator/ST.INT.ARVL>

- Barrios, J. M., Benmelech, E., Hochberg, Y. V., Sapienza, P., & Zingales, L. (2021). Civic capital and social distancing during the Covid-19 pandemic☆. *Journal of Public Economics*, 193, 104310. doi:<https://doi.org/10.1016/j.jpubeco.2020.104310>
- Bartik, A. W., Bertrand, M., Cullen, Z. B., Glaeser, E. L., Luca, M., & Stanton, C. T. (2020). *How are small businesses adjusting to covid-19? early evidence from a survey* (0898-2937). Retrieved from
- Baum, T., & Hai, N. T. T. (2020). Hospitality, tourism, human rights and the impact of COVID-19. *International Journal of Contemporary Hospitality Management*, 32(7), 2397-2407. doi:<http://dx.doi.org/10.1108/IJCHM-03-2020-0242>
- Bloom, D. E., & Cadarette, D. (2019). Infectious Disease Threats in the Twenty-First Century: Strengthening the Global Response. *Frontiers in immunology*, 10(549). doi:10.3389/fimmu.2019.00549
- Browne, A., St-Onge Ahmad, S., Beck, C. R., & Nguyen-Van-Tam, J. S. (2016). The roles of transportation and transportation hubs in the propagation of influenza and coronaviruses: a systematic review. *Journal of Travel Medicine*, 23(1), 1-7. doi:10.1093/jtm/tav002
- Burkle, F. M. (2006). GLOBALIZATION AND DISASTERS: ISSUES OF PUBLIC HEALTH, STATE CAPACITY AND POLITICAL ACTION. *Journal of International Affairs*, 59(2), 241-265.
- Byerly, C. R. (2010). The U.S. Military and the Influenza Pandemic of 1918–1919. *Public Health Reports*, 125(3\_suppl), 81-91. doi:10.1177/00333549101250S311
- Chowell, G., & Nishiura, H. (2014). Transmission dynamics and control of Ebola virus disease (EVD): a review. *BMC Medicine*, 12(1), 196. doi:10.1186/s12916-014-0196-0
- Coker, R. J., Hunter, B. M., Rudge, J. W., Liverani, M., & Hanvoravongchai, P. (2011). Emerging infectious diseases in southeast Asia: regional challenges to control. *The Lancet*, 377(9765), 599-609. doi:[https://doi.org/10.1016/S0140-6736\(10\)62004-1](https://doi.org/10.1016/S0140-6736(10)62004-1)
- ECDPC. (2020). COVID-19 situation update worldwide, as of 11 December 2020. Retrieved from <https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases>
- Eggers, F. (2020). Masters of disasters? Challenges and opportunities for SMEs in times of crisis. *Journal of Business Research*, 116, 199-208. doi:<https://doi.org/10.1016/j.jbusres.2020.05.025>
- Fauci, A. S., & Morens, D. M. (2012). The Perpetual Challenge of Infectious Diseases. *New England Journal of Medicine*, 366(5), 454-461. doi:10.1056/NEJMr1108296
- Goolsbee, A., & Syverson, C. (2021). Fear, lockdown, and diversion: Comparing drivers of pandemic economic decline 2020. *Journal of Public Economics*, 193, 104311. doi:<https://doi.org/10.1016/j.jpubeco.2020.104311>
- Gormsen, N. J., & Koijen, R. S. (2020). Coronavirus: Impact on stock prices and growth expectations. *University of Chicago, Becker Friedman Institute for Economics Working Paper*(2020-22).
- Gössling, S., Scott, D., & Hall, C. M. (2021). Pandemics, tourism and global change: a rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 29(1), 1-20. doi:10.1080/09669582.2020.1758708
- Greger, M. (2007). The Human/Animal Interface: Emergence and Resurgence of Zoonotic Infectious Diseases. *Critical Reviews in Microbiology*, 33(4), 243-299. doi:10.1080/10408410701647594
- Gursoy, D., Chi, C., & Chi, O. (2020). *COVID-19 Study 2 Report: Restaurant and Hotel Industry: Restaurant and hotel customers' sentiment analysis. Would they come back? If they would, WHEN?* Retrieved from <https://uwi.edu/covid19/sites/covid19/files/Covid-19%20Summary%20Report%20-%20Restaurant%20and%20hotel%20customers%E2%80%99%20sentiment%20analysis.pdf>
- Hale, T., Petherick, A., Phillips, T., & Webster, S. (2020). *Variation in government responses to COVID-19*. Retrieved from <https://www.bsg.ox.ac.uk/sites/default/files/2020-05/BSG-WP-2020-032-v6.0.pdf>

- Hall, C. M., Scott, D., & Gössling, S. (2020). Pandemics, transformations and tourism: be careful what you wish for. *Tourism Geographies*, 22(3), 577-598. doi:10.1080/14616688.2020.1759131
- Jonas, O. B. (2014). Pandemic Risk. World Development Report. In: Open Knowledge Repository, World Bank Group Washington, DC.
- Kamarudin, L. M., Patwary, A. K., & Mahmud, S. R. A. (2020). Measuring perceived benefits and financial performance in MICE tourism: The mediating role of Web 2.0 adoption intention. *Hamdard Islamicus*, 43(2..), 972-992.
- Keogh-Brown, M. R., Smith, R. D., Edmunds, J. W., & Beutels, P. (2010). The macroeconomic impact of pandemic influenza: estimates from models of the United Kingdom, France, Belgium and The Netherlands. *The European Journal of Health Economics*, 11(6), 543-554. doi:10.1007/s10198-009-0210-1
- Keogh-Brown, M. R., Wren-Lewis, S., Edmunds, W. J., Beutels, P., & Smith, R. D. (2010). The possible macroeconomic impact on the UK of an influenza pandemic. *Health Economics*, 19(11), 1345-1360. doi:<https://doi.org/10.1002/hec.1554>
- Labonté, R., Mohindra, K., & Schrecker, T. (2011). The Growing Impact of Globalization for Health and Public Health Practice. *Annual Review of Public Health*, 32(1), 263-283. doi:10.1146/annurev-publhealth-031210-101225
- Li, R., Pei, S., Chen, B., Song, Y., Zhang, T., Yang, W., & Shaman, J. (2020). Substantial undocumented infection facilitates the rapid dissemination of novel coronavirus (SARS-CoV-2). *Science*, 368(6490), 489-493. doi:10.1126/science.abb3221
- Lin, C., Liu, S., & Manso, G. (2020). Shareholder Litigation and Corporate Innovation. *Management Science*, 0(0), null. doi:10.1287/mnsc.2020.3626
- McKercher, B., & Chon, K. (2004). The Over-Reaction to SARS and the Collapse of Asian Tourism. *Annals of Tourism Research*, 31(3), 716-719. doi:<https://doi.org/10.1016/j.annals.2003.11.002>
- Morawska, L., & Cao, J. (2020). Airborne transmission of SARS-CoV-2: The world should face the reality. *Environment International*, 139, 105730. doi:<https://doi.org/10.1016/j.envint.2020.105730>
- Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., . . . Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, 78, 185-193. doi:<https://doi.org/10.1016/j.ijsu.2020.04.018>
- OECD. *OECD Interim Economic Assessment Coronavirus: The world economy at risk*. Retrieved from <https://www.oecd.org/berlin/publikationen/Interim-Economic-Assessment-2-March-2020.pdf>
- Oran, D. P., & Topol, E. J. (2020). Getting a handle on asymptomatic SARS-CoV-2 infection. Retrieved from <https://www.scripps.edu/science-and-medicine/translational-institute/about/news/sarc-cov-2-infection/>
- Page, S., & Yeoman, I. (2007). How VisitScotland prepared for a flu pandemic. *Journal of Business Continuity & Emergency Planning*, 1(2), 167-182.
- Patwary, A., Omar, H., & Tahir, S. (2020). A conceptual model of what influences consumers when visiting green hotels in Malaysia. *International Journal of Innovation, Creativity and Change*, 11(11), 11-25.
- Patwary, A. K. (2017). *The Influence of Socio-Demographic Factors in Domestic Tourists Complaining Constraints with Hotel Services*. (Master), Universiti Utara Malaysia,
- Patwary, A. K. (2020). Developing a Conceptual Framework on Retailers' Performance Towards Tourists' Shopping Satisfaction. *South Asian Journal of Social Sciences & Humanities*, 1(1), 60-67.
- Peeri, N. C., Shrestha, N., Rahman, M. S., Zaki, R., Tan, Z., Bibi, S., . . . Haque, U. (2020). The SARS, MERS and novel coronavirus (COVID-19) epidemics, the newest and biggest global health threats: what lessons have we learned? *International Journal of Epidemiology*, 49(3), 717-726. doi:10.1093/ije/dyaa033
- People, P., & Planet, O. (2012). *The Economics of One Health*. Washington, DC: World Bank.

- Petersen, E., Wilson, M. E., Touch, S., McCloskey, B., Mwaba, P., Bates, M., . . . Ippolito, G. (2016). Rapid spread of Zika virus in the Americas-implications for public health preparedness for mass gatherings at the 2016 Brazil Olympic Games. *International Journal of Infectious Diseases*, 44, 11-15. doi:<https://doi.org/10.1016/j.ijid.2016.02.001>
- Petersen, E., Wilson, M. E., Touch, S., McCloskey, B., Mwaba, P., Bates, M., . . . Zumla, A. (2016). Rapid Spread of Zika Virus in The Americas - Implications for Public Health Preparedness for Mass Gatherings at the 2016 Brazil Olympic Games. *International Journal of Infectious Diseases*, 44, 11-15. doi:<https://doi.org/10.1016/j.ijid.2016.02.001>
- Pongsiri, M. J., Roman, J., Ezenwa, V. O., Goldberg, T. L., Koren, H. S., Newbold, S. C., . . . Salkeld, D. J. (2009). Biodiversity Loss Affects Global Disease Ecology. *BioScience*, 59(11), 945-954. doi:10.1525/bio.2009.59.11.6
- Ramelli, S., & Wagner, A. F. (2020). Feverish Stock Price Reactions to COVID-19\*. *The Review of Corporate Finance Studies*, 9(3), 622-655. doi:10.1093/rcfs/cfaa012
- Rassy, D., & Smith, R. D. (2013). The economic impact of H1N1 on Mexico's tourist and pork sectors. *Health Economics*, 22(7), 824-834. doi:<https://doi.org/10.1002/hec.2862>
- Rothe, C., Schunk, M., Sothmann, P., Bretzel, G., Froeschl, G., Wallrauch, C., . . . Hoelscher, M. (2020). Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany. *New England Journal of Medicine*, 382(10), 970-971. doi:10.1056/NEJMc2001468
- Schmidt, C. W. (2016). Zika in the United States: How Are We Preparing? *Environmental Health Perspectives*, 124(9), A157-A165. doi:doi:10.1289/ehp.124-A157
- Scott, D., & Gössling, S. (2015). What could the next 40 years hold for global tourism? *Tourism Recreation Research*, 40(3), 269-285. doi:10.1080/02508281.2015.1075739
- Siu, A., & Wong, Y. C. R. (2004). Economic Impact of SARS: The Case of Hong Kong. *Asian Economic Papers*, 3(1), 62-83. doi:10.1162/1535351041747996
- UNWTO. (2020). *UNWTO World Tourism Barometer and Statistical Annex, May 2020*. Retrieved from <https://www.e-unwto.org/doi/abs/10.18111/wtobarometereng.2020.18.1.2>
- Viboud, C., & Simonsen, L. (2012). Global mortality of 2009 pandemic influenza A H1N1. *The Lancet Infectious Diseases*, 12(9), 651-653. doi:[https://doi.org/10.1016/S1473-3099\(12\)70152-4](https://doi.org/10.1016/S1473-3099(12)70152-4)
- Wu, T., Perrings, C., Kinzig, A., Collins, J. P., Minter, B. A., & Daszak, P. (2017). Economic growth, urbanization, globalization, and the risks of emerging infectious diseases in China: A review. *Ambio*, 46(1), 18-29. doi:10.1007/s13280-016-0809-2
- Yang, Y., Zhang, H., & Chen, X. (2020). Coronavirus pandemic and tourism: Dynamic stochastic general equilibrium modeling of infectious disease outbreak. *Annals of Tourism Research*, 83, 102913-102913. doi:10.1016/j.annals.2020.102913