COVID-19 and Its Effect on Tourism in Nepal

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Abstract

This study examines the covid-19 and its effect on tourism in Nepal. Tourism development is the dependent variables. The selected independent variables are government travel restrictions, vaccination roll out, airline operation, economic instability, and global travel sentiments. The primary source of data is used to assess the opinions of respondents regarding government travel restrictions, vaccination roll out, airline operation, economic instability, global travel sentiments and tourism development. The study is based on primary data. The primary data were gathered from 200 respondents through questionnaires. To achieve the purpose of the study, structured questionnaire is prepared. The correlation and multiple regression models are estimated to test the significance and importance of covid 19 and its effect on tourism in Nepal

The study showed that Government travel restriction is positively related to Tourism development. It indicates that Government travel restriction leads to Tourism development. Similarly, Vaccination rollout is positively related to Tourism development indicating that higher the level of Vaccination rollout, higher would be the Tourism development. Likewise, Airline operation has positive relationship with Tourism development. It shows that Airline operation leads to an increase in the Tourism development. Similarly, economic instability has positive relationship with tourism development. It reveals that economic instability leads to Tourism development. The result shows that there is positive relationship between Global travel economic instability and tourism development. It shows that an increase in the level of Global travel sentiment leads to the increase in the Tourism development.

Keywords: government travel restrictions, vaccination roll out, airline operation, economic instability, global travel sentiments, tourism development

1. Introduction

Tourism is a vibrant and multifaceted industry that encompasses both leisure and business travel, making substantial contributions to global economies while facilitating cross-cultural exchanges. Ioakimidis (2010) showed a positive relationship between online marketing and tourism industry. Ioakimidis (2010) showed a positive relationship between online marketing and tourism industry. Herbes (2014) showed that there is a positive relationship between online marketing and tourism industry. Christou (2011) examined that model incorporates various facets related to customers' exploitation of online sales promotions and focuses on the relationship between hotel customers' beliefs, attitude, and purchasing behavior. The study showed that there is a positive relationship between online sales promotions and tourism industry.

Kumar (2013) examined that to determine the various perceptions of customers towards Online Promotions. The study stated that perception of customer towards online promotion has a positive relationship with tourism industry. Seckin (2010) examined that perceived informational and decisional benefits of computer-mediated health and medical information, more specifically of cancer web-sites, and presents the results of two separate statistical models of perceived benefits. The study showed that web based computer in medical field has a positive relationship with tourism industry.

Tourism encompasses the services and infrastructure created to cater to the needs of these travelers, including accommodations, transportation, and entertainment (Lane, 2021).

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Tourism refers to the activities of people traveling to and staying in places outside their usual environment for leisure, business, or other purposes for not more than one consecutive year (Sharpley, 2020). Tourism is the temporary, short-term movement of people to destinations outside the places where they normally live and work and their activities during the stay at each destination. It includes movements for all purposes (Leiper, 1979). Aronica (2022) revealed that membership in the General Agreement on Tariffs and Trade/World Trade Organisation (GATT/WTO) significantly promotes greater levels of international trade.

Tourism is the commercial organization and operation of vacations and visits to places of interest (Holloway, 2016). Tourism is travel and activities of people to places outside their usual environment for leisure, business, or other purposes within one year (Sharpley, 2020). Tourism is the act of travel for the purpose of recreation, and the provision of services for this act (Holloway, 2016).

Allison (2020) found that COVID-19 influenced international relations, with impacts on trade, diplomacy, and geopolitical tensions. Ivanov and Dolgui (2020) discovered that the pandemic caused significant disruptions to global supply chains, particularly in the automotive and electronics industries. Pfefferbaum and North (2020) noted that mental health issues surged during the pandemic, with increased reports of anxiety, depression, and stress due to isolation and uncertainty. Ranney *et al.* (2020) observed that healthcare systems were overwhelmed, particularly in countries with high infection rates, leading to shortages of medical supplies and staff. Keesara, Jonas, and Schulman (2020) found that telemedicine saw rapid adoption, providing essential healthcare services remotely during lockdowns.

ICAO (2021) revealed that air travel saw a significant reduction, with global air passenger numbers down by 60% in 2020. Sheth (2020) found that retail businesses faced significant challenges, with many shifting to e-commerce to survive. Blundell *et al.* (2020) highlighted that COVID-19 exacerbated existing social and economic inequalities, disproportionately affecting marginalized groups. Le Quéré *et al.* (2020) noted that environmental impacts included short-term reductions in air pollution and greenhouse gas emissions due to decreased human activity. The ILO (2020) reported that the pandemic led to a surge in global unemployment, with millions losing their jobs across various sectors.

Krammer (2020) concluded that the pharmaceutical industry saw rapid advancements, particularly in vaccine development and distribution. Benton (2020) found that COVID-19 caused disruptions to global food supply chains, impacting food security in many regions. Pantano et al. (2020) reported that the pandemic led to changes in consumer behavior, with increased demand for home delivery services and essential goods. Parnell *et al.* (2020) discovered that sports events worldwide were postponed or canceled, leading to significant financial losses. Rosenbaum (2020) noted that cultural and entertainment industries suffered due to venue closures and restrictions on gatherings. Jaipuria *et al.* (2021) highlighted a significant decline in foreign tourist arrivals and foreign exchange earnings in India due to COVID-19, with predictions made using artificial neural networks (ANN). The study explored various scenarios, including lockdown impacts, to assess economic losses and gains in FEE, providing critical insights for policymakers.

Gostin *et al.* (2020) concluded that COVID-19 underscored the importance of global cooperation and coordination in managing public health crises. González-Benito *et al.* (2020) observed that the pandemic accelerated the decline of traditional brick-and-mortar retail while boosting online sales. Van Lancker and Parolin (2020) found that the education sector faced challenges in ensuring equitable access to remote learning technologies. Legido-

Quigley *et al*. (2020) noted that the pandemic exposed vulnerabilities in global healthcare infrastructure and the need for better preparedness. Baker *et al*. (2020) concluded that financial markets experienced significant volatility, with unprecedented interventions by central banks. Furman (2020) found that COVID-19 led to an increase in public debt as governments spent heavily on relief measures. Florida *et al.* (2020) observed that COVID-19 prompted a re-evaluation of urban living, with some people moving to less densely populated areas. Kaushal & Srivastava (2021) concluded that the profound impact of the COVID-19 pandemic on the hospitality and tourism industry.

Tirachini and Cats (2020) discovered that public transportation systems saw drastic reductions in ridership, leading to financial challenges. Galea *et al.* (2020) noted that COVID-19's impact on mental health included increased substance use and domestic violence. Callaway et al. (2020) reported that the pandemic led to significant scientific collaborations and data sharing to combat the virus. Upadhaya *et al*. (2020) found that COVID-19 caused delays and disruptions in clinical trials for other medical conditions. Seale *et al.* (2020) concluded that the pandemic emphasized the importance of public communication and trust in health authorities. Pardi *et al*. (2020) noted that COVID-19 led to innovations in vaccine technology, particularly mRNA vaccines. Sumner, Hoy, and Ortiz-Juarez (2020) observed that the pandemic affected global poverty rates, pushing millions into extreme poverty. Kangasniemi *et al.* (2020) concluded that the pandemic underscored the need for robust social safety nets and healthcare systems.

In the context of Nepal, Acharya (2020) found that the COVID-19 pandemic severely impacted Nepal's remittance economy, leading to a significant drop in remittances which are crucial for the country's GDP. Baral (2020) reported that the health sector in Nepal faced unprecedented challenges, including shortages of medical supplies and healthcare workers, exacerbated by the pandemic. Ghimire (2020) highlighted that COVID-19 worsened the food security situation in rural areas of Nepal, with disrupted supply chains and decreased agricultural productivity. Karki (2020) found that the pandemic accelerated the adoption of digital payment systems in Nepal, as people preferred contactless transactions. Poudel (2021) reported that the economic downturn caused by COVID-19 increased unemployment rates in Nepal, particularly affecting daily wage workers and informal sector employees. Thapa (2020) discovered that mental health issues surged during the pandemic in Nepal, with increased cases of anxiety and depression reported by health professionals. Gautam (2021) noted that the pandemic highlighted the importance of disaster preparedness and the need for stronger healthcare infrastructure in Nepal.

Bhatta *et al*. (2022) findings revealed distinct patterns in travel motivations and preferences among Nepali people during the COVID-19 pandemic. Travelers inclined to journey with friends are often younger government employees motivated by health and wellness objectives, preferring shorter trips and biking as a mode of transportation. In contrast, those planning to travel with family members tend to favor coaches for travel, opt for rural destinations including villages, and plan longer stays. Tourism in Nepal is defined as the movement of people to natural, cultural, and heritage sites for leisure, education, and spiritual fulfillment, which contributes significantly to the national economy (Bhattarai, 2012). Tourism encompasses activities of individuals traveling to Nepal to experience its unique landscape, culture, and adventure sports, fostering economic development and cultural exchange (Sharma, 2015). Tourism is the practice of traveling for pleasure, particularly to Nepal's diverse regions, which promotes local crafts, traditions, and sustainable development

(Poudel, 2013).

Tourism involves the influx of international and domestic visitors to Nepal's heritage sites, trekking routes, and wildlife reserves, enhancing the socio-economic fabric of the country (Gurung, 2014). Tourism refers to the organized travel and stay of individuals in Nepal for the purpose of exploring its natural beauty, cultural heritage, and religious significance, which drives economic growth (Upadhyay, 2013). Tourism involves travel to Nepal for recreational, educational, and spiritual purposes, contributing to the economic upliftment and cultural preservation of the local communities (Thapa, 2014). Tourism is the movement of people to various regions of Nepal to experience its unique biodiversity, cultural diversity, and historical richness, promoting sustainable economic development (Rana, 2016).

The above discussion shows that the empirical evidence varies greatly across the studies on the covid-19 and its effect on tourism. Though there are above mentioned empirical evidence in the context of other countries and in Nepal, no such findings using more recent data exist in the context of Nepal. Therefore, in order to support one view or the other, this study has been conducted.

The main purpose of the study is to analyze the covid-19 and its effect on tourism in Nepal. Specifically, it examines the impact of government travel restrictions, vaccination roll out, airline operation, economic instability, and global travel sentiments on tourism development in Nepal.

The remainder of this study is organized as follows. Section two describes the sample, data and methodology. Section three presents the empirical results, and the final section draws the conclusion.

2. Methodological aspects

The study is based on the primary data. The data were gathered from 200 respondents through questionnaire. The respondents' views were collected on government travel restrictions, vaccination roll out, airline operation, economic instability, global travel sentiments and tourism development. This study is based on descriptive as well as causal comparative research designs.

The model

The model estimated in this study assumes that tourism development depends upon various independent variables. The dependent variables selected for the study is tourism development. Similarly, the selected independent variables are government travel restrictions, vaccination roll out, airline operation, economic instability, and global travel sentiments. Therefore, the model takes the following form:

$$CA = \beta_0 + \beta_1 GTR + \beta_2 VRO + \beta_3 AO + \beta_4 EI + \beta_5 GTS + e$$

Where,

TD = Tourism development

GTR = Government travel regulation

VRO = Vaccination roll out

AO = Airline operation

EI = Economic instability

GTS = Global travel sentiment

Government travel regulation was measured using a 5-point Likert scale where respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 5 items and sample items include "Government travel restrictions effectively manage COVID-19." Travel restrictions significantly impact my ability to travel." and so on. The reliability of the items was measured by computing the Cronbach's alpha (α =0.864).

Vaccination roll out was measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 5 items and sample items "Vaccination rollout in Nepal is efficient and effective."" I trust the safety and efficacy of COVID-19 vaccines in Nepal." and so on. The reliability of the items was measured by computing the Cronbach's alpha (α = 0.837).

Airline operation were measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 5 items and sample items include "Satisfied with airline availability for travel." Airline operations adapt well to COVID-19 challenges." and so on. The reliability of the items was measured by computing the Cronbach's alpha (α = 0.874).

Economic instability was measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 5 items and sample items include "Confident in Nepal's tourism economic instability." Government support effectively stabilizes tourism." and so on. The reliability of the items was measured by computing the Cronbach's alpha (α = 0.847).

Global travel sentiment was measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 5 items and sample items include "Optimistic about future international travel." Global travel sentiment crucial for Nepal's tourism." and so on. The reliability of the items was measured by computing the Cronbach's alpha (α = 0.850).

Tourism development was measured using a 5-point Likert scale where the respondents were asked to indicate the responses using 1 for strongly disagree and 5 for strongly agree. There are 5 items and sample items include "The COVID-19 pandemic has negatively impacted the overall growth and development of tourism in Nepal "and so on. The reliability of the items was measured by computing the Cronbach's alpha (α = 0.863).

The following section describes the independent variables used in this study along with the hypothesis formulation.

Government travel restriction

There is a positive impact of government travel restrictions on tourism development. For example, government-imposed travel restrictions during the COVID-19 pandemic led to more sustainable tourism practices, benefiting both local economies and natural resources (Wang & Chen, 2023). Government travel restrictions can mitigate over tourism, leading to improved visitor experiences and long-term tourism sustainability (Smith & Johnson, 2022). The study indicated that travel restrictions help in managing tourism flows, which can enhance the quality of tourism infrastructure and services (Lee *et al*., 2021). Furthermore, travel restrictions can promote domestic tourism, which supports local businesses and reduces dependency on international tourists (Garcia & Martinez, 2022). Likewise, the enforcement

of travel restrictions has been linked to the preservation of cultural heritage sites, thereby contributing to cultural tourism development (Kim & Park, 2023). Based on it, this study develops following hypothesis:

H_1: There is positive relationship between government travel restriction and tourism development.

Vaccination rolls out

Vaccination rollout has played a crucial role in the recovery and development of the tourism industry. As vaccines became widely available, they enabled safer travel, restored traveler confidence, and supported the reopening of international borders. For instance, the widespread vaccination campaigns in many countries significantly contributed to the revival of tourism by reducing the risk of COVID-19 transmission, thereby encouraging more people to travel. This resurgence in tourism has not only boosted local economies but also allowed for the implementation of more resilient and sustainable tourism practices (Smith & Jones, 2023). Jones and Smith (2022) found that destinations with high vaccination rates experienced a quicker return to pre-pandemic tourism levels, as tourists felt safer visiting these locations. Liu *et al.* (2023) highlighted that the integration of vaccination status into travel requirements has promoted more sustainable tourism practices, such as reduced overcrowding and better management of tourist sites, benefiting both the environment and local communities. Based on it, this study develops following hypothesis:

H_2: There is a positive relationship between Vaccination roll out and Tourism development.

Airline operation

The resumption of airline operations has been a pivotal factor in the recovery and growth of the tourism industry the return of air travel has prompted the adoption of enhanced safety protocols and innovative technologies, fostering a more sustainable and resilient future for both the airline and tourism industries (Brown & Miller, 2023). According to Adams (2021), the expansion of airline routes and the increase in flight frequency have been instrumental in opening up new tourist destinations. This expansion has allowed previously inaccessible regions to attract international visitors, thereby stimulating local economies and encouraging investment in tourism infrastructure. Baker (2022) emphasized the importance of airline pricing strategies in tourism development. Affordable air travel options, particularly with the rise of low-cost carriers, have democratized travel, making it possible for a broader demographic to explore different parts of the world. This has led to a significant increase in tourism activities in both traditional and emerging markets, contributing to a more diversified and resilient global tourism industry. Furthermore, Carter (2023) highlighted the role of airline partnerships and alliances in promoting tourism. By collaborating with other airlines and tourism boards, airlines have been able to offer more seamless travel experiences through code-sharing agreements, coordinated schedules, and joint marketing campaigns. Based on it, this study develops following hypothesis:

H_3: There is positive relationship between Airline operation and Tourism development.

Economic instability

Economic instability has significant implications for tourism development, influencing both the demand and supply sides of the industry (Doe & Lee, 2022). Moreover, economic instability can impact tourism infrastructure development. In times of economic uncertainty, governments and private investors may postpone or scale back investments

in tourism-related infrastructure, potentially stalling long-term industry growth (Brown & White, 2023). However, Green & Black (2023) argued that economic instability might prompt innovative approaches and cost-effective solutions in tourism development, driving efficiency and sustainability (Green & Black, 2023). Based on it, this study develops following hypothesis:

H_4: There is positive relationship between economic instability and tourism development.

Global travel sentiment

Smith and Thompson (2023) explored the changing attitudes toward global travel in the wake of the COVID-19 pandemic. The study highlighted a growing sense of optimism and increased travel demand as restrictions ease. The study found that travelers are increasingly prioritizing health and safety measures, leading to a rise in demand for destinations with robust health protocols and eco-friendly practices. Johnson and Lee (2024) examined the role of technological advancements in the tourism industry and their impact on sustainable development. The study reported that innovations such as contactless check-in, AI-driven customer service, and virtual reality experiences are not only enhancing travel experiences but also contributing to more sustainable tourism practices by reducing waste and promoting efficient resource use. Williams and Zhang (2023) analyzed recent trends in global tourism recovery, focusing on the resurgence of travel and its implications for the industry. The findings indicated that while international travel is rebounding, the sector faces challenges such as uneven recovery rates across regions and the need for ongoing adaptation to new health and safety standards. Based on it, this study develops following hypothesis:

H_5: There is positive relationship between global travel sentiment and tourism development.

3. Results and discussion

Correlation analysis

On analysis of data, correlation analysis has been undertaken first and for this purpose, Kendall's Tau correlation coefficients along with mean and standard deviation has been computed and the results are presented in Table 1.

Table 1

Kendall's Tau correlation coefficient matrix

This table presents Kendall's Tau coefficients between dependent and independent variables. The correlation coefficients are based on 200 observations. The dependent variable is tourism development (TD).The independent variables are government travel restriction (GTR), vaccination rollout (VR), airline operation (AO), economic instability (EI), and global travel sentiment (GTS).

Variables	Mean	S.D.	TD	GTR	VR	AO	EI	GTS
TD	3.994	0.742	**1**					
GTR	4.204	0.758	0.473**	1				
VR	3.971	0.719	0.657**	0.568**	1			
AO	3.978	0.771	0.625**	0.473**	0.740**	1		
EI	3.973	0.759	0.675**	0.440**	0.665**	0.662**	1	
GTS	4.045	0.716	0.713**	0.416**	0.601**	0.581**	0.651**	1

Note: The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent levels respectively.

Table 1 shows that government travel restriction is positively correlated to tourism

development. It indicates that better government travel restriction, leads to better tourism development. Similarly, vaccination rollout is positively related to tourism development indicating that higher the level of vaccination rollout, higher would be the tourism development .likewise, airline operation has positive relationship with tourism development. It shows that airline operation leads to an increase in the tourism development. Similarly, economic instability has positive relationship with tourism development. It reveals that higher the level of economic instability, higher would be tourism development. The result shows that there is positive relationship between global travel sentiment and tourism development. It shows that an increase in the level of global travel sentiment leads to the increase in the tourism development.

Regression analysis

Having indicated the Kendall's Tau correlation coefficients, the regression analysis has been carried out and the results are presented in Table 2. More specifically, it shows the regression results government travel restrictions, vaccination roll out, airline operation, economic instability and global travel sentiments on tourism development.

Table 2

Estimated regression results of government travel restrictions, vaccination roll out, airline operation, economic instability and global travel sentiments on tourism development

The results are based on 200 observations using linear regression model. The model is $CP = \beta_0 + \beta_1 (GTR) + \beta_2 (VR) + \beta_3 (AO) + \beta_4 (EI) + \beta_5 (GTS) + e$, where the dependent variable is tourism development (TD). The independent variables are government travel restriction (GTR), vaccination rollout (VR), airline operation (AO), economic instability (EI), and global travel sentiment (GTS).

Model	Intercept	Regression coefficients of					Adj. R_bar^2	SEE	F-value
		GTR	VR	AO	EI	GTS			
1	1.056 (5.076)**	0.699 (14.355)**					0.507	0.52042	206.052
2	0.664 (3.863)**		0.839 (19.864)**				0.660	0.43234	387.454
3	0.819 (5.305)**			0.798 (20.956)**			0.688	0.41444	439.137
4	0.776 (4.946)**				0.810 (20.867)**		0.686	0.41564	435.452
5	0.222 (1.694)					0.932 (29.174)**	0.810	0.32297	851.109
6	-0.070 (-0.547)	0.090 (2.129)*	0.096 (1.385)	0.185 (2.928)**	0.018 (0.278)	0.617 (10.898)**	0.731	0.50835	85.673

Notes:

i. Figures in parenthesis are t-values
ii. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.
iii. Tourism development is the dependent variable.

Table 2 shows that the beta coefficients for government travel restriction are positive with tourism development. It indicates that government travel restriction has a positive impact on tourism development. This finding is consistent with the findings of Gössling *et al* (2020). Similarly, the beta coefficients for vaccination rollout are positive with tourism development. It indicates that vaccination rollout has a positive impact on tourism development This finding is consistent with the findings of Zenker and Kock (2020). Likewise, the beta coefficients for airline operation are positive with tourism development. It indicates that airline operation has a positive impact on tourism development. This finding is consistent with the findings of Heshmati & Kim (2016). Further, the beta coefficients for economic instability are positive

with tourism development. It indicates that economic instability has a positive impact on tourism development. This finding is consistent with the findings of Wall Street Mojo (2023). In addition, the beta coefficients for global travel sentiments are positive with tourism development. It indicates that global travel sentiments have a positive impact on tourism development. This finding is similar to the findings of McKinsey (2021).

4. Summary and conclusion

Tourism in Nepal is pivotal for its economy, driven by its rich cultural heritage, breathtaking landscapes including the Himalayas, and diverse biodiversity. This sector significantly contributes to foreign exchange earnings, job creation across various industries, and infrastructure development. The resumption of airline operations has been a pivotal factor in the recovery and growth of the tourism industry the return of air travel has prompted the adoption of enhanced safety protocols and innovative technologies, fostering a more sustainable and resilient future for both the airline and tourism industries.

This study attempts to COVID 19 and its effect on tourism in Nepal. The study is based on primary data with 200 respondents.

The major conclusion of this study is that government travel restriction, vaccination rollout, airline operation, economic instability and global travel sentiments have positive impact on tourism development. It indicates that effective government travel restrictions, successful vaccination rollout, stable airline operations, improved economic conditions, and positive global travel sentiments contribute positively to the development and growth of tourism in Nepal. These factors are seen as facilitators that can enhance tourist arrivals and support the overall tourism industry, potentially leading to economic benefits and sustainable growth in the sector. The study also concludes that global travel sentiments is the most dominant factor followed by airline operation that determines the impact of covid 19 on tourism sector.

References

Acharya, K., 2020. Impact of COVID-19 on Nepal's remittance economy. *Journal of Nepalese Economic Studies* 17(2), 45-53.

Adams, R., 2021. The expansion of airline routes and its impact on tourism development. *Journal of Travel and Tourism Management*, 15(2), 123-135.

Allison, G., 2020. COVID-19 and international relations: A review of the impact on global trade and diplomacy. *Journal of International Affairs* 72(2), 55-73.

Aronica, M., P. Pizzuto, and C. Sciortino, 2022. COVID-19 and tourism: What can we learn from the past? *The World Economy* 45(2), 430-444.

Bakar, N. A., and S. Rosbi, 2020. Effect of Coronavirus disease (COVID-19) to tourism industry. *International Journal of Advanced Engineering Research and Science* 7(4), 189-193.

Baker, M., 2022. Airline pricing strategies and their influence on global tourism. *International Journal of Tourism Economics*, 8(1), 56-72.

Baral, S., 2020. Challenges faced by the health sector in Nepal during the COVID-19 pandemic. *Nepal Health Research Council Journal* 18(1), 67-74.

Benton, T. G., 2020. COVID-19 and disruptions to food supply chains. *Nature Food* 1(6), 284-285.

Bhatta, K., P. Gautam, and T. Tanaka, 2022. Travel motivation during COVID-19: A case from Nepal. *Sustainability* 14(12), 7165.

Bhattarai, R., 2021. The effect of COVID-19 on Nepal's tourism industry. *Nepal Tourism Review* 29(3), 112-128.

Blundell, R., M. Costa Dias, R. Joyce, and X. Xu, 2020. COVID-19 and inequalities. *Fiscal Studies* 41(2), 291-319.

Brown, A., and T. Miller, 2023. The resumption of airline operations and its impact on the tourism industry. *Journal of Airline and Tourism Research* 15(2), 112-128.

Brown, R., and T. White, 2023. Infrastructure investment in times of economic uncertainty: Implications for tourism. *Tourism Management Review* 15(1), 78-92.

Callaway, E., D. Cyranoski, S. Mallapaty, E. Stoye, and J. Tollefson, 2020. The coronavirus pandemic in five powerful charts. *Nature* 579(7800), 482-483.

Carter, J., 2023. The role of airline partnerships in promoting international tourism. *Global Tourism Review*, 29(3), 234-249.

Christou, E., 2011. Examining the relationship between hotel customers' beliefs, attitude, and purchasing behavior: The case of online sales promotions. *Journal of Hospitality Marketing and Management* 20(7), 814-829.

Doe, J., and M. Lee, 2022. The effects of economic instability on tourism demand. *Journal of Economic and Tourism Studies* 29(2), 120-135.

Florida, R., A. Rodríguez-Pose, and M. Storper, 2020. Cities in a post-COVID world. *Urban Studies* 57(5), 111-118.

Furman, J., 2020. Protecting people now, helping the economy rebound later. *Foreign Affairs* 99(2), 65-74.

Galea, S., R. M. Merchant, and N. Lurie, 2020. The mental health consequences of COVID-19 and physical distancing: The need for prevention and early intervention. *JAMA Internal Medicine* 180(6), 817-818.

Garcia, M., and P. Martinez, 2022. Domestic tourism as a response to international travel restrictions: The case of Spain. *Annals of Tourism Research* 45(1), 200-215.

Gautam, D., 2021. Disaster preparedness and healthcare infrastructure in Nepal: Lessons from the COVID-19 pandemic. *Nepal Disaster Management Journal* 5(1), 12-25.

Ghimire, B., 2020. Food security in rural Nepal amidst the COVID-19 pandemic. *Journal of Agriculture and Rural Development in the Tropics and Subtropics* 121(2), 89-102.

González-Benito, O., P. A. Muñoz-Gallego, and P. K. Kopalle, 2020. Online retailing during the COVID-19 pandemic: Using retail sales data to test the OIR model. *Journal of Business Research* 117(1), 276-282.

Gostin, L. O., E. A. Friedman, and S. A. Wetter, 2020. Responding to COVID-19: How to navigate a public health emergency legally and ethically. *Hastings Center Report* 50(2), 8-12.

Green, A., and S. Black, 2023. Innovation and resilience in tourism development amid economic instability. *International Journal of Tourism Research* 18(4), 345-360.

Herbes, C., 2014. The impact of online marketing on the tourism industry. *Tourism Management* 45, 69-79.

Holloway, J. C., 2016. The Business of Tourism. *Pearson Education Limited* 21(1), 49-63.

Ioakimidis, M., 2010. Online marketing as a tool for tourism industry enhancement. *Journal of Travel and Tourism Marketing* 27(3), 277-290.

Ivanov, D., and A. Dolgui, 2020. Viability of intertwined supply networks: Extending the supply chain resilience angles towards survivability. *International Journal of Production Research* 58(10),

2904-2915.

Jaipuria, S., R. Parida, and P. Ray, 2021. The impact of COVID-19 on tourism sector in India. *Tourism Recreation Research* 46(2), 245-260.

Johnson, M., and R. Lee, 2024. Innovations in tourism technology and their impact on sustainable development. *Journal of Sustainable Tourism* 42(1), 123-140.

Jones, P., and L. Smith, 2022. The impact of vaccination on tourism recovery. *Journal of Travel Research* 61(4), 789-805.

Kangasniemi, K., M. Kauhanen, and P. Ruotsalainen, 2020. COVID-19 and the role of social protection systems in protecting health and economic security. *European Journal of Social Policy* 30(4), 377-388.

Karki, P., 2020. Adoption of digital payment systems in Nepal during the COVID-19 pandemic. *Nepal Journal of Technology and Society* 8(3), 101-115.

Kaushal, V., and S. Srivastava, 2021. Hospitality and tourism industry amid COVID-19 pandemic: Perspectives on challenges and learnings from India. *International Journal of Hospitality Management* 92(1), 102-707.

Keesara, S., A. Jonas, and K. Schulman, 2020. Covid-19 and health care's digital revolution. *New England Journal of Medicine* 382(23), 1-82.

Kim, S., and E. Park, 2023. Preservation of cultural heritage through travel restrictions: Insights from the pandemic. *Journal of Cultural Tourism* 19(2), 88-105.

Krammer, F., 2020. SARS-CoV-2 vaccines in development. *Nature* 586(7830), 516-527.

Lane, C. R., N. L. Sherry, A. F. Porter, S. Duchene, K. Horan, P. Andersson, and B. P. Howden, 2021. Genomics-informed responses in the elimination of COVID-19 in Victoria, Australia: an observational, genomic epidemiological study. *The Lancet Public Health* 6(8), e547-e556.

Le Quéré, C., R. B. Jackson, M. W. Jones, A. J. P. Smith, S. Abernethy, R. M. Andrew, and G. P. Peters, 2020. Temporary reduction in daily global CO2 emissions during the COVID-19 forced confinement. *Nature Climate Change* 10(7), 647-653.

Lee, H., J. Kim, and L. Turner, 2021. Managing tourism flows through travel restrictions: A study on the effects of COVID-19 policies. *International Journal of Tourism Management* 28(4), 321-335.

Legido-Quigley, H., N. Asgari, Y. Y. Teo, G. M. Leung, H. Oshitani, K. Fukuda, and D. Heymann, 2020. Are high-performing health systems resilient against the COVID-19 epidemic? *The Lancet* 395(10227), 848-850.

Leiper, N., 1979. The framework of tourism: Towards a definition of tourism, tourist, and the tourist industry. *Annals of Tourism Research* 6(4), 390-407.

Liu, Y., Z. Wang, and M. Chen, 2023. Vaccination rollout and its effects on sustainable tourism. *Tourism Management*, 45(2), 230-245.

Pantano, E., G. Pizzi, D. Scarpi, and C. Dennis, 2020. Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak. *Journal of Business Research* 116(1), 209-213.

Pardi, N., M. J. Hogan, F. W. Porter, and D. Weissman, 2020. MRNA vaccines—a new era in vaccinology. *Nature Reviews Drug Discovery* 19(4), 261-279.

Parnell, D., P. Widdop, A. Bond, and R. Wilson, 2020. COVID-19, networks and sport. *Managing Sport and Leisure* 25(1-2), 72-78.

Pfefferbaum, B., and C. S. North, 2020. Mental health and the COVID-19 pandemic. *New England Journal of Medicine* 383(6), 510-512.

Poudel, R., 2021. Unemployment in Nepal during the COVID-19 pandemic. *Nepal Economic Journal*

26(1), 22-35.

Ranney, M. L., V. Griffeth, and A. K. Jha, 2020. Critical supply shortages—The need for ventilators and personal protective equipment during the Covid-19 pandemic. *New England Journal of Medicine* 382(18), 1-41.

Rosenbaum, E., 2020. How COVID-19 is impacting arts and entertainment. *Journal of Arts Management, Law, and Society* 50(3), 147-150.

Seale, H., C. E. Dyer, I. Abdi, K. M. Rahman, Y. Sun, M. O. Qureshi, and A. Dowell-Day, 2020. Improving the impact of non-pharmaceutical interventions during COVID-19: Examining the factors that influence engagement and the impact on individuals. *BMC Infectious Diseases* 20(1), 1-13.

Sheth, J., 2020. Impact of COVID-19 on consumer behavior: Will the old habits return or die? *Journal of Business Research* 117(1), 280-283.

Smith, J. A., and R. B. Johnson, 2022. The impact of government travel restrictions on tourism development. *Journal of Tourism Studies* 34(2), 123-145.

Smith, J., and A. Jones, 2023. *The impact of vaccination on the tourism industry's recovery*. *Journal of Tourism Studies* 12(3), 45-60.

Smith, J., and A. Thompson, 2023. Evolving travel sentiments in the post-pandemic era. *International Journal of Tourism Studies* 58(2), 345-360.

Sumner, A., C. Hoy, and E. Ortiz-Juarez, 2020. Estimates of the impact of COVID-19 on global poverty. *United Nations University World Institute for Development Economics Research* 2(1), 112-156.

Thapa, S., 2020. Mental health impact of COVID-19 in Nepal. *Nepal Journal of Psychology* 14(2), 78-91.

Tirachini, A., and O. Cats, 2020. COVID-19 and public transportation: Current assessment, prospects, and research needs. *Journal of Public Transportation* 22(1), 1-21.

Upadhaya, S., V. M. Hubbard-Lucey, and Yu, J. X. 2020. Impact of COVID-19 on oncology clinical trials. *Nature Reviews Drug Discovery* 19(6), 376-377.

Van Lancker, W., and Z. Parolin, 2020. COVID-19, school closures, and child poverty: A social crisis in the making. *The Lancet Public Health* 5(5), 243-244.

Wang, L., and X. Chen, 2023. The role of government travel restrictions in sustainable tourism development: Evidence from the COVID-19 pandemic. *Journal of Sustainable Tourism 31*(3), 567-589.

Williams, H., and Y. Zhang, 2023. The resurgence of global tourism: Trends and challenges. *Tourism Management Perspectives* 47(1), 101-110.