CRITICAL ANALYSIS OF TOURISM INDUSTRY AND SUSTAINABLE DEVELOPMENT DURING COVID - 19 PANDEMIC. A CASE OF RWANDA

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ABSTRACT

Rwanda is gifted not only with breathtaking landscapes, diverse flora and fauna as well as rich traditional culture but with people who love their country and stand up for nature conservation and the wellbeing of their communities. Rwanda's economic growth over the last two decade has been remarkable. With a government that is committed to achieving sustainable economic growth coupled with growth in employment opportunities for its people, Rwanda has made impressive progress in rehabilitating and stabilizing its economy to exceed pre-1994 levels. Tourism is one of the largest foreign exchange earners and fastest-growing sectors in the East African Community (EAC). According to the EAC Secretariat, tourist arrivals in the EAC region increased from 3.5 million persons in 2006 to about 7 million in 2019. Tourism contributed to the Gross Domestic Product (GDP) of the EAC Partner States by an average of 9.5% in 2019. It contributed an average of 17.2% to EAC total exports and 7.1% to employment. However, the upward trajectory in tourism in the region, with its positive impact on the economy was devastatingly affected by the onset of COVID-19 pandemic in March 2020. The effect of COVID-19 emphasized the tremendous importance and positive contribution of Travel & Tourism. It enables socio-economic development, job creation, poverty reduction, driving prosperity and significant positive social impact, including providing unique opportunities to women, minorities, and youth. To achieve the objectives, the study deployed a mixed-methods approach of data collection. This entailed a qualitative method through interviews with key industry informants and a quantitative method whereby a semi-structured survey questionnaire was administered to all key subsectors of the tourism and hospitality industry. The latter was aimed at determining how the sector was impacted upon at micro-level. In addition, the study involved analysis of trends in key tourism indicators from statistical reports from Partner States and other sources. These included indicators such as international tourist arrivals, tourism receipts, tourism jobs, visitors to parks, and hotel occupancy rates. The lockdown, social distancing, and increased costs associated with the COVID-19 pandemic have reduced output and employment, increased poverty, and depressed trade transactions; in the absence of a strong response by government, output will be lower over the next decade due to COVID-19. The pandemic-driven rise in the fiscal deficit is increasing public debt, thus exacerbating existing challenges to sustainability and increasing the urgency of shifting from large public investments to human capital development as the main driver of growth. The government's rapid response to the pandemic has succeeded in keeping the population share of new infections and of deaths well below that of most other countries. However, critical health services, particularly childhood immunization and nutrition services, have been disrupted, which is increasing stunting

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The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

and preventable diseases. The combination of poorer nutrition, limited health services, learning losses from school closures, and the likelihood that some children (particularly adolescent girls and children from poor households) may never return to school will reduce incomes and productivity over the medium term. The government responded rapidly and effectively to the challenges posed by the pandemic, putting in place the Economic Recovery Plan (ERP) to support households and firms, quickly imposing constraints on mobility to limit the spread of the disease, ramping up social protection programs, and setting up remote learning. Key priorities going forward include: (i) improving the government's expenditure allocation, financial management and revenue mobilization; (ii) strengthening the resilience of the health system and preparing for administration of a vaccine; (iii) reducing learning losses (targeting the most vulnerable), improving skills and strengthening accountability in education; and (iv) expanding the flagship social safety net program, building adaptive systems to respond quickly to shocks, improving poverty targeting of safety net programs, and scaling up the use of digital payments.

INTRODUCTION

Globally Tourism has become the world's third-largest export industry after fuels and chemicals, and ahead of food and automotive products. The sector's benefits spread far beyond its direct impacts in terms of GDP and employment to indirect benefits through supply chain linkages to other sectors as well as induced impacts. According to World Tourism and Travel Council (WTTC) estimates in 2019, tourism's direct, indirect and induced impact accounted for 10.3% of global GDP (US$8.9 trillion), 330 million jobs (1 in 10 jobs globally), US$1.7 trillion visitor exports (6.8% of total exports, 28.3% of global services exports) and 4.3% of total investment (US$948 billion capital investment) (WTTC, 2020a). The sector grew by 3.9% from 2018 to 2019 (WTTC, 2020b). Prior to the pandemic, Travel & Tourism (including its direct, indirect and induced impacts) accounted for 1 in 4 of all new jobs created across the world, 10.6% of all jobs (334 million), and 10.4% of global GDP (US$9.2 trillion). Meanwhile, international visitor spending amounted to US$1.7 trillion in 2019 (6.8% of total exports, 27.4% of global services exports).

According to WorldoMetres (2021, November 3, 14:49hrs) the pandemic has been spreading at an increasing rate with more than 248.4 million confirmed cases, and more than 5 million deaths. Of the confirmed cases over 225.1 million have recovered globally. Africa CDC has reported the number of coronavirus cases across Africa as more than 8.5 million with over 7.9 million recovered cases and 219,123 deaths. This is reciprocated in Rwanda where 99,765 confirmed cases of which 45,515 so far have recovered and 1,332 deaths reported. Vaccinations appear to have slowed the spread in some countries, such as Israel, the United Kingdom, and the United States of America. In most developing countries, access to and distribution of vaccines is a limiting factor, and the virus continues to spread at an alarming rate in Rwanda, Brazil, and in many countries where tourism is important for people's livelihood such as Maldives and Seychelles. On the other hand, other countries where tourism is an important sector such as Rwanda, appear to have done well in controlling the spread.

In the past, global tourism has been affected by pandemics and other global crises. There have been several mild pandemics in the last half-century with

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The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

immediate and long-term effects to tourism. The Severe Acute Respiratory Syndrome (SARS) outbreak of 2003 significantly reduced tourism activities globally (Gossling et al., 2020). There were less air and sea travels recorded in that year affecting the tourism industry. The Swine Flu of 2009 led to loss of about 1 million tourists in Mexico (Gossling et al., 2020). An approximated 2.8 billion US dollars were lost in that year (World Bank, 2020). In 2015, the Middle East Respiratory Syndrome (MERS) outbreak reduced global travels and thus tourism activity in that year (Siu and Wong, 2004). Waves of The Ebola disease outbreak have caused a negative perception of tourism destination sites in Democratic Republic of Congo, DRC (Maphanga & Henama, 2019; Novelli et al., 2018). Travel and contagious diseases are intrinsically linked and international travel, in particular, is considered to be a crucial factor in the spread of contagious diseases. This is due to the fact that "international travel has modified the size and mobility of human populations, bringing some environments, humans and other animal species into contact with each other like never before" (Tapper, 2006:4). Tourism, as an international industry, plays an important role in disease movement (Hall, 2010), and in the transfer of infectious diseases from one tourist destination to another (Stanbury, Pryer & Roberts, 2005). For example, in a few weeks, SARS spread to more than 30 countries, resulting in 8 400 infections and 900 deaths (Lee & McKibbin, 2004). The Ebola virus, which spread over ten countries and lasted over 10 years (2014-2016) resulted in 28 616 infections and 11 300 deaths (Sarukhan, 2016).

Worldwide, The Travel & Tourism sector suffered a loss of almost US$4.5 trillion to reach US$4.7 trillion in 2020, with the contribution to GDP dropping by a staggering 49.1% compared to 2019; relative to a 3.7% GDP decline of the global economy in 2020. In 2019, the Travel & Tourism sector contributed 10.4% to global GDP; a share which decreased to 5.5% in 2020 due to ongoing restrictions to mobility. In 2020, 62 million jobs were lost, representing a drop of 18.5%, leaving just 272 million employed across the sector globally, compared to 334 million in 2019. The threat of job losses persists as many jobs are currently supported by government retention schemes and reduced hours, which without a full recovery of Travel & Tourism could be lost. Domestic visitor spending decreased by 45%, while international visitor spending declined by an unprecedented 69.4%.

Tourism and hospitality businesses are profoundly affected by COVID-19 that has been declared as pandemic on 12th March 2020 (WHO, 2020). Due to the COVID-19 pandemic, the travel and tourism industry's employment loss is predicted to be 100.08 million worldwide (Statista, 2020). The pandemic has not only affected economically but as well as politically and socially (Cohen, 2012). As the number of infected cases rising throughout the nation, and with the implementation of certain measures and campaigns like social distancing, community lockdowns, work from home, stay at home, self- or mandatory-quarantine, curbs on crowding, etc., pressure is created for halting the tourism industry/business (Gretzel et al., 2020; Sigala, 2020). This change in the current system has led to the beginning of the recession and depression, seeking a transformational change in society. According to Liu et al. (2019), the most dynamic sector is the tourism industry that benefits many other sectors like lodging, catering, transportation, retail, entertainment, etc. contributing to economic growth and recovery globally. It has been reported that tourism growth has outperformed the world GDP growth record from the past consecutively from the year 2011–2017 (WTTC, 2018). Furthermore, it has been estimated that there is a drop of international tourists of about 78%, causing a loss in export revenue of US$ 1.2 trillion and representing the largest decline in the tourism job cuts, which is about seven times the impact of the 9/11 incident (UNWTO, 2020). Additionally, the drop in the

tourists' demand has led to severe financial problems (Tsionas, 2020)

In 2016, Africa received 4.7% share of international tourist arrivals. However, this represented a significant 8% growth from 2015 (compared to the global 3.9 increase). Africa's 2016 international tourism earnings were at $32.8 billion, representing 2.7% of global tourism receipts (UNWTO, 2018). Going by United Nations World Tourism Organization (UNWTO) forecasts, by 2030 international tourism arrivals in Africa are expected to reach 134 million representing 7.4% of the market (UNWTO, 2017). Tourism is expected to drive the service sector in African economies which is rapidly taking over from agriculture. The industry is gaining against Africa's predominantly agro-processing manufacturing sector on account of high production costs and stringent trading conditions that make Africa's manufactured exports globally non-competitive. Travel & Tourism GDP in Africa dropped by 49.2% in 2020, in line with the global average. While domestic spending declined by 42.8%, international spending saw a steeper contraction at 66.8%. In terms of employment losses, Africa suffered disproportionately more than other regions, with jobs contracting by 29.3% (7.2 million).

Hung, Mark, Yeung, Chan and Graham (2018:3) argue that hotels can be a critical element in the "evolution of a local outbreak into a global pandemic, and an initial contact point of the import of an impending global pandemic". Moreover, the hotel sector is one of the most vulnerable to crisis and can be greatly affected by it (Henderson & Ng, 2004; Santana, 2004). Undeniably, hotels are one of the hardest-hit industries by the COVID-19 pandemic, and globally hotels have reported having extremely low occupancy rates, or have experienced closures on a massive scale. Simon (2020) reports on the hotel sector in the US and claims that 2020 is projected to be the worst year on record for hotel occupancy, with a forecasted occupancy rate for 2020 being worse than that during the Great Depression of 1933. In terms of

hotel occupancy levels, Hospitality Net (2020a, 2020b, 2020c), confirm an 87% decline in Ecuador, a 74% decline in Brazil, a 71% decline in Canada, a 78% decline in Poland, a 73% decline in Switzerland and an overall decline of 73% for Europe as at June 2020, due to the COVID-19 pandemic. Globally, the Park Hotels and Resorts noted a 20% occupancy, and a net loss of $261 million for 18 consolidated hotels for the second quarter of 2020, and the Hyatt group documented a net loss of $236 million for the same period (Businesswire, 2020). The South African hotel and gaming group Tsogo Sun has recorded R1.7 billion in exceptional losses for the full year ended March 2020 (BusinessTech 2020).

Tourism is one of the largest foreign exchange earners and fastest-growing sectors in the East African Community (EAC). According to the EAC Secretariat, tourist arrivals in the EAC region increased from 3.5 million persons in 2006 to about 7 million in 2019. Tourism contributed to the Gross Domestic Product (GDP) of the EAC Partner States by an average of 9.5% in 2019. It contributed an average of 17.2% to EAC total exports and 7.1% to employment. However, the upward trajectory in tourism in the region was devastatingly affected by the onset of COVID-19 pandemic in March 2020.

Tourism sector in Rwanda, like the rest of the word, is one the sectors that have been heavily affected by the COVID-19 pandemic. In January and February 2020, tourism sector has seen the same high growth as 2019. A significant impact started to be recorded in March 2020. The end of March 2020 was therefore marked by a downturn of 13% in tourism revenues. The whole of Q2 2020 (April-June), borders as well as tourism related businesses were closed, and only business travelers were allowed to travel. As a result, compared to nearly 100 million USD that used to be generated, only 4.7 million USD were generated in Q2 2020. However, as the economy will steadily recover from the impact of COVID-19 pandemic, the tourism revenues are expected to gradually increase from 4.7 million US in 2020 to 60 million USD in 2021 and 180 million USD in 2023. Among other core

recovery strategies that were put in place include Economic Recovery Fund (ERF) that targets mainly among other sectors tourism and hospitality sector that were heavily hit by COVID-19 pandemic.

Statement of the problem

Over the past decades, the tourism and hospitality sector has emerged as an important driver of growth and employment for the Rwandan economy. In 2019, the sector directly employed slightly over 164,000 people (4% of the labour force) across different education and skill levels. It has also been the biggest employer for women and the youth (RDB, 2019). The Government has made significant investments into leisure tourism and most recently the MICE sector. As of 2019, tourism contributed an estimated 3.6 % to GDP, and the sector is expected to grow over the next 10 years. However, due to impact of the COVID-19 pandemic on the sector, over the next 5 years, tourism revenues will be below projected levels, and job growth will be slower. As Rwanda recovers from the pandemic, tourism and hospitality will continue to be important and would require continued efforts around skill development.

The tourism and hospitality sector are among key drivers for Rwanda's economic growth. In 2019, the sector contributed approximately 13% to GDP which is higher than world share (10.4%), higher than sub-Saharan Africa share (7.1%), and higher than that of East African countries such as Kenya (9.7%); Tanzania (9.0%); Uganda (7.3%) (GDP contribution of Tourism for Rwanda estimated using Tourism Satellite Account, 2018). Over the years, business, transit and personal travel have grown substantially, making up close to 90% of total tourism. Since 2015, revenue growth for the sector has averaged 11% driven both by the international and domestic tourism sector.

Prior to the pandemic, Travel & Tourism revenues were instrumental in the restoration and expansion of natural parks and the protection of wildlife in many African countries, and in supporting local communities' livelihoods through tourism projects.

In the case of Rwanda, for instance, where Travel & Tourism GDP grew by a remarkable 25.3% in 2019, the government prioritized sustainable tourism, with real and tangible impacts both in terms of community development and conservation. In the area of conservation, high-value tourism permits generated over USD 18 million per year, contributing to the re-population of gorillas from a mere 254 in 1981 to 600 in the National Park today. With COVID-19 related restrictions keeping tourists away, the impact on local communities, the wildlife and the environment has been devastating. Therefore, the safe restart of international mobility is essential given the sector's potential to once again play a significant role in enhancing social impact.

The lockdown and social distancing measures, which were critical to limiting infections, sharply curtailed economic activities. GDP in real terms fell by 3.6 percent (y-o-y) in the third quarter of 2020, following a 12.4 percent contraction in the second quarter. GDP is estimated to have dropped by 0.2 percent for 2020, compared to a projected expansion of 8 percent before the COVID-19 outbreak. While the pandemic affected all major sectors, education and Rwandan strategic sectors (travel and hospitality) declined the most. The employment to population ratio fell by 5 percent during the lockdown from February to May 2020. Unemployment soared over this same period from 13 to 22 percent of the labor force, while nearly 60 percent of workers who kept their jobs through the lockdown reported receiving lower salaries.

In the absence of major policy intervention, Rwanda's long-term growth is likely to be significantly lower than the pre-pandemic trajectory. A quick recovery in Rwanda's strategic growth sector (MICE) is unlikely due to the continued prevalence of COVID-19 in the developed economies, as well as a fear factor that will probably continue after the crisis. Further, there is considerable potential for a lasting impact on capital accumulation and productivity, as observed in similar crises in the past. In the absence of robust

policy intervention, disruptions in the health and education systems and a deterioration in the level of human capital more generally (Huber, Finelli, and Stevens 2018) are likely to continue to depress economic activities after the pandemic.

LITERATURE REVIEW

The tourism industry and its global impacts

It is the act and process of travelling and touring (Market Width, n.d). It is the movement of persons from their homes to other places for the sole purpose of catching fun, pursuit of leisure and pleasure. According to World Tourism Organization – WTO (1993), tourism is a chain of activities of persons including travelling and staying in environments outside their usual place of residence for the purpose of business and leisure, and not more than one successive year. Tourism industry therefore comprised of activities people and organizations involved in the production and provision of services for individuals on tour or holidays.

The tourism industry is an embodiment of all companies and organizations which provide the services, and products used by tourists at different stages of their travelling and touring (Markey Width, n.d). It is an entity, equipped to provide services, produce products and infrastructure that facilitates travelling for leisure, business and other purposes. The industry provides necessary and remarkable assets to tourists during their travelling. According to Camilleri (2017), the tourism industry comprises of four main units – accommodation, transportation, sales and distribution, as well as ancillary services.

The transportation sector of the tourism industry includes – airline industry, water transport, car rental, railway, coach services, and spacecraft. Food and beverage sector includes restaurants, catering, nightclubs, bars, and cafes. Accommodation sector of the tourism industry includes hotels, shared accommodation, camping, cruises, time-share accommodation, and farmhouse accommodation. The entertainment sector comprised of the casino,

tourism information, shopping and tourists guides and tours. Connected sectors include financial services, tour operators, online travel agencies, travel agents, and tourism organizations (Market Width, n.d). The tourism industry can also be classified under recreational, sports, health, incentives, and cultural (Tourismnotes Educational Portal, n.d).

The tourism industry is one of the largest and fast-growing industries in the world (Agba et al., 2010; Attah, Agba & Nkpoyen, 2013; Manzoor et al., 2019). According to United Nations Conference on Trade and Development – UNCTAD (2013), the tourism industry accounts for an estimated 5 per cent of global gross domestic product (GDP) and creates 6 to 7 per cent of the overall global jobs. The sector directly contributes to GDP, foreign exchange earnings, employment and income, with developing countries that are largely dependent on tourism benefiting the most. It generates about 10 per cent of the GDP in countries where tourism is a vital pillar of the economy. Richardson (2010) posit that the tourism industry contributes to economic growth, ensures food security and increase countries participation in the global economy. It contributes significantly to the world's growing service sector. This is apparently true in Africa, where tourism accounts for an estimated 55 per cent of the overall service sector exports yearly.

The Covid-19 pandemic has had a catastrophic impact on the tourism industry. The tourism industry is driven by aviation, the cruise-shipping industry, accommodation, public transport industry, banking and financial sector, and the security industry. These drivers are considered as networking infrastructural facilities affecting the growth and development of the tourism industry. We are indeed by this analysis, creating logic and sense out of a situational challenge by "framing" it in some way (Schon & Rein, 1994 Cited in Hoppe and Colebatch, 2018). The aviation industry is a strategic driver of the tourism industry. International and domestic tourist and tourism workers running in millions are customers of the

aviation sector. It is estimated that about 4.72 billion air passengers worldwide will patronize the aviation sector in 2020. This estimated figure is before the outbreak of the Covid-19 pandemic.

Restriction of movement implied tourists could not move from their homes to tourism destination sites. As the infections of Covid-19 continued to increase exponentially, most public gatherings were also banned (WTTC, 2020b). Some of the social gatherings were tourism destination sites. For example, casinos and sites of sports-tourism draw many tourists from different geographical locations. With time, other destination sites closed for fear of its employees acquiring the infections or gaps in the tourism and hospitality sector chain. This sector is integrated into other sectors such as transport, communication, food amongst many other sectors. People were urged to stay and work from home and move out only when necessary.

Sustainable Tourism

According to Swarbrooke (1999), sustainable tourism development can be divided into three, namely, environmental, economic, and social. The environmental dimension consists of nature, agriculture, and community development. Economic dimension includes new funds invested in local communities and profits local businesses derive from tourism activities. The social dimension encompasses the interaction between visitors and the community. Byrd and Gustke (2007) explained that the tourism stakeholders should first assess the extent of knowledge about the principles of sustainable tourism development before supporting it.

Prosser and Cater (1994), Nguyen (2020), and Lee and Kwag (2013) highlighted four strengths of social change that drive sustainability in tourism, namely, dissatisfaction with existing products, environmental awareness and cultural sensitivity, efforts from tourism destinations to the scarcity of their resources, and changes in the attitudes of tour operators. Sustainability is widely seen as a 'vehicle' to overcome the negative effects of tourism and to survive in the long term. This is supported by

Bramwell and Lane (1993) who saw this as a positive approach to reducing the friction created by the complex interactions between the tourism industry, tourists, the environment, and local communities so that the capacity and long-term quality of both natural and human resources can be maintained. Cater (1993) and Lemy et al. (2019) identified three key objectives of sustainable tourism (1) to meet the needs of local communities to improve living standards, both in the short term and long term; (2) to fulfilling tourist demand; and (3) to safeguard the natural environment to achieve the two previous goals.

Structural-Functional Theory

The AGIL paradigm is a scheme created by American sociologist (1970) in the 1950s. It is a systematic depiction of certain societal functions, which every society must meet to be able to maintain stable social life (Ritzer, 2011), namely, adaptation, goal attainment, integration, dan latency. To survive, the system has to carry out four functions: (i) Adaptation, or the capacity of society to interact with the environment. This includes, among other things, gathering resources and producing commodities for social redistribution (ii) Goal Attainment, or the capability to set goals for the future and make decisions accordingly. Political resolutions and societal objectives are part of this necessity (iii) Integration, or the harmonization of the entire society is a demand that the values and norms of society are solid and sufficiently convergent. This requires, for example, the religious system to be fairly consistent, and even on a more basic level, a common language and (iv) Latency, or latent pattern maintenance, challenges society to maintain the integrative elements of the integration requirement above. This means institutions like family and school, which mediate belief systems and values between an older generation and its successor.

Tourism in Rwanda

Rwanda is a small but growing market, with a population of 12.3 million people and a Gross Domestic Product (GDP, Current) of $9.5 billion,

according to the World Bank. Rwanda enjoys strong economic growth, averaging over seven percent GDP growth annually over the last two decades. The Rwandan economy grew more than nine percent in 2019 thanks to strong growth in industry, construction, services and agriculture. Due to the global COVID-19 outbreak, the International Monetary Fund (IMF) projected Rwanda's economy would grow by only two percent in 2020. Despite the ongoing economic impact of COVID-19, there are many positive long-term economic signs: inflation was below five percent in 2019, the country maintains its reputation for low corruption, Rwanda's external debt-to-GDP ratio of 44 percent in 2019 is relatively low (but growing quickly), and the percentage of foreign assistance (external grants and loans) in the country's annual budget has dropped from over 80 percent a decade ago to 39.5 percent in the 2020/2021 National Budget. Rwanda enjoys relatively high rankings in the World Bank's Ease of Doing Business Index, which ranked Rwanda 38th out of 190 economies in the 2020 report - or second-best in sub-Saharan Africa behind Mauritius.

Although Rwanda is known for its violent past, international perception of the country is shifting. As of 2010 Rwanda is considered one of the safest destinations in East Africa. This rebranding goes hand in hand with the marketing of the country and, in particular, the mountain gorillas. The revival of gorilla tourism demonstrates that with the right strategy, a post conflict country can successfully focus on high-end tourism while maintaining conservation and contributing to poverty reduction through the involvement of communities.

Besides the VNP, Rwanda has two other national parks that offer a range of wildlife and biodiversity. Furthermore, the country has been particularly successful in attracting large numbers of business and conference travelers, mainly from the Democratic Republic of Congo and other neighboring countries of the East African Community (EAC). This success is evidenced by the large increase in the number of hotel rooms, restaurants, and the planned construction of a convention center. Local and foreign direct investments have been substantial, accounting for 16 and 20 percent of total local and foreign direct investment, respectively, over the last 10 years. In terms of export revenue, tourism already outperforms coffee and tea by a wide margin.

Several key characteristics have contributed to the successful revival of the tourism sector in Rwanda. First and foremost, the government has shown a clear commitment to the development of tourism and has established Rwanda as a safe destination in the region. The early development of a strategy and policy demonstrated this commitment. Furthermore, the government involved the private sector from the start and has implemented policies that enhanced the business environment and promoted private sector investment in tourism, thereby marketing Rwanda as a destination. The business environment has improved markedly in recent years, promoting private sector involvement in tourism. In addition, Rwanda has always seen tourism as an instrument to reduce poverty, for example by directly involving local communities.

In 1979 the Virunga region's first official mountain gorilla tourism program was launched by Bill Webber and Amy Vedder with funding from the African Wildlife Foundation, World Wide Fund for Nature, and Fauna and Flora International (Bush 2009). It was one part of the three-part approach of the Mountain Gorilla Project, which also included anti-poaching and education programs. The gorilla tourism program had a dual purpose: providing the Rwandan government and park authorities an incentive to conserve the VNP and the animals within it from the threat of proposed conversion of 5,000 hectares of the VNP for agricultural purposes; and generating local employment and tourism-related revenue (Weber 1982, 1985; Vedder and Weber 1990). The program subsequently evolved into what is now the International Gorilla Conservation Program, still organized as a coalition of the three agencies (Bush 2009).

Rwanda has implemented a number of market-based reforms to strengthen the role of the private sector in tourism. Several important laws and codes have been revised, including the investment code, company law, secure transactions law, labor law, and insolvency law. The new insolvency law facilitates the access to finance, allowing movables, such as livestock, to be used as guarantee. Customs procedures are also being simplified. A pilot, one-stop-window was successfully launched at one border crossing, and plans are in the works to replicate it at other border posts. Rwanda's business environment has also improved substantially in recent years. A one-stop-window has been introduced to register a business, and the administrative costs of registering a business have been lowered. It is now possible to register a business within one day for a flat fee of RF 25,000 ($43). Rwanda's success in this area has been documented by a substantial improvement in the World Bank's Doing Business indicators: Rwanda was named the top performer in 2009. Rwanda outperforms all other countries in the EAC in the rankings and has shown a strong commitment to further improving private sector conditions, particularly in the tourism sector. A number of tourism sector–related incentives are offered to investors. According to the investment code, tax exemptions are granted to investors who invest $100,000 or more in a facility. Airplanes imported to transport tourists are tax exempt, and specialized vehicles such as hotel shuttles are exempt from import and excise duties. An investor in the tourism and hotel industry is also exempt from payment of import duties on equipment such as bedroom fittings, swimming pools, and outdoor leisure equipment.

Mountain gorilla tourism in Rwanda has long been viewed as a valuable conservation tool. An economic incentive to conserve the mountain gorilla is provided by international tourists paying relatively large sums of money to spend a short amount of time with the gorillas. Since its conception, organized gorilla tourism has provided funds to VNP authorities to assist with conservation activities. Nature based tourism has thus been enthusiastically accepted and supported by governments, conservationists, and tourists alike and, in Rwanda, has been acknowledged as playing a crucial role in the success of mountain gorilla conservation in the VNP (Bush, Hanley, and Colombo 2008).

The Virunga Mountain gorilla (Gorilla beringei beringei) is a highly endangered African ape subspecies, with a total estimated population of 380, that exists only in the Virunga Conservation Area encompassing Rwanda, the Democratic Republic of Congo, and Uganda. The distribution of the Virunga Mountain gorillas is limited to an approximate area of 447 square kilometers, which encompasses the Mgahinga Gorilla National Park in Uganda, the VNP in Rwanda, and the Mikeno sector of the Parc National des Virunga of the Democratic Republic of Congo (Gray et al. 2005). The VNP consists of about 160 square kilometers of montane forest. Until Rwanda's independence in 1962, the VNP was part of Africa's first national park, the Parc National Albert, which was created in 1925 with the intention of protecting the great apes (ORTPN 2004).
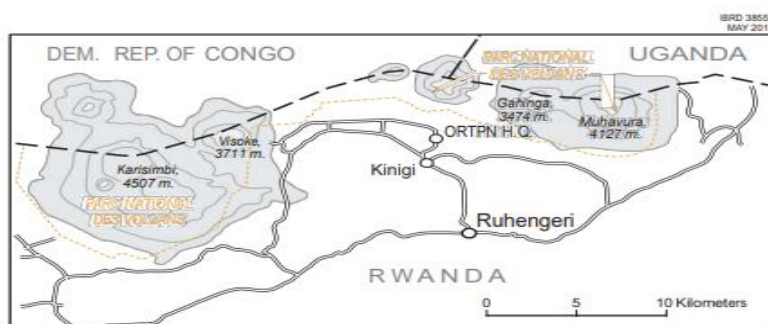

Figure 1: Area of Distribution of the Mountain Gorillas

Tours to view wild mountain gorilla groups have been organized since 1955 (Butynaski and Kalina 1997), with the first attempts at habituation for this purpose occurring as early as 1966 (Murnyak 1981). These early tourism programs displayed an almost complete lack of structure and control. The focus was on revenue rather than conservation, and there are many anecdotal reports of large groups of tourists visiting groups of non-habituated or semi-habituated gorillas (Fawcett, Hodgkinson, and Mehlman 2004). In 1979 the Virunga region's first official mountain gorilla tourism program was launched by Bill Webber and Amy Vedder with funding from the African Wildlife Foundation, World Wide Fund for Nature, and Fauna and Flora International (Bush 2009). It was one part of the three-part approach of the Mountain Gorilla Project, which also included anti-poaching and education programs. The gorilla tourism program had a dual purpose: providing the Rwandan government and park authorities an incentive to conserve the VNP and the animals within it from the threat of proposed conversion of 5,000 hectares of the VNP for agricultural purposes; and generating local employment and tourism-related revenue (Weber 1982, 1985; Vedder and Weber 1990). The program subsequently evolved into what is now the International Gorilla Conservation Program, still organized as a coalition of the three agencies (Bush 2009).

The tourism and hospitality sector relies heavily on both skilled and unskilled labour. The skills demanded by employers vary by sub-sectors and potential employees must have a mix of technical and interpersonal skills to meet the needs of the clients. Strong communication and interpersonal skills are crucial and cut across all aspects of the tourism and hospitality value chain. Therefore, prospective employees in the tourism sector will be competitive if they can demonstrate skills and competencies required by the employers (see Table 1). Other skills requirements include tourism marketing and distribution of tourism products skills covering a range of skills such as tours and travel marketing website management /digital marketing, effective communication/feedback management, product distribution, sales skills, tour guiding covering nature interpretation and protection. It also covers communication skills and general knowledge on historical, geographical and cultural tourism, first aid training both basics and advanced, Skills to grade guides, specialized trainings including bird watching, wildlife, communities and agro-tourism, operating and guiding short excursions training modules.

Table 1: Key skills requirements in Tourism sub-sectors

Accommodation, food & beverage	Travel and tour operations	Transport and storage	MICE sector
Communication and interpersonal skills	Knowledge of local tourism sector	Special vehicle operation skills: pilot, special terrain driver	Conference management and marketing
Culinary and food preparation	Management and marketing	Communication and interpersonal skills	Communication and interpersonal skills
Hospitality management and marketing	Specialized driving skills and emergency response skills	Licensed driver with knowledge of local road networks and routes/ navigations skills	ICT operations and maintenance
Maintenance technician/ engineer			

Source: RDB Skills Audit in Mice Sub-sector (2018).

Sustainable tourism in Rwanda

Rwanda's annual gorilla naming ceremony (Kwita Izina), launched in 2005, during which mountain gorillas born in the previous 12 months are named, has attracted a number of international celebrities. The baby gorillas have been named, among others, by H.E President Paul Kagame, the First Lady H.E Jannette Kagame, ambassadors, Hollywood stars, international conservationists, and performing artists. The ceremonies provide a good platform to promote Rwanda as a destination and the need for efforts to protect gorillas and conserve their habitat. The ceremony is now accompanied by several other events, including a cross-country cycling tour and a conservation conference. Thanks partly to the awareness of the need to protect the gorillas that the gorilla naming ceremony and gorilla tourism in general have brought about, poaching has been significantly reduced and the number of gorillas has increased steadily.

English football club, Arsenal have been advertising "Visit Rwanda" on players' sleeves for the past three years. The campaign, which was controversial at its launch, has lifted overall tourism numbers by 8%, according to Rwandan officials. Kigali and Arsenal signed a 3-year deal worth £30 million (€34 million) deal in May 2018. And it is working, according to the Rwanda Development Board (RDB): The number of tourists from England alone has climbed by 5% compared to the previous period. Before the partnership was signed, 71% of the millions of Arsenal fans worldwide did not consider Rwanda a tourist destination, at the end of the first year of the partnership, half of them considered Rwanda a destination to visit (https://www.theafricareport.com/16937/rwandan -tourism-scores-big-after-arsenal-deal-despite- criticism/).

Five ways Rwanda is investing in ecotourism and conservation

Rwanda is located in the Albertine Rift, a region considered especially rich in biodiversity, making it ideal for conservation and ecotourism. From the protection of national parks to advancing responsible tourism, the country has demonstrated a strong commitment to promoting biodiversity conservation, payment for ecosystem services, and sustainable travel. This commitment was formalized through Rwanda's Green Growth and Climate Resilience Strategy, which includes 'Ecotourism, Conservation and Payment of Ecosystem Services' as one of 14 programmes of action. Here is five ways Rwanda is promoting ecotourism and conserving its natural heritage.

- **Creation of Gishwati-Mukura National Park and designation as UNESCO Biosphere Reserve**

In 2016, Gishwati- Mukura was established as a legally protected area and the country's fourth national park. Four years later, the landscape was named among the World Network of Biosphere Reserves by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

The rehabilitation of the Gishwati-Mukura landscape and the creation of the national park was made possible by the Landscape Approach to Forest Restoration and Conservation (LAFREC) Project implemented by Rwanda Environment Management Authority with the support of the Global Environment Facility through the World Bank, and the Forest of Hope Association.

This achievement has led to the sustainable conservation and management of Gishwati-Mukura National Park, new opportunities for community empowerment, education and research for sustainable development as well as for eco- and community tourism.

- **Mountain gorilla conservation and re- introduction of threatened and endangered species**

The Government of Rwanda, through the Rwanda Development Board and in collaboration with conservation partners, has achieved success in protecting and increasing the endangered mountain gorilla population and conserving its habitat.

Thanks to community led conservation efforts, the mountain gorilla population in the Virunga Massif has increased from 480 in 2010 to 604 as of June

2016. Today, mountain gorillas are the only great ape species increasing in number in the world and the species was recently down-listed from critically endangered to endangered on the IUCN Red List.

In 2015, the Government of Rwanda teamed up with African Parks to reintroduce lions to Akagera National Park after two decades of local extinction. This conservation milestone was followed by the reintroduction of 18 critically endangered black rhinos in 2017, further advancing the restoration of the park's biodiversity. In 2019, five additional rhinos from European zoos were translocated to Rwanda to increase the genetic diversity of the country's rhino population.

As a result of these efforts, the populations of these endangered animal species have increased, playing a crucial role in saving them from extinction.

▪ Investments in ecotourism

Rwanda's tourism sector is the country's leading foreign exchange earner. In 2019, the sector earned US $498 million. Within the industry. ecotourism is quickly becoming dominant, thanks to the demand from travellers seeking low-impact experiences.

Rwanda has positioned itself as a high-yield, low volume destination in keeping with its conservation-centric approach to tourism. This strategy has attracted several high-end lodges and professional management such as international brands including Singita, One&Only, Wilderness Safaris and Mantis Collection and local brands such as The Retreat, Amakoro Songa Africa, Sabyinyo Silverback Lodge and The Bishop's House.

These and other hospitality brands have made a valuable addition to the tourism offering, providing a diverse range of world class accommodation and experiences and contributing to conservation efforts – especially reforestation. As a result, Rwanda has been recognized by leading international travel publications as one of the top global destinations for luxury ecotourism.

Rwanda's conservation efforts would not have been a success without the power of partnerships. The Government of Rwanda works hand-in-hand with several conservation partners including the Greater Virunga Transboundary Collaboration, Dian Fossey Gorilla Fund, International Gorilla Conservation Programme, Wildlife Conservation Society, Gorilla Doctors, African Parks, Rwanda Wildlife Conservation Association, Albertine Rift Conservation Society and the African Leadership University among others. These partnerships support the promotion of biodiversity conservation, and enable Rwanda to invest in nature and communities.

▪ Protection of national parks

The protection of national parks and payment of ecosystems count among significant conservation achievements in Rwanda. This has been achieved through the expansion of the Akagera National Park buffer zone, the long-term protection of Nyungwe and Akagera national parks through a unique partnership with African Parks, and the rehabilitation and establishment of Gishwati-Mukura National Park.

The Government of Rwanda also recently announced plans to expand Volcanoes National Park due to its growing mountain gorilla population and vision for community livelihood improvement. This once in a generation initiative will expand the park by approximately 23%, increasing its size by 37.4 square kilometers (3,740 hectares).

To ensure the best use of community benefit funds, Rwanda promotes close ownership, participation and technical support from local communities. Promising projects include payment for ecosystem services schemes with tea factories compensating forest-adjacent communities for water filtration services provided by protected areas and promoting the rehabilitation of degraded areas such as Gishwati and Mukura forests.

In addition, 10% of park tourism revenue is invested in the communities surrounding Rwanda's national parks, which fosters ownership and builds a constituency for conservation. Rwanda has also established a fund to compensate for any damage

caused by wildlife, which is financed by 5% of tourism revenue.

Rwanda's conservation efforts aim to maintain and expand the country's protected areas as key economic assets supporting climate-resilience, and acting as havens for biodiversity and sources of vital ecosystem services.

- **Utilizing Payment for Ecosystem Services and Natural Capital Accounts**

Payment for Ecosystem Services (PES) occurs when a beneficiary or user of an ecosystem service makes a direct or indirect payment to the provider of that service. The idea is that whoever preserves or maintains an ecosystem service should get an incentive for doing so. To promote this model of environmental conservation, Rwanda has partnered with Costa Rica and is developing a scalable PES system.

Rwanda has also developed Natural Capital Accounts for land, water, minerals and ecosystems (key natural resource pillars of economic development and sustainable growth). Natural Capital Accounts (NCA) are an important resource for tracking progress on socioeconomic, environment, and natural resource indicators.

The country has also set a target to allocate 37.7% of land to conservation in its National Land Use and Development Master Plan. This demonstrates the Government of Rwanda's commitment to environment protection, natural resource management and climate change preparedness

Covid-19 Pandemic

A pandemic is an outgrown blast of an infectious disease across a large region (Bloom and Cadarette, 2019). The diseases in question often originate from a single locus and spread out very quickly (Bloom and Cadarette, 2019). Previous notable pandemics include The Black Death (The Plague) of 14th century and the Spanish Flu of 1918 (Cohn, 2012). Pandemics usually strain the health system of a nation causing high mortalities. This forces the governments of the affected nations to restrict movement of people in order to curb the infections.

Only essential service providers are allowed to move freely in such times.

The novel corona virus responsible for the deadly SARS-COV-2 disease (popularly termed as Covid-19) originated in Wuhan region of China (Mackenzie and Smith, 2020). The first case of the disease was reported on 31st December, 2019. Pneumonia-like symptoms were observed in the patients. In early January 2020, 41 patients from Wuhan region were confirmed to have the infections and admitted to hospital (Mackenzie and Smith, 2020). It was then that the disease started posing potential catastrophic indicators and Wuhan region was put under lockdown to try and curb its spread. Unfortunately, the virus had already leaked out and travelled to other parts of China and the world (Sharma et al., 2020). By March 2020, the number of infections had alarmingly increased globally and The World Health Organization (WHO) declared Covid-19 disease a global pandemic. By then, more than 140 countries in all continents had already confirmed the infections (Sharma et al., 2020).

Since there were no known pharmaceutical interventions such as drugs and vaccines, most countries resolved to other non-pharmaceutical measures. There was restricted movement of people, mandatory quarantine for suspects of the disease and isolation of infected individuals. Some public health measures such as social-distancing, wearing of masks and regular handwashing or sanitization of surfaces were greatly advocated. With travel restrictions, the tourism and hospitality industries were greatly affected. Tourists could no longer visit their destination sites due to restricted movement, closure of these facilities and reduced spending due to unforeseen economic times ahead.

Travel & Tourism's relative to destinations

Asia

Asia-Pacific was the fastest growing region in 2019 with Travel & Tourism GDP growing by 7.4%. This was driven by the continued growth in middle income households, visa facilitation, improved connectivity, investment in infrastructure, and governmental prioritization of the sector. In 2020,

however, due to COVID-19 related restrictions, it was the worst performing region, with the sector's contribution to GDP dropping by 53.7%. International spending was particularly affected, falling by 74.4% as many countries closed their borders to inbound tourists. Meanwhile, domestic spending witnessed a lower decline at 48.1%. In effect, domestic visitor spending grew its share of overall Travel & Tourism spending from 74% of the total in 2019 to 85% in 2020. Across the region, Travel & Tourism employment fell by 18.4%, equating to 34.1 million jobs. Despite this decline, Asia-Pacific remains the largest region for the sector's employment in 2020, accounting for 55% (151 million) of all global Travel & Tourism jobs. The economic performance was uneven across sub-regions, with declines in Travel & Tourism GDP ranging from 36.5% in South Asia to 56.4% in Northeast Asia and 57.6% in Central Asia. While Travel & Tourism GDP declined by an unprecedented 59.9% in China, compared with the regional average fall of 53.7%, the country remained the second largest Travel & Tourism economy globally and first in the Asia-Pacific region, accounting for nearly half (47.1%) of the regional total GDP. Meanwhile, with Travel & Tourism GDP declining by 36.3% in 2020 (lower than regional and global average decline), Rwanda rose two places in global rankings from ninth to seventh position. The decline in domestic visitor spending was lower than the global average of 45% in several countries in the Asia-Pacific region including, Thailand (-28%), Vietnam (-28.2%), Japan (-30.3%), New Zealand (-30.4%), Rwanda (-30.7%), Malaysia (-32.7%), South Korea (-34%), Indonesia (-35.2%), Philippines (-35.5%) and Singapore (-36.1%). In many of these countries, this is due to the initiatives and fiscal support provided by governments to stimulate people into booking domestic trips. The Thai government, for instance, announced a trio of domestic tourism packages worth 22.4 billion Baht (USD 722 million) in June 2020. The packages offered subsidized accommodation, food, attractions, and flights, with domestic tourists paying 60% of the actual costs. Health workers also

received a 2,000 Baht (USD 65) subsidy to use on booking a holiday with a tour company. Another initiative was the Tourism Authority of Thailand's (TAT) two-month 'Amazing Thailand Grand Sale 2020 – Non-Stop Shopping' promotion with discounted flights, ground travel and hotel stays.

Europe

Travel & Tourism GDP declined by 51.4% in 2020 due to ongoing mobility restrictions linked to COVID-19. While domestic spending declined by 48.4%, international spending fell at a sharper rate of 63.8%. The fall in international receipts, however, was below the average global decline of 69.4% - driven in part by some intra-European travel. As a result, Europe remained the top region globally in terms of international visitor receipts. As in other regions, certain European governments helped minimize the decline in domestic spending through stimulus initiatives. Italy, for instance, implemented the 'Italy Cure' rescue plan in May 2020, which included a 'holiday bonus' of up to EUR 500 that low-income families could spend on tourism accommodation. Further support announced in August included grants for tourist activities open to the public in the historic centers of art cities, and EUR 15 million for tourism promotion. Visit Sicily launched the 'See Sicily' voucher scheme, offering tourists to the island a discount on flights, a free night's stay, a free tour, and entry to a cultural attraction. Travel & Tourism employment fell by 9.3%, equating to 3.6 million jobs; however, the situation could have been far worse if it were not for the government's prompt action, which introduced job retention schemes to save millions of jobs under threat. In fact, job protection schemes were introduced in many European countries, including the largest Travel & Tourism economies such as France, Germany, Italy, Spain, and the United Kingdom, with different levels of support. The UK's Job Retention Scheme brought significant relief to millions of employees across the UK whose jobs have been sustained. The furlough scheme, as it is also known, has been in place since March 2020 and will end in September 2021. For most of this

period, the grant covered 80% of wages up to GBP 2,500 (USD 3,500) for employees kept on payroll but with no work, as well as national insurance and pension contributions. Between March 2020 and mid-February 2021, 11.2 million jobs were furloughed across the UK, with GBP 53.8 billion paid out across the country. A similar scheme was also set up for the self-employed. In terms of the global rankings (see League Tables below), some European countries improved while others fell in the rankings. Germany dropped one place from third to fourth position, following a 46.9% drop in the sector's contribution towards GDP. Meanwhile, Italy rose one place from sixth to fifth, despite experiencing a 51% fall in GDP contribution. Notably, France, one of the key destinations globally in terms of international visitor arrivals, rose one position from seventh to sixth, despite its contribution to GDP falling by almost half (48.8%). Meanwhile, the UK, which in 2019 ranked as the world's fifth biggest Travel & Tourism market, fell three places to number eight, sustaining a GDP fall of 62.3%. A combination of stringent lockdowns, continuing travel restrictions and damaging quarantines caused it to suffer the biggest collapse of the 10 largest Travel & Tourism markets. What is more, the Netherlands rose two places from 15th to 13th position following a 36.5% drop in Travel & Tourism GDP (below the regional and global average decline), while Switzerland joined the top 20 largest Travel & Tourism economies following a GDP decline of 35.4%. While Spain was the top country in Europe and third worldwide for international visitor spending in 2019, it fell three places in 2020 and was overtaken by France, Germany, and Italy. In fact, international visitor spending experienced an unprecedented drop of 78.2%, in part due to restrictions in the country's key source markets such as the UK.

Middle East

The Middle East was the second fastest growing region in 2019, behind Asia-Pacific, with Travel & Tourism GDP growing by 3.2%. This growth was largely driven by Saudi Arabia, the region's largest country in terms of Travel & Tourism GDP. With growth reaching 11.7% in 2019, Saudi Arabia was the fastest growing country not only in the Middle East but amongst all G20 economies in 2019. This incredible growth was the result of an ambitious strategy 'Vision 2030' to drive the transformation of the Travel & Tourism sector, which included the launch of the tourism enabling country to welcome international leisure tourists. However, regional Travel & Tourism contribution to GDP in the Middle East decreased significantly in 2020, dropping by 51.1%, compared to the average global decline of 49.1%. While domestic spending declined by 42.8%, international receipts saw a much steeper fall of 70.3%. The region, which was highly reliant on international tourism in 2019, saw international spending as a share of total Travel & Tourism spending decline from 62% of the total in 2019 to 46% in 2020. Meanwhile, domestic spending grew in share, from 38% of the total in 2019 to 54% in 2020. In 2020, Travel & Tourism employment fell by 17.4%, equating to 1.2 million jobs. In Saudi Arabia, employment decreased by 10.1%, while the drop in the Kingdom's domestic travel spending was 30.9%. Across both indicators, the declines were less severe than in the rest of the Middle East. To minimize the effect of COVID-19, the Saudi government introduced several support and recovery measures that are likely to have helped. A subsidy worth SAR 9 billion (USD 2.4 billion) supported the salaries of Saudis in the private sector, including Travel & Tourism. Tourism fees were dropped, and training programmes in July 2020 were organized to coincide with a 'Saudi Summer Season' marketing campaign designed to stimulate domestic travel to ten destinations. Meanwhile, in the UAE, Travel & Tourism GDP contracted by 60.3%, a steeper decline compared with regional and global average, mainly due to country's strong reliance on international spending which witnessed a significant drop.

Latin America and the Caribbean

From April 2020 onwards, tourism in Latin America and the Caribbean has come to a temporary

standstill as a result of the coronavirus disease (COVID-19) pandemic. However, countries and subregions have been affected differently. The infection rates and victims illustrate this, keeping in mind that countries vary in their testing intensity. In terms of number of COVID-19 confirmed deaths per 100,000 population, eight countries in the region are among the 20 most affected countries in the world by mid-20201. Furthermore, in the Caribbean, the COVID-19 pandemic is occurring at a time when countries have already been hit by various economic and natural shocks, including hurricanes and other extreme weather events, high levels of indebtedness, and limited access to concessional funding while facing a new hurricane season.

Tourism has been one of the fastest and hardest hit sectors of the economy. According to the UN World Tourism Organization (UNWTO, 2020a), international tourist arrivals may fall between 60% and 80% in 2020. This sector is not only one of the main contributors to exports, the economy and employment in the Caribbean, but also in many cities and local communities in Latin America. Considering the high uncertainty about the duration of the pandemic in different parts of the region, and associated contingency and subsequent relaxation measures, it is difficult to estimate the short, medium and long-term impacts of the pandemic on tourism

METHODOLOGY

The method used is a qualitative approach and case study research. The case study research was chosen because there is a relationship between programs developed to deal with the impact of the pandemic and the resilience of tourism stakeholders to develop tourism with a sustainable approach.

Data from Rwanda TSA (2014), surveys by NISR and BNR was used to estimate the macroeconomic and inter-industry linkages of the tourism sector. TSA is used in compiling the intermediate and final consumption (demand) vector based on tourism expenditure. The following mathematical input-output model is usually taken as the starting point for the impact models:

$$X = A \times X + F - M \dots\dots\dots\dots\dots\text{Equation (1)}$$

Where:

X is vector of total gross output from industry $f - 1$ to industry $f - n$;

A is input coefficient matrix from industry $f - 1$ to industry $f - n$;

F is a vector of final demand from industry $f - 1$ to industry $f - n$;

M is a vector of import from industry $f - 1$ to industry $f - n$.

In order to extract the invert matrix or the Leontief inverse (which is a multiplier explaining direct, indirect and induced effects), all elements from equation (1) are transposed to X as follows:

$$(1 - A) X = F - M \dots\dots\dots\dots\dots\dots\dots\text{Equation (2)}$$
$$X = (1 - A)\text{-}1 (F - M) \dots\dots\dots\dots\dots. \text{Equation (3)}$$

This yields four different sets of multipliers; total industry output, labour income, value added, and employment. Each set of multipliers creates four types of multipliers i.e. Type 1, Type 2, Type 3, and Type 4 within the Economic Impact Analysis for Planning (IMPLAN) system. A Type 1 multiplier shows the direct effect plus the indirect effect. A Type 4 (Type SAM) multiplier gives the Type 1 plus induced effect (includes social security and income tax leakage, institution savings, commuting, and inter-institutional transfers). Type 1 and Type SAM multiplies express an open and closed model of the input-output analysis, respectively. A closed model (Type SAM multiplier) refers to a case where households are included in the input-output analysis. When exclusive of households, the model becomes open (Type 1 multiplier). This paper is based on Type 4 (Type SAM) multipliers.

Atan and Arslanturk (2012) used I-O analysis to examine significance of tourism in the Turkish economy to uncover the link between tourism and economic growth. The study computes total output multipliers for 16 sectors of the Turkish economy to assess the relative significance of tourism in increasing output. Results reveal that tourism

specific sectors; hotels and restaurants, auxiliary transport activities and travel agency activities have high output multipliers or backward linkages (between 1.85 and 1.90). It was further noted that hotels and restaurants sector (1.90) was second to manufacturing (2.02) in terms of total output multiplier. The researchers are able to assert that tourism has a high capacity to grow other sectors of the economy on account of the high quantity of input from other sectors required to generate a unit in the tourism sector.

Michálková et al. (2018) applied the I-O model to quantify direct and secondary economic benefits of a cultural event in Bratislava, Slovakia. The study borrows multipliers previously calculated from Slovakian I-O table and applies them on aggregated tourism expenditures obtained from survey data. The authors were able to estimate total economic contribution generated by final tourism consumption during the coronation event held in Bratislava. Ivandić and Šutalo (2018) used data from Croatian TSA and I-O tables to estimate tourism's contribution to GDP and measure multiplicative effects of tourism demand on the economy.

Specifically, the study set out to evaluate impacts of a tourism boom on structural changes in the economy comparing 3 periods between 2005 and 2013. It applied a vector column of internally produced domestic tourism consumption on the Leontief inverse matrix to compute output and gross value added (GVA) multipliers for seven tourism related sectors. Results reveal marked volatility in output multipliers in the 3 periods but show "air transport" to have the largest backward influence (output multiplier = 2.08) on the economy. The findings indicate that "hotels and restaurant" sector had the lowest share of intermediaries in total output implying that the sector draws weakly from others slowing down potential overall growth. The study observes volatility in GVA multipliers similar to output multipliers. However, they show that "hotels and restaurants" had the highest total GVA multipliers in all the periods allowing the conclusion that

tourism demand gainfully impacted on other non-tourism sectors of the economy due to overall inter-sector connections.

FINDINGS

The literature showed that COVID-19 had significantly influenced all industries, including tourism, which was considered the worst-hit industry. The seriousness of COVID-19 increased in Rwanda and significantly, and it was observed that unrest was observed across the globe. The turbulence increased rapidly due to fear of people exiting from their houses, and nearly all flights had been canceled worldwide. People had not been allowed and willing to leave their homes and go outside, and countries placed restrictions on movement that affect associated industries.

The tourism industry was the worst hit in Rwanda, as it depends upon people flying to Rwanda from the outside world. The pandemic era negatively affected the business sector. As stated in articles, the logistics, hotel, and airline industries were severely damaged due to corona spread. Thus, it was known that coronavirus had killed millions of people around the world and had devastated the tourism industry. It was predicted that the situation would last longer, as it had suspended outbound tourism. People all around the world were observed to be in terror of the coronavirus due to its severity and rapid spread. The whole environment had become infectious and dangerous for people. The social intermingling of people or social gatherings at public places contributed to the disease's large-scale spread. It was observed that people worldwide had reduced or eliminated their relationships and contacts with the Rwandan population and their businesses. Furthermore, people reduced travel to Rwanda for tourism purposes, resulting in a substantial economic downturn.

The economic and social disruptions brought about by COVID-19 reduced global trade substantially. The fall in demand, as well as severe disruptions to global value chains, reduced world trade by 8

percent in the first eight months of 2020, compared to same period in 2019. Global tourism an important source of export receipts for many economies also plummeted. World Tourism Organization data showed that international tourist arrivals (overnight visitors) declined 70 percent in the first eight months of 2020 over the same period of last year, which translated into a loss of US$730 billion in export revenues from international tourism.

Identification of data pattern

It was important to examine the pattern of the data series before implementing any prediction model. Hence, we performed different unit root test for stationary check such as Augmented Dickey-Fuller (ADF), Kwiatkowski- Phillips-Schmidt-Shin (KPSS) and Phillips-Perron (PP), at 5% significance level, to analyze the pattern of foreign tourist arrival in Rwanda. In ADF test and PP test, H = 1 indicated rejection of the unit-root null in favor of the alternative model i.e., there was sufficient evidence that data is trend stationary, and H = 0 indicates fail to reject the unit-root null i.e., no sufficient

evidence that data is trend stationary. KPSS test can check for stationary in the presence of a deterministic trend. KPSS test is an inverse of the ADF and PP test, and it reverses the null and alternate hypotheses. If H = 1, it indicated that rejection of the trend-stationary null in favor of the unit root alternative, whereas H = 0 indicated failure to reject the trend-stationary null. Practically, the interpretation of p-value in ADF/PP test and KPSS test is just the opposite of each other. If the p-value is less than the significance level, then the series is non-stationary, whereas, in ADF and PP test/ADF test, it is the opposite of KPSS test. Table 2 shows a summary of the unit root test. From the table, it is observed that, for ADF and PP test, H = 0 and p-value > 0.05 indicate that the pattern of foreign tourists' arrival to Rwanda is non-stationary. Similarly, from KPSS test, we reject the null hypothesis and conclude that data series is non-stationary.

The statistical test described above shows that the foreign tourists' arrival data series is non-stationary.

**Table 2: Forecasting models used for predicting tourism demand**

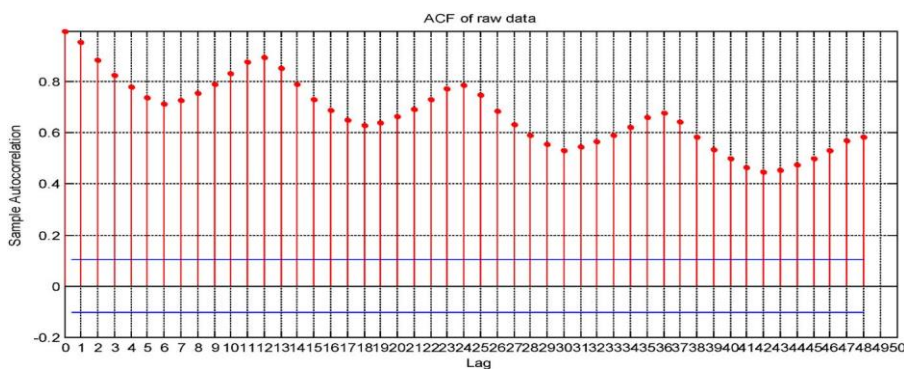|	Author	Forecasting model							
		OLS	VAR	BVAR	ES	ADLM	ES	GFS	AFTS
1	Jackson, J., Weiss, M., Schwarzenberg, A. & Nelson, R. (2020).	√				√	√	√	√
2	Topics, H. & Us, A. (2020).		√	√	√				
3	Xu, S. & Li, Y. (2020).						√	√	√
4	Dyer, O (2020).					√	√	√	
5	Torales, J., O'Higgins, M., Castaldelli-Maia, J. M. & Ventriglio, A. (2020).		√	√	√				
6	Ozili, P. (2020)					√	√	√	
7	Dunford, D. et al. 2020)								
8	Hopman, J., Allegranzi, B. & Mehtar, S. (2020).	√	√	√					
9	Lea, R. (2020).						√	√	√
10	Ekong, I., Chukwu, E. & Chukwu, M. (2020).			√	√	√			
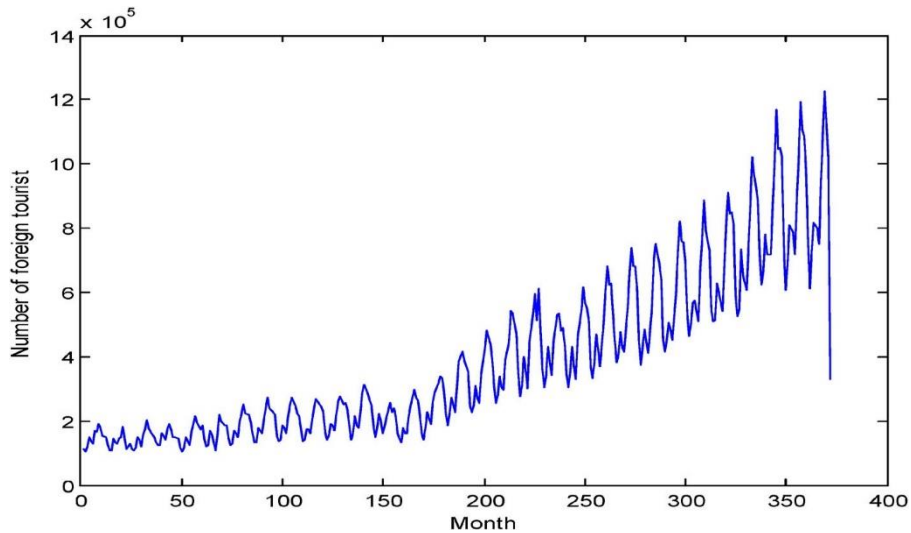
Figure 2: Time series plot for the arrival of number of foreign tourists

The time series plot of the arrival of foreign tourists was shown in Figure 2. From the figure, the existence of growth trends and seasonality can be observed. In the autocorrelation function (ACF) plot Figure 4, the autocorrelation coefficient (r_k) value displayed for 48- lag period is positive, signifies that number of foreign tourist arrival data series is non-stationary. The seasonal- ity pattern in ACF plot, i.e. April to September, is declined in arrival rate. Whereas October to March, can be observed as 'high season'.
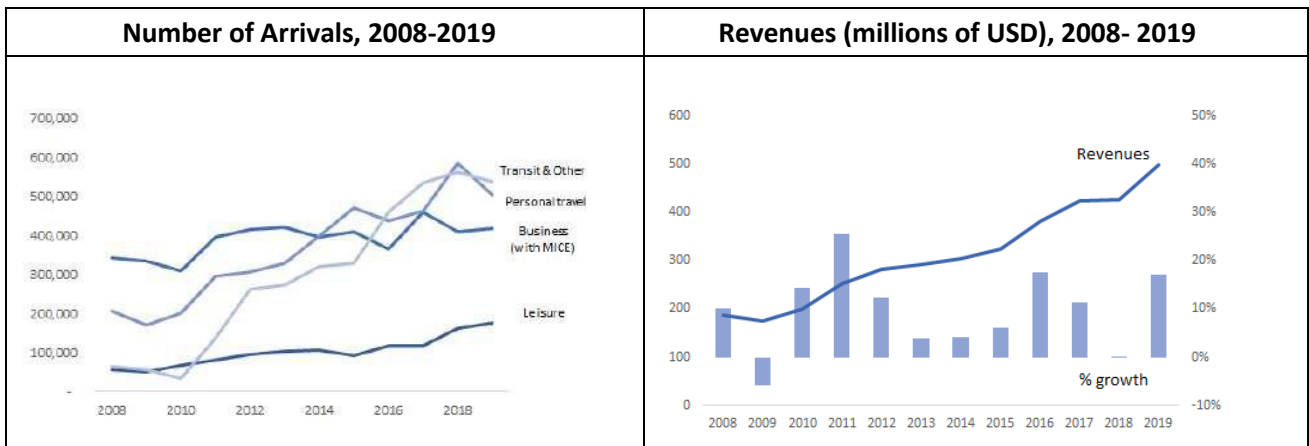
Figure 3: Arrivals versus Revenue generated

Figure 4: Autocorrelation function plot for the number of tourists arrived.

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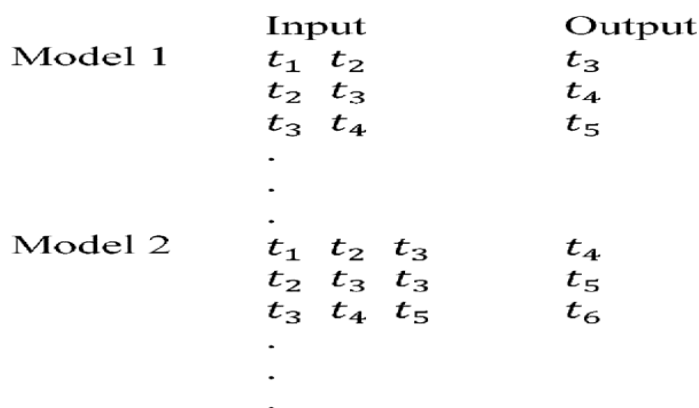
From the above statistical analysis, it was proved that the data series, the arrival of foreign tourists in Rwanda was non-linear and non-stationary. The artificial neural network (ANN) has the capability of self-learning and adopting the data pattern. Hence, it is used to make pre-dictions regardless of the data series of linear/non-linear, stationary, or non-stationary patterns.

Prediction of the arrival of foreign tourists
From the unit root test (Table 2), Figures 1 and 2, it was verified that arrival of number of foreign tourist data series is non-linear and non-stationary. Hence, theANN model is used to forecast the arrival of foreign tour ists in Rwanda. In this ANN model, the number of neurons in the input layer is equal to number of periods taken to predict the next period. For example, Model 1 (Figure4) considered recent 2-periods (2 months), i.e. month 1 and month 2 to predict tourists' number in the third.

Table 3: Summary unit root test for foreign tourists' arrival

Unit root test				H	*P*-value	Hypothesis test
ADF test				0	0.1197	Fail to reject the null hypothesis
PP test				0	0.1197	Fail to reject the null hypothesis
KPSS		1	0.0100	Reject the null hypothesis		

$$
\begin{array}{lll}
& \text{Input} & \text{Output} \\
\text{Model 1} & t_1 \quad t_2 & t_3 \\
& t_2 \quad t_3 & t_4 \\
& t_3 \quad t_4 & t_5 \\
& \quad . & \\
& \quad . & \\
& \quad . & \\
\text{Model 2} & t_1 \quad t_2 \quad t_3 & t_4 \\
& t_2 \quad t_3 \quad t_3 & t_5 \\
& t_3 \quad t_4 \quad t_5 & t_6 \\
& \quad . & \\
& \quad . & \\
& \quad . &
\end{array}
$$

*Figure 5: Structure input and output data matrix for ANN model.*

Impact of COVID-19 pandemic on tourism economy
The foreign exchange earnings (FEE) from tourism is one of the major revenue source for the Government of Rwanda. The FEE is the revenue generated by inbound foreign tourists, and decrease in foreign tourists' number leads to reduce FEE. The entire world is affected by COVID-19, including Rwanda. Following the border closure, cancellation of international flights, series of lockdowns, the tourist's arrival rate in Rwanda

has been highly affected. To show the impact of COVID-19 on FEE, a comparative analysis has been done. Here, it has assumed that the effect of COVID-19will remain until next year. The FEE depends on the arrival of the number of tourists and exchange rate. To analyzed the impact, the monthly data related to number of tourists, FEE from tourism and exchange rate are collected from 31st January 2000 to 31st March 2020 from CMIE (economicoutlook, 2020).

*Table 4: ANN Model description and optimal model parameters settings*

ANN model parameters								
Model	Periods	ANN Model (l-m-n)	Learning rate (η)	Momentum parameter (α)	epochs	Goal	Training error	Forecast error (MAPE)
Model1	2-period	2-3-1	0.07	0.1	10,000	1.00E−03	13.1	19.0
Model2	3-period	3-3-1	0.07	0.1	10,000	1.00E−03	12.3	17.5
Model3	4-period	4-7-1	0.07	0.1	10,000	1.00E−03	12.0	16.5
Model4	5-period	5-9-1	0.07	0.1	10,000	1.00E−03	11.3	13.7
Model5	6-period	6-9-1	0.07	0.1	10,000	1.00E−03	9.6	10.7
Model6	7-period	7-10-1	0.07	0.1	10,000	1.00E−03	7.2	12.4
Model7	8-period	8-13-1	0.07	0.1	10,000	1.00E−03	7.0	12.1
Model8	9-period	9-17-1	0.07	0.1	10,000	1.00E−03	7.0	12.2
Model9	10-period	10-18-1	0.07	0.1	10,000	1.00E−03	6.8	13.4
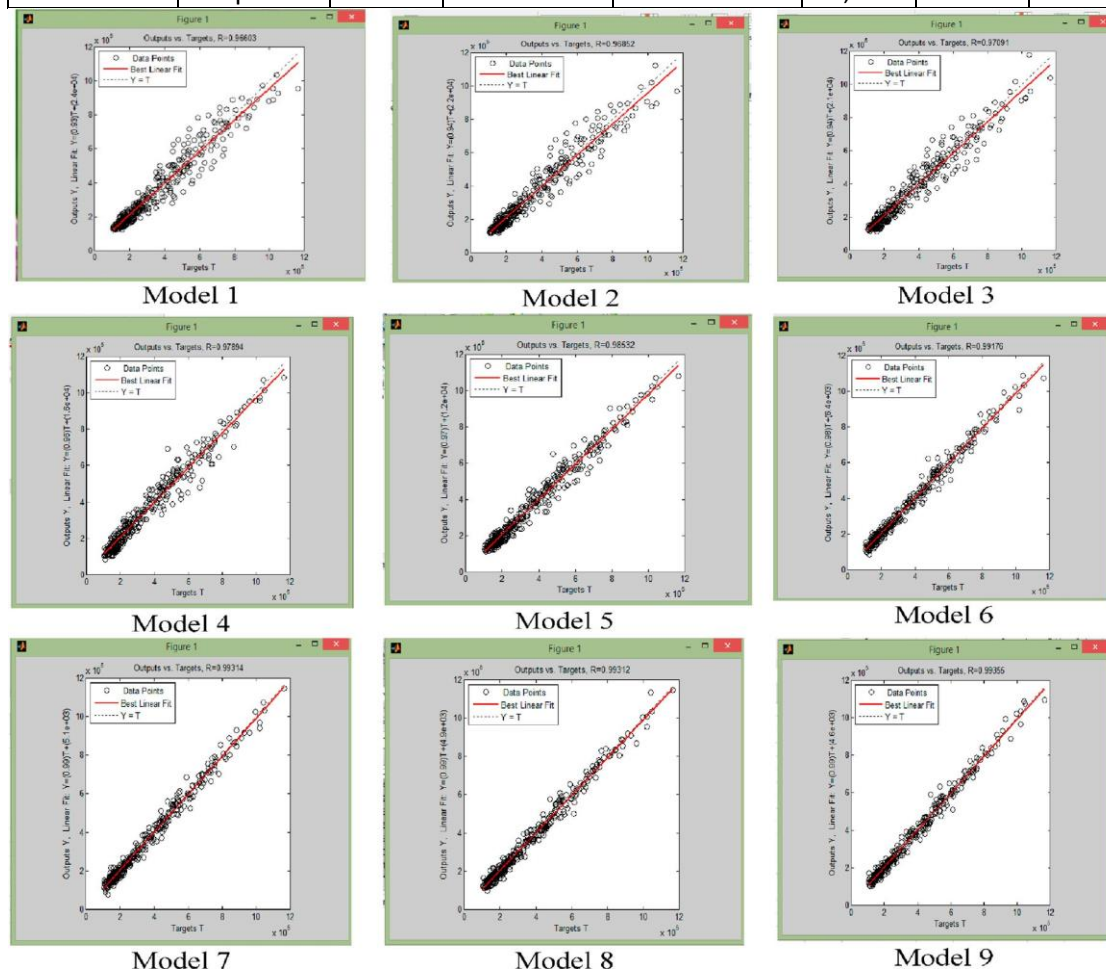
Figure 6: Summary of fitness of ANN model.

The scatter plot figure 7 described the high correlation between foreign tourists' arrival and foreign exchange earnings, and the calculated correlation coefficient is 0.9718. It signified that both were highly correlated.
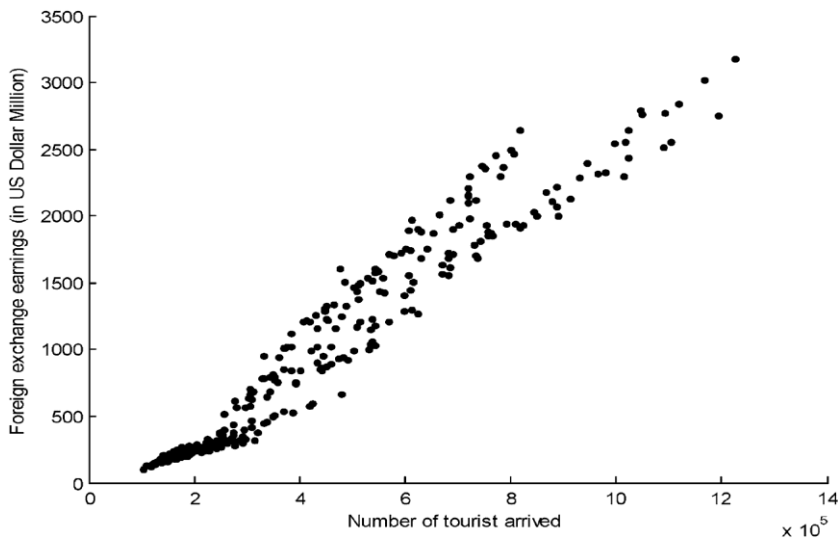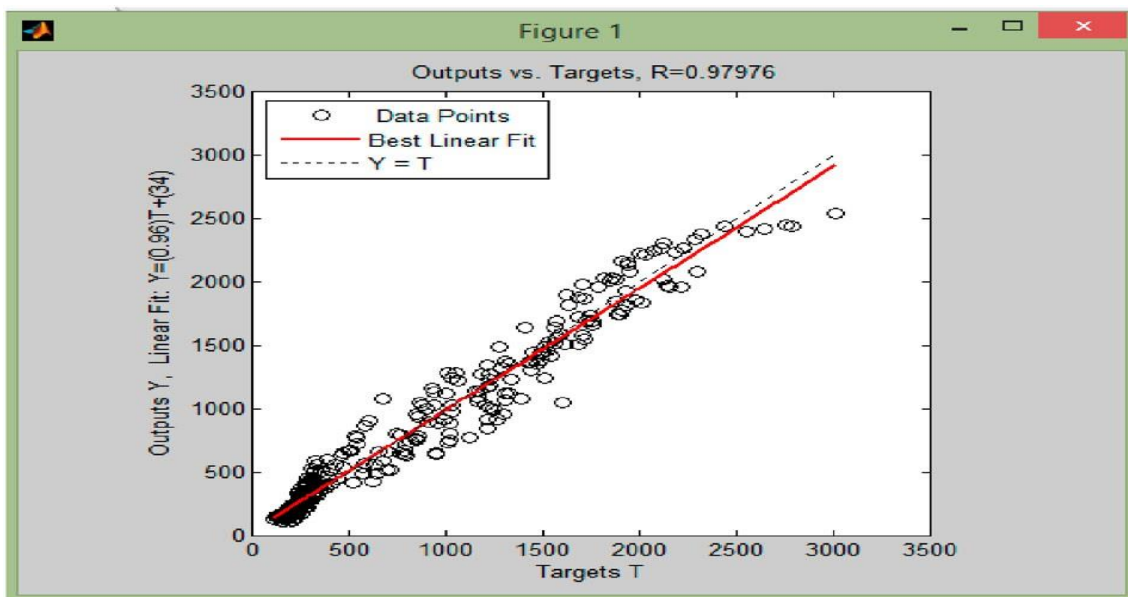
Figure 7: Correlation between the number of tourists arrived and foreign exchange earnings.

Similarly, the figure depicts the correlation between exchange rate earnings and foreign exchange earnings, and the calculated correlation coefficient is 0.8570. This signifies that both are highly correlated. Thus, the arrival of the number of foreign tourists and the exchange rate are taken as input to predict the FEE and to measure the impact of COVID-19.

Table 5: Summary of unit root test for foreign tourists' arrival

Unit root test	Exchange rate		Foreign Exchange Earnings		Hypothesis test
	H	*P*-value	H	*P*-value	
ADF test	0	0.999	0	0.187	Fail to reject the null hypothesis
PP test	0	0.999	0	0.187	Fail to reject the null hypothesis
KPSS	1	0.01	1	0.01	Reject the null hypothesis

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Scenario 1 – This is the normal situation where the monthly forecasted FEE value depends on the previous year's actual exchange rate and the number of tourist data from 31st January 1993 to 31st March 2020 collected from CMIE (economicoutlook, 2020).

Scenario 2 – In this scenario, the monthly FEE is forecasted considering monthly forecasted number of tourist and exchange rate (Longforecast, 2020).

Scenario 3 – Due to COVID-19, there is a decrease in tourists from February to March 2020, approx. 68%. Hence, there is a continuous decrease in arrival of number of tourists. For example, the predicted number of tourists in April (from methodology section) is reduced by 68% to estimate the number of tourists in May 2020. Similarly, it has been done for rest of the months to predict the tourist arrival. Using this estimated number of tourists and forecasted exchange rates, the monthly FEE is predicted.

Scenario 4 – In this scenario, forecasted arrival of the number of tourist value is reduced by 68%. For example, forecasted number of tourists for August is 1078112.778 (from methodology section); hence it reduced by 68% i.e., 344996.0891. Likewise, it has been done for rest of the months. Using this estimated number of tourist and forecasted exchange rates, the monthly FEE is predicted.

Table 6: Foreign exchange earnings based on scenarios; predicted foreign exchange earnings (in US dollar Million)

	scenario1	scenario2	scenario3	scenario4
August 2020	2139.55	2512.48	99.59	1099.36
September 2020	2043.78	2495.37	94.13	1076.75
October 2020	2324.67	2109.78	95.28	772.31
November 2020	2448.31	1856.62	95.93	651.06
December 2020	2575.02	2061.84	123.83	770.98
January 2021	2518.51	2097.38	132.70	797.38
February 2021	2508.72	2100.68	135.11	801.20
March 2021	2402.38	2163.81	129.62	832.76
April 2021	2112.95	2310.92	140.23	940.41
May 2021	1780.41	2530.58	147.17	1168.91
June 2021	2018.76	2560.08	129.87	1199.24
July 2021	2185.59	2523.37	159.58	1168.92
August 2021	2174.13	2557.02	158.41	1217.33
September 2021	2092.73	2173.08	149.10	854.45
Total FEE	**31325.52**	**32053.01**	**1790.53**	**13351.07**

Using the optimal parameter settings in Table 5, the monthly FEE is predicted considering scenario 1, scenario 2 and scenario 3 and described in Table 6. From the table, it can be observed that lockdown has a high impact on the FEE. The actual arrival of tourist and exchange rate data from 31st January 1993 to 31st March 2020 has taken as input for ANN model to predict the next 14 months (August 2020 to September 2021) FEE under the normal situation, as represented in scenario1 (Table 6).

Scenario 2 of Table 5 listed the monthly forecasted FEE earnings under normal situation considering the tourist and exchange rate's predicted arrival rate. Table 5 shows that the predicted total FEE for scenario 1 and scenario 2 is USD 31325.52 million, and USD 32053.01 million, i.e., the difference is 2.32%. It signifies the fitness of selected ANN model, i.e., the predicted FEE is very close by considering actual or the expected arrival rate of tourist and exchange rate. Table 6, scenario 1 and

scenario 2 confirm that Rwandan tourism could have earned at least USD 31325.52 million from August 2020 to September 2021 if there was no COVID-19 situation. Scenario 3 describes the monthly forecasted FEE considering COVID-19 situation, i.e., continuously falling in the arrival rate of tourists by 68% from the previous month and hence predicted total FEE is USD 1790.53 million. Scenario 4, the monthly forecasted arrival rate of tourists reduced by 68% and the exchange rate is taken as input to forecast FEE. It has assumed that if Rwandan tourism industry will somewhat manage the tourist activities and foreign tourists will come to Rwanda but with less by 68% from the predicted value. Scenario 4 describes that if tourism activities are managed, and tourists come to Rwanda, the FEE would be USD 13351.07 million. Comparing all four scenarios, we conclude that if the tourism activities are not managed well, the FEE falls below USD 1790.53 million and may be lost entirely. If it can be managed at some level, then the FEE value will be at least USD 13351.07 million. Implications of the study This study has significant theoretical and managerial implications. The total contribution of travel and tourism to Rwanda's GDP from 2018 is USD 247.37 billion, and 2019 is USD 268.29 billion (Statista, 2020). Tourism not only generates revenue; it also creates employment. The revenue from tourism to GDP in Rwanda is through foreign visitor spending, which is 12.8%. The estimated unorganized workforce in the tourism sector across Rwanda from 2017 is 401,000. The predicted employment loss in the travel and tourism industry due to COVID19 in Rwanda is 9 million. The FEE is the revenue generated from tourism and profoundly affected by the COVID-19 pandemic. In this study, we predict the number of foreign tourists and its impact on the generated FEE. As observed in scenario 3, there is a reduction in FEE due to a continuous decrease in the tourists' arrival. These predicted values are an alarm to restructure the tourism sector and make policy to manage the activities better to maximize the FEE. From the study, the major theoretical implication exhibited is that if the policies in the tourism sector are not

restructured, then the FEE will fall below USD 1790.53 million and maybe entirely lost to the economy. If it is managed at some level, then the FEE value will be at least USD 13351.07 million. On the other side, if the demand is reduced, proper resource utilization will not be possible, which leads to a lower return on investment as the government has already made huge investments under various schemes. Further, it will affect the employment rate in the tourism sector

Discussions of the analysis

The challenges created by COVID-19 impact almost every part of a hotel's operations, from room occupancy levels and staffing plans, to food and beverage provisioning. The pandemic had the potential to have far-reaching effects on the industry, long past the lifting of travel restrictions and regional lockdowns. The pandemic lowered household welfare in both the short and long term.

The crisis dramatically increased poverty in both rural and urban areas. The headcount poverty rate was likely to rise by 5.1 percentage points (more than 550,000 people) in 2021, compared to the no-COVID scenario. The increase in urban areas is greater than the increase in rural areas, as the agriculture sector is less affected by the pandemic than are services and manufacturing. However, the number of new poor households in the rural area is 3.2 times higher than the number of new poor in the urban area in 2021, because initially more than 90 percent of poor people live in the rural area.

The impact of COVID-19 disproportionately affects women in Rwanda. The employment to population ratio decreased by 5 percentage points from 48.3 to 43 percent through the lockdown period, with larger decreases among female workers (6.2 percentage points versus 4 percentage points among male workers). This is in part because (according to the recent labor market survey) women are more likely to be seasonal workers (44 percent versus 31 percent) and more likely to be taking care of a sick relative (4 percent versus 1 percent). Effects of the pandemic may be felt for years. The legacy of the pandemic and the likely

lower post- pandemic growth path means that in the absence of robust interventions, GDP by 2030 would be 22 percent lower in the baseline than in a scenario without COVID. Rwanda's social protection system responded quickly and helps mitigate the increase in poverty. Rwanda's social protection system was well prepared to respond to the pandemic. Rwanda made significant pre-COVID investments in its flagship safety net, Vision 2020 Umurenge program (VUP), including an expansion in the number of beneficiaries through human capital-focused innovations. When the pandemic hit, Rwanda's social protection system responded immediately, by scaling up safety nets, including emergency transfers. Simulations suggest that, expansions in safety nets since 2016, including the scaling up between March and September 2020, will achieve up to a 1.43 percentage point reduction in poverty in 2020. If the government continues further expansion, and fully achieves the targets set out in the Economic Recovery Plan, social safety nets could reduce poverty by up to 1.75 percentage points in 2021.

Poverty mitigation through social safety nets could be further improved by choosing the right set of instruments. Some instruments are more affordable, and others can be deployed more efficiently for a timely response. Simulations show that the social protection instruments deployed to respond to negative effects of the pandemic vary considerably in their coverage, targeting performance, and cost-effectiveness. The nutrition sensitive direct support (NSDS) program reaches poor and vulnerable households with pregnant women or children under the age of 2 and covered 30,000 beneficiary households by March 2020. The number of beneficiaries of NSDS more than doubled between March and September 2020. This NSDS, together with the Direct Support (DS) program, aimed at the extreme poor, reduced poverty by 0.73 percentage points in 2020. The public works programs (including the classic and expanded public works) reduced poverty by 0.51 percentage points. While no significant expansion occurred in the

public work programs between March and September 2020, existing beneficiaries continued to be paid even if they could not work due to containment measures of the pandemic. Emergency cash transfers, while mitigating the plight of urban households hit hard by the shock, resulted in little poverty reduction – some 0.2 percentage points in 2020. The objective of emergency cash transfers includes asset replacement, and they potentially play the role of an unemployment benefit, in ensuring that those who lose their livelihood have some replacement income to bounce back once the pandemic recedes.

The government's swift and efficient response to the pandemic has largely mitigated the potentially significant negative impact on essential health and nutrition services. The government took decisive actions to control the disease. The government established multi- sectoral structures and an effective plan for managing the pandemic. The rapid adoption of a six-week national lockdown, closure of borders, and remaining restrictions on mobility, supported by stringent enforcement and an effective communications program to support compliance, have kept rates of infections and deaths much lower than in most other countries. And per capita tests are high given Rwanda's low positivity rate, a key metric of performance in controlling the pandemic.

Rwanda has experienced some disruptions in the delivery of health services, but these appear to be largely transitory. The immunization program and other child services appear to have been disrupted, with children missing key appointments. The number of children vaccinated for Bacillus Calmette–Guérin (BCG), Penta3 and Polio3 was lower than expected, with Penta3 and Polio3 experiencing an initial decline of 10 percent (May 2020) and additional drops of 10 percent (June 2020) and 4 percent (July 2020).

The government's response has limited the disruption to health and nutrition services. However, without continued measures to ensure coverage of nutrition and health services to

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vulnerable households, increased adverse nutrition outcomes may lead to significant losses in future adult productivity among young children who are impacted today. Progress is essential in improving preparedness and the response to infectious diseases the government has taken critical measures to bolster outbreak preparedness and strengthen health security, but more needs to be done. Rwanda was ranked 117 out of 195 countries in an index measuring global health security capabilities. The country received the highest score in East Africa (albeit well below the best-performing countries outside the region) in the 2018 Joint External Evaluation (JEE), which assessed capacity to prevent, detect, and rapidly respond to public health threats. Based on the JEE results, Rwanda prepared a National Action Plan for Health Security (NAPHS), with a prioritized set of interventions. However, the government has not developed a sustainable, long- term financing plan to support preparedness.

The closure of schools is likely to lead to substantial learning losses, especially among girls and the poor Enrolment is likely to be lower when schools reopen. The government moved quickly to close schools (seven days after the first recorded COVID case in Rwanda); an estimated 3.5 million students have been out of school since the pandemic began. Studies find that fewer children return to school after experiencing interruptions in education. Data of National Institute of Statistics of Rwanda (NISR) indicate that the share of students in total employment increased from 3.4 percent in February 2020 to 8.8 percent in August. Adolescent girls, particularly those from poor households, may be particularly at risk of exclusion, given the recent increase in teenage pregnancies. Enrolment in private school also may fall with the drop in income, while many schools may close as the fall in revenue forces them to relinquish rented premises and increases their risk of defaulting on loans.

The government quickly instituted a multi- pronged approach to providing remote lessons, although challenges to access remote learning in Rwanda are

significant, particularly for children from poor backgrounds. Lack of access to television, radio, the internet, educational programs or learning materials were important reasons for failure to participate in remote learning. Students from households with greater levels of connectivity, higher levels of parental education, greater availability of parental time for engagement, and in-home availability of books and materials are better able to benefit from distance learning programs. Learning losses in households without radios (26 percent of households) or television (90 percent) are likely to be sizeable.

School closures can reduce learning and productivity in the long run. School closures can lead to an increase in grade repetition and, in the long run, to lower educational attainment. Our estimates based on historical precedents and human capital index (HCI) 2020 data suggest that expected years of schooling may decline between 0.3 to 0.7 years, from a baseline of 6.9 years. Similarly, learning adjusted years of schooling may decline between 0.2 to 0.6 years, from a baseline of 3.9 years. It is likely that children from poor and vulnerable households will experience the largest declines in learning after a break in schooling. And students whose families are less able to support out-of-school learning will face larger learning losses than their more advantaged peers. The present value of the economic losses to Rwanda may reach US$0.055 trillion.

The protection and improvement of human capital would require decisive actions in i) saving lives; ii) protecting the poor and vulnerable; and iii) strengthening policies, institutions, and investments for building back better saving lives. Accelerating deployment of COVID-19 vaccines is the single most important measure to contain the pandemic. Key steps are to strengthen primary health care facilities to screen for co-morbidities, develop clear criteria for who will be prioritized for the vaccine, elaborate a roll-out plan with different scenarios to reflect differences among candidate vaccines, pilot different strategies and platforms to be used,

provide for close coordination between the ministries of health and finance to manage the budgeting process, set up adequate information systems and supervision of the program, provide training and technical assistance, prepare for risk communication and community engagement, and plan for equipment, storage, transport and human resources requirements.

Measures are necessary to improve preparation for and management of health crises. The use of serological surveys, testing blood donations, and leveraging molecular diagnostics (such as the GeneXpert for COVID-19 testing in remote areas) would strengthen monitoring of infections and further optimize testing. Improvements in the physical environment at health facilities to minimize the risk of disease transmission and protect health workers; expanding the use of innovative technologies to disseminate information and perform telemedicine consultations; strengthening community platforms involved in early detection and treatment of childhood illnesses and malnutrition; scaling up income support, food distribution and other social safety net measures for vulnerable households; improving the monitoring of the nutritional status of women and children using digital tools; and increasing the completeness and timeliness of health data reported by public and faith-based health facilities

CONCLUSIONS AND RECOMMENDATIONS

The COVID-19 pandemic reflected social, psychological and socio-economic, and cultural influences on various tourism stakeholders, and they suffered from the adverse effects for a longer time. The pandemic provided an 'abundant" new framework in which tourism scholars and researchers can conduct studies with applicable research models. Nevertheless, the COVID-19 tourism impacts surveys need to ignore or drop the previous methods to execute the tourism and travel industry (Michael Hall, 2011). Simultaneously, researchers need to implement feasibility studies, tourism demand forecasting, and active and best practices that would be beneficial and appropriate

to explore the COVID-19 consequences on various geographic organizations and stakeholders. They theoretically provide minimal space for advancing the understanding of crisis management and potentiating the pandemic's ability to restart investigation areas and enhance the role and boundaries of tourism science and industry. The purpose of the present work was to encourage researchers to interpret and utilize the COVID-19 as a transformative power to reshape and redesign their research methods based on novel thinking for tourism development and research. Hence, it aims to rebuild the strategies and objectives to motivate and assess the intent, function, and effect of tourism organizations' tourism studies. Crises also stimulate the development and shift of new technologies (Colombo et al., 2016; Zeng et al., 2020). Indeed, these are not to be treated as unavoidable, un-challengeable and challenging to re-form and re-calibrate to meet specific needs and concrete standards. Scientists have a responsibility to be convinced that COVID-19 tourism studies can guarantee the last consequences.

The current narrative study in the context of the COVID-19 tourism impacts attempted to involve all participants in the same community of travel stakeholders, and it may not be consistent. For instance, the COVID-19 pandemic had a significant impact on tourism organizations (including intermediaries, transportation planners, and accommodation or attraction providers) based on attributes such as the size, venue, management, and governance types of the tourism industry. Similarly, the travel needs that are very different from leisure and business travel, local and individual tourists show that the various consequences of the COVID-19 are expected and are critical for discussion in specific market sectors. Tourism research in COVID-19 can reveal different distinguishable forces of the pandemic. They can also include advanced predictive capabilities, because of such differences in the context, to predict or test any specific recommendations on identifying any discrepancies and weaknesses that

may arise in different tourism stakeholder groups. Specific major tourism stakeholders, including tourism workers, residents, entrepreneurs in the tourism field, and tourism education such as university staff, students, and scholars, are not included in the analysis. The latest cases and issues related to COVID-19 have further worsened travel stakeholders' travel business and working conditions, making their situation more complicated. Investigations in the field of COVID-19 and tourism stakeholder behavior are critical.

Small commercial hoteliers were at risk of losing their property assets because they could not receive "accommodation charges" to pay their mortgage as COVID-19 is expected to maintain and strengthen current concepts and models, this "root" of tourism work. All this comes from the ongoing recession and rising costs for travel companies. The COVID-19 tourism research required a careful study of workers' mental, physical, and psychological conditions with a COVID19 background, such as health, participation, virtual work environment, and other human resources. For instance, during isolation time of the COVID-19, virtual teams and jobs, regular governance, recruitment, leadership, and promotion opportunities fail to encourage, motivate, and retain employees who have re-changed their values and principles.

The COVID-19 tourism impacts on employment put more pressure on tourism education. It had seriously affected job creation opportunities worldwide. Due to virtual learning and teaching, students also had to deal with training interruptions, recruitment, and unstable employment opportunities in the tourism business. Tourism programs, initiatives, and academic universities faced the challenge of reducing new student enrollment, marketing and government support, and research funding. Tourism scholars should consider innovative approaches and research opportunities to determine organizational distance, taking into account the mental health and privacy issues of stakeholders affected by COVID-19. Similarly, teaching aspects must be explored,

such as the planning and implementing more "sustainable," flexible, and flexible methods of tourism teaching and the development of students with transferable and practical skills in other business sectors.

Besides, other specialized subjects in the field of COVID-19 were worth investigating. Social entrepreneurship over the past decade increased due to tourism, such as during the 2008 economic crisis. The COVID19 facilitates these tourism social projects, aiming to build social impact, address the social problems arising from COVID-19, and help those in need. The rapid expansion of relevant social tourism enterprises in COVID-19 provides several opportunities to practice and accurately understand this concept in new biodiversity, stakeholders, and conditions.

From now on, the bet should not be on the increase in visitor numbers but on "better, more comfortable travel, personalized service, while maintaining affordable prices." The tourism industry should consider starting renovations of hotels, improving staff quality, simplifying the sale of tour groups and customer registration, and moving to digital technology. Particular attention should be paid to family entertainment: special programs for children and adolescents, the development of appropriate menus, entertainment systems, etc. Future pandemics are likely to recover fully, so tourism must first provide high-quality sanitation measures. For example, all hotels may require protective masks and gloves for employees, visitors, and disinfectants. To avoid overcrowding, restaurants should serve their customers in shifts. The beach can be divided into blocks separated from each other to maintain social distance. Besides, scientists, the Government, and the tourism industry should agree and hold the latest tourism sector discussions to better tourism. Travel companies and their partners in each region can recently start using their time to make their proposals more sustainable, if financially possible. The time has come to reposition the tourism industry and change the tourism products. There

was need to review the measures and prevent abandonment, at least in part after the coronavirus pandemic from mass tourism, which we previously knew. Specifically, among the comprehensive measures for tourism development in the COVID-19 pandemic, the study recommended that the Government develop a significant initiative with specific proposals to improve tourism.

There is no doubt that consumers of hospitality and tourism experiences across the globe have been denied their rights to access these services as a result of both political and commercial decisions. As we have seen, such rights manifest in a wide diversity of ways across the hospitality and tourism environment. In the context of saving lives, such sacrifices pale into relative insignificance but, none-the-less whether such diminution of rights becomes part, even a small portion, of the new, post-pandemic reality for hospitality and tourism. Only time will tell. Hospitality and tourism will undoubtedly re-emerge from the effects of the pandemic over an extended timeframe and at varying speeds in different countries. In most locations, access to domestic travel, maybe led by visiting friends and relatives-induced mobility, will probably lead the way followed, slowly, by international travel as countries relax their border controls and permit international flights. So, it is likely that the right to travel and the right to enjoy gainful employment in the hospitality and tourism industry will continue to be denied in full or in part for some time to come. How fully these rights will be returned to us remains to be seen.

The present study enriched the existing knowledge in the field of behavioral studies. It also suggested many practical implications for the management of the hospitality industry to cope with the employee mental health issues and emphasizes the adoption of technological infrastructure to enhance their revenues. The significant implications of the study are as follows.

Firstly, it contributes to the existing literature of employee's well-being by examining the influence of macro-level factors such as fear of economic crisis and non-employability on the micro-level psychological factors such as perceived job insecurity and mental health of the employees in the hospitality industry of Rwanda.

Secondly, it will guide the organizations to manage their employees during the crisis period. It highlighted the need to understand the psychological factors and emphasized that if management wanted to increase the employee's performance, they must give importance to the psychological aspects, stimulate optimism, and create a positive atmosphere to promote employee well-being.

Thirdly, from a practical perspective, the focus of the employers is usually on profit generation; however, specifically in the hospitality industry, where the employees have to interact with customers and provide them with services, then the mental health of employees should be given priority.

Fourthly, this research might help the organizations deal with the employees' non-employability threat by providing them with training and keeping them up to date with advanced knowledge practices.

Finally, this study highlighted the need for digital infrastructure investment in the hospitality industry. Consumer behavior will be expected to change after the COVID period. Consumers will prefer less in-person interaction in hotels with greater hygiene standards. These customers' expectations will eventually lead toward a structural shift, where investment in technology will become a necessity not for engaging the customers but also for the well-being of the employees.

The tourism industry is working hard to plan for its recovery after the pandemic because, in the last 10 months, the tourism industry is on the verge of collapse. Tourism-based economies face the biggest challenge in their history. The efforts are placed toward the recovery of the tourism industry, keeping the strategies for social distancing and the tourists' safety. As discussed earlier, virtual and augmented reality are immersive solutions for the

tourism industry. Only VR and AR can accelerate the travel and tourism industry's comeback. These technologies not only offer the solutions to overcome the outbreak challenge but also retain the enticement of tourists to travel in a virtual environment without being a victim of the virus and can act as the tentative getaway for the tourists who are not willing to travel unless the outbreak has decreased to a minimal level.

Implication of the Study

Since hospitality industry in Rwanda has once assumed an important role of economic regeneration and stability given its capabilities in revenue generation, jobs creation, and infrastructure development in the industry recovery experience of Rwanda in previous recession. The findings of this study give a better insight towards the need for the government of Rwanda to put in place feasible business safety nets such as relief fund for hospitality business owners. Implementation of tax relief policy will also make a difference in addressing the acute consequences of the pandemic on the Rwanda hospitality industry, thereby repositioning the sector for national prosperity. Aside, hospitality scholars are expected to shift their research focus to develop solutions for the industry. Finally, hospitality business owners in Rwanda should put on business innovative cap to reach out to their prospective customers

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