Post-Pandemic Recovery Measures to Ensure Socio Economic Sustainability through FDI in Smart tourism

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ABSTRACT

Tourism is the major source of revenue for most of the island nations and it is recognised under the service sector.This chapter calls for the adoption of the new normal tourism business strategies in the island nations and mainland destinations which are more vulnerable to the pandemic situations.Due to the Covid-19 pandemic the socio economic sustainability in many countries that receives revenue from tourism are shaken.Srilanka has seen a worst financial crisis due to the, pandemic and its negative effects on its tourism sector. Sensitising the countries to think of technology integration in tourism through Foreign Direct Investment(FDI) to ensure socio economic stability is the need of the hour.For the current study , the annual data of World Bank for the period from 1979- 2020 has been considered for analysis.ARDL model is used as it simplifies the long run causation by presenting the cointegration value and the short-run causation by presenting the Error correction term. Additionally, to find out directional causality in the short run, 'Granger causality' is performed. The causal effects of Percapita Growth rate and Foreign exchange earnings from inbound tourism for five countries (China, India, Srilanka, Singapore(Asia) and Spain(Europe)) has been found along with the causal effect of FDI and Percapita Growth rate to arrive at the results for propagating the necessary policy implications.The results of the causal analysis recommends the need for FDI to encourage smart tourism and to ensure socio economic sustainability in future.

Keywords: Tourism, Socio economic sustainability, Virtual tourism, Smart tourism, Per Capita Growth Rate,Foreign excahange earnings from inbound tourism, Granger Causality, Technology Integration for sustainable Tourism, Foreign Direct Investment(FDI).

1. Introduction

People have been visiting several destinations to spend their leisure days seeking delight and recreation in serene environment.As predicted by Day, B., Burnice McKay, R., Ishman, M. and Chung, E. (2004), it happened again (COVID-19 pandemic) after previous SARS outbreaks, but this time it is shaking the enire world questioning the socio economic stability of many countries of the world especially those relying on revenues from tourism sector.What SARS taught businesses about crisis management is not enough to face the, Covid-19 and its further mutations.To give healthy vacations by disconnecting the employees from iphones, twitter, androids, facebook and other devices on their person 24 X 7 the companies give paid vacation days as wellness measures once or twice a year based on its HR policies.The company employees going on commercial business trips, paid vacations, the students who travel in view of higher education and also family trips planned during vacation seasons contributes a greater share of revenue to the tourism sector. Covid-19 outbreak has drastically affected these categories of the travellers and has made them cancel most of their trips in their business,educational,routine and luxury travel agenda. According to the Statistics Mauritius (2021) arrival of tourists to Mauritius decreased by 77.7% in 2020 compared to 2019.The revenue decreased by 72% in 2020 compared to the same seasons in 2019. It is high time these tourism destinations seek knowledge to transform their business strategies into noval trends like Staycation, Wellness and Spa Tourism,Virtual Tourism, Ecotourism or Eco Travel, Green Travel and Sustainable Tourism through technology integration to ensure the socio economic sustainability of the destination areas.
With Covid-19 striking waves after waves, affecting the normal travel trends, the businesses across the world are hit hard giving way for higher rate of inflation, unemployment and economic instability.Even in developed countries that are trying to achieve 100% vaccination, crisis related to logistics, domestic and foreign travel are affected to the core.People in all walks of life are finding alternatives with the help of technology to meet, greet, work, engage and do business.Highbrid meetings and blended learning along with virtual visits have made businesses achieve the target to a certain extent although not 100 %. But there is always a missing out feeling among the people when it comes to socialising in a common physical

destination which is still valued to be a strong bond establishing opportunity while working as team and when it comes to families those valuing the time of all the family members.In this chapter attempt has been made to identify the impact of pandemic on the socio economic development/stability of the countries where tourism sector contributes majorly to the GDP and growth.Based on the analysis, suggestions have been made to these countries to attract investment from abroad(Inward FDI) to achieve socio economic growth and sustainability.

2. Review of Literature

To ensure the socio economic stability in the countries depending on the tourism sector and to catalyse the recovery measures to improve the socio economic sustainability, investment in technology infrastructure is a must. One of the best ways to attract investment is through foreign direct investment(FDI).The review of the following studies are done to understand the global trends in growth and the contribution of FDI in sustaining the growth.

2.1 Percapita Growth rate,Foreign exchange earnings from inbound tourism and FDI

According to Dimitrie Cantemir (2015), many nations view tourism as a potentially effective and promising means of fostering economic growth.Hubert G. Scarlett (2021) discovered a statistically significant beneficial impact of tourism on economic growth through the use of system GMM estimates.Furthermore, he noted that higher tourism receipts boost growth across the board, which in turn helps to attract foreign direct investment. Research on the role of foreign direct investment (FDI) in the "Mauritian economic miracle" years of 1970–2000 was conducted by Brinda Sooreea-Bheemul and Rajeev Sooreea (2012). The researchers examined the relationship and spillover effects of exports, domestic investment, FDI, and productivity and their consequences on economic growth. 2011 saw research on the impact of foreign direct investment on Croatian tourism by Zoran Ivanovic. Narmadha, V., and Anuradha, A. (2021) looked at the socioeconomic, cultural, and environmental consequences of the COVID-19 pandemic on tourism in India. They discovered a significant decline in the tourist sector's contribution to the country's overall economic development.

In their study, Apergis and Payne (2012) discovered a reciprocal connection between tourism and economic growth in both the short and long term. They conducted their research using a panel of nine Caribbean countries. They highlighted the interdependence between tourism and economic growth, which serves as a catalyst for the influx of foreign exchange revenues and the manufacturing process in the Caribbean economy. In Partt's (2015) study, it was demonstrated that tourism has the potential to enhance economic activity through the stimulation of both consumption and investment. The researcher employed the input-output analysis, linkage analysis, and CGE model to examine seven Small Island Developing States (SIDS).In addition, he presented evidence demonstrating the correlation between a decrease in investment in the tourism business and a downturn in the manufacturing and agricultural sectors.

Aluculesei, Alina-Cerasela (2017) examined the recent developments in foreign direct investment (FDI) in the tourist and hospitality business.Henri Bezuidenhout and Sonja Grater (2016) examined the various aspects of foreign direct investment (FDI) in the tourism sector in Africa. They focused on the formulation of FDI policies by African governments, investment promotion strategies, investment incentives, and bilateral investment agreements between home and host countries. They also considered the role of respective investment promotion agencies in facilitating FDI. The findings also aid the sector in comprehending the unexplored potential for tourist foreign direct investment (FDI) in Africa.

In their study, Nikšić Radić et al. (2019) utilized the Granger causality test in a vector autoregressive model (VAR model), together with variance decomposition analysis and impulse response function analysis, in a panel setting. Their objective was to investigate the causal relationship between terrorism and foreign direct investment (FDI) in the tourism sector. Sheereen Fauzel (2021) employed a panel vector error correction model (PVECM) to examine the influence of foreign direct investment (FDI) on the growth and progress of tourism in a specific set of 17 small island economies between the years 1995 and 2018. The findings validate that Foreign Direct Investment (FDI) has had a crucial role in the long-term growth of tourism in island economies. The study confirmed the reciprocal relationship between foreign direct investment (FDI) and the development of tourism. It revealed that there is a positive and direct association between FDI and the number of visitors visiting a destination in the long term.

In their study, Yixing Yang et al. (2021) investigated the relationship between institutional quality, tourism, and foreign direct investment (FDI) in the BIMSTEC states from 1996Q1 to 2018Q4.The researchers employed econometric models, including Panel ARDL, Nonlinear ARDL, and Toda-Yamamoto causality test, to analyze the impact of institutional quality

and tourism on the economy. The models considered both symmetric and asymmetric impacts. The study's findings indicated an imbalanced connection between the quality of institutions, tourism, and foreign direct investment (FDI), both in the long-term and short-term.

In their study, Kashif Munir and Mehwish Iftikhar (2021) examined the linear and nonlinear effects of foreign direct investment (FDI) and currency rate on tourism in South Asian countries, both in the short and long term. The researchers utilized the yearly panel data from 1995 to 2019, encompassing five South Asian countries: Bangladesh, India, Nepal, Pakistan, and Sri Lanka.The study employed the ARDL and NARDL methodologies. The study's findings indicate that an upsurge in Foreign Direct Investment (FDI) and the strengthening of the exchange rate lead to a growth in tourism, whereas a decline in FDI and the weakening of the currency rate result in an expansion of tourism in the long term.They suggested the necessity of expanding the tourist sector by attracting foreign direct investment (FDI) in the tourism industry.

In a study conducted by M Tamizharasan in 2019, the researcher examined the influence of Foreign Direct Investment on the Hotel and Tourism industry with the aim of promoting sustainable growth in the Indian economy.The study demonstrated a general increase in the number of domestic and foreign tourists visiting, as well as an increase in foreign exchange revenues and foreign direct investment (FDI) in the hotel and tourism industry.The study identified a direct correlation between foreign direct investment (FDI) and various factors in the hotel and tourism sector of the Indian economy. Specifically, there was a consistent increase in FDI and a favorable association with local and foreign tourist visits, foreign exchange profits, and GDP. Rios-Morales et.al (2011) proposed the development and execution of effective policies, along with laws, to encourage the private sector to attract investment in tourism and foster economic growth.

Orîndaru A, et.al.,(2021) Investigated the tourism industry in a Post-COVID-19 Era and contemplated about the Sustainable Strategies for its recovery.They found that Hygiene and health conditions in the host destination as an essential factor in making travel decisions. V Narmadha and A Anuradha(2022) studied the paradigm Change in the preferences of tourists towards the upcoming trends in new normal tourism .They examined the changing trends towards responsible tourism and sustainable businesses in the Post-COVID-19 Era. Tecel, Ayhan ,et.al.,(2020) studied the causal interactions among tourism, foreign direct investment, domestic credits, and economic growth:evidence from selected Mediterranean countries to find no causal relationship between domestic credits and economic growth.But majorly, the Panel Pooled Mean Group Autoregressive Distributed model (PMG-ARDL) estimations done by the investigators suggested a positively significant relationships between tourism and economic growth both inshort-term, and long-term periods.

The review of the above literature reveals the nexus between Percapita Growth rate,Foreign exchange earnings from inbound tourism and FDI.The island nations have so far been on the spotlight in this area of research and the investigators have found a greater need for similar research in inland destinations also, which is identified as the research gap.

2.2 Application of Technology for sustainable destination development

The application of technology in tourism industry is gaining its momentum during the current pandemic. Many under explored areas in research in tourism specifically the exploitation of the ICT in tourism has to be given a complete focus to review the tourism industry which has seen a drastic downward trend since the outbreak of the pandemic in 2019.Suitable and responsible tourism can be achieved by exploiting the ICT and by enabling the technology integration in the tourism sector.

Use of ICt seems to bring a greater change within the tourism industry(Buhalis and law, 2008).A.Ali and A.J.Frew(2014) in their study on 'Technology, innovation and applicationin destination development' ranked the ICT based tools/applications for sustainable tourism. They have listed the ICT tools and application as computer simulation, Virtual tourism, Location based services, Geographical Informattion systems, Carbon calculations, Global positioning system, Environment management information system,Destination management system, Community informatics and Intelligent transport system. In their study, Gretzel U, et.al.,(2015) examined the potential of sustainable tourism destinations as environments that foster smart tourism ecosystems, which in turn give rise to innovative business models and interaction patterns among tourists.

Buhalis and Amaranggana (2014) argue that the use of applications that combine many characteristics of a location can enhance the sustainability of tourism destinations.Cloud computing services, Internet of Things (IoT), and end-user internet service systems are the primary technological tools utilized to improve the tourism business.Sanjay Lama, et.al.,(2019) explored the implication of the factors affecting e-tourism adoption in developing countries, with respect to Nepal. The investigators found that factors namely national infrastructure, market size, awareness of e-tourism, ICT resources, value

proposition and support from top management to influence the e-tourism adoption in small and medium tourism enterprises in Nepal.

Toninc Pencarelli (2020) provided an account of the digital revolution occurring within the travel and tourist sector.Tyan (2021) suggests that blockchain technology offers a promising potential to establish a cryptocurrency-based incentive system that might incentivize sustainable behavior among tourists. The traveler would receive tokens that they could use to purchase various goods and services in the destination they are visiting.In their study, Yanz Heng Tuo et al. (2021) elucidated the transformative impact of artificial intelligence (AI) on the tourism business, specifically within the context of China.The researchers suggested a comprehensive framework that encompasses three key factors: intelligence level, task types, and AI-enabled robots. This framework aims to explain the anticipated transformation in the field of tourism in the future. In addition, they emphasized the significance of privacy, bias, and ethical considerations for applying AI in the tourism industry in the future.

Piera Buonincontri and Roberto Micera (2016) conducted a study on the process of experience co-creation in smart tourism destinations. They analyzed various European destinations to gather diverse cases for their research. The study conducted in Venice and Salzburg utilized triangulating qualitative methods to demonstrate that the implementation of Sustainable Tourism Destinations enhances the co-creation of tourism experiences. This is achieved by fostering interaction with tourists, encouraging their active participation throughout the experience, and facilitating the sharing of the experience among tourists.

Today, tourists believe in co-creation for betterpreferred plseant experience.They try to combine their desired experience from the destination with the resources available in the destination to satisfy their own specific needs for achieving custom experiences. Data sharing through technology can support the co-creation experience in tourism. Many researchers have attempted to study the impact of technology in tourism industry, but there are very few studies pertaining to the latest concept of smart tourism and sustainable development. This current chapter discusses about this area in detail and attempts to suggest measures for recovery of the tourism sector by attracting FDI towards developmet of technology infrastructure for smart tourism among the small island and inland tourism destinations to enable socio economic stability.

Although the research in this area have been done widely, very few recent studies,(Kashif Munir and Mehwish Iftikhar(2021)) have attempted for Asian countries including China, India and Singapore which are growing at a faster pace, to reveal the picture of the nexus between Percapita Growth rate,Foreign exchange earnings from inbound tourism and FDI. When it comes to technology and tourism, the concept of smart tourism is more viable by attracting FDI in developing technology infrastructure in countries which are more import oriented, relying on tourism revenue. There is a research gap in the area of smart tourism and it is slowly gaining its momentum.Therefore this chapter is motivated by the current pandemic situation and digital transformation to suggest the policy measures towards sustainable economic growth for the countries affected by the pandemic.The researchers strongly believe that the use of technology in tourism or Smart tourism can improve the tourism sector across the world from its setback due to pandemic.With this agenda the following objectives have been freezed for discussion.

3. Objectives of the study:

To analyse the causal effects of Percapita Growth rate on Foreign exchange earnings from inbound tourism and FDI on Percapita Growth rate (especially countries depending on revenue from tourism)
To suggest recovery measures through FDI towards technology integration in tourism post-pandemic in line with the emerging new travel trends

4. Methodolody

ARDL model is used as it simplifies the long run causation by presenting the cointegration value and the short-run causation by presenting the Error correction term. The significance of the error correction term lies in its negative value with a significant probability (less than 0.05). Also, the error correction model presents the short-run influence of the independent variable on its dependent variables. Additionally, to find out directional causality in the short run, Granger causality is performed. The causal effects of Percapita Growth rate and Foreign exchange earnings from inbound tourism for five countries (China, India, Srilanka, Singapore(Asia) and Spain(most affected by Covid in Europe)) has been found along with the causal effect of FDI and Percapita Growth rate to arrive at the results for propagating the necessary policy implications. For the current study , the annual data of World Bank for the period from 1979- 2020 has been considered for analysis.

5. Data Analysis and Interpretation:

5.1 Causal effect of Percapita Growth rate on Foreign exchange earnings from inbound tourism.

Table 1

Causal effect of Percapita Growth rate on Foreign exchange earnings from inbound tourism -CHINA

Dependent Variable	Independent Variable	Long run Cointegration	'Short run Error Correction Term'	Granger Causality
'Foreign exchange earnings from inbound tourism'(EAR)	'Per Capita Growth' (PCG)	YES	11%	PCG-EAR

In China, long run cointegration between EAR and PCG is present. It explains that in the long run, earnings from inbound tourism depend on per capita economic growth. In the short term, there is an 11 percent probability that China will transition from short-term fluctuations to a long-term stable state. Also, in short run, per capita economic growth granger causes foreign exchange earnings from inbound tourism. R-squared value is 0.360270

Table 2

Causal effect of Percapita Growth rate on Foreign exchange earnings from inbound tourism -INDIA

Dependent Variable	Independent Variable	Long run Cointegration	Short run Error Correction Term	Granger Causality
Foreign exchange earnings from inbound tourism (EAR)	Per Capita Growth (PCG)	YES	95%	NA

In India, long run cointegration between PCG and EAR is present(7.761461). But, in short run phenomenon, there is positive impact of PCG on EAR. There is 95 percent chance for India will transition from short-term fluctuations to a long-term stable state. The data are able to explain 62 percent of actual scenario(R square- 0.62). Autocorrelation in the dataset are checked and it is proved that data are free from autocorrelation (Durbin Watson test-2.1)

Table 3

Causal effect of Percapita Growth rate on Foreign exchange earnings from inbound tourism -SRILANKA

Dependent Variable	Independent Variable	Long run Cointegration	Short run Error Correction Term	Granger Causality
Foreign exchange earnings from inbound tourism (EAR)	Per Capita Growth (PCG)	NO	5%	PCG-EAR EAR-PCG

In Srilanka, long run cointegration between PCG and EAR is absent. But, in short run phenomenon, there is positive impact of PCG on EAR. There is 5 percent chance for the start to take the transition from short-term fluctuations to a long-term stable state. Also, in short run, there is granger causality running from PCG to FDI. The data are able to explain 74 percent of actual scenario(R square- 0.74). Autocorrelation in the dataset are checked and it is proved that data are free from autocorrelation (Durbin Watson test-2)

Table 4

Causal effect of Percapita Growth rate on Foreign exchange earnings from inbound tourism -SINGAPORE

Dependent Variable	Independent Variable	Long run Cointegration	Short run Error Correction Term	Granger Causality
Foreign exchange earnings from inbound tourism (EAR)	Per Capita Growth (PCG)	YES	0.5%	NO

In Singapore, long run cointegration between EAR and PCG is present. It explains in long run, earnings from inbound tourism depend on per capita economic growth. In short run phenomenon, there is 0.5 percent chance for Singapore to create the transition from short-term fluctuations to a long-term stable state. Also, in short run, there is no granger causality running between two variables. R-squared value is 0.339128.

Table 5

Causal effect of Percapita Growth rate on Foreign exchange earnings from inbound tourism -SPAIN

Dependent Variable	Independent Variable	Long run Cointegration	Short run Error Correction Term	Granger Causality
Foreign exchange earnings from inbound tourism (EAR)	Per Capita Growth (PCG)	YES	82%	NO

In Spain, long run cointegration between EAR and PCG is present. It explains in long run, earnings from inbound tourism depends on per capita economic growth. In short run phenomenon, there is 82 percent chance for Spain to make the transition from short-term fluctuations to a long-term stable state. Also, in short run, there is no granger causality running between two variables. R-squared Value is 0.469952

5.2 Causal effect of FDI on Percapita Growth rate

Table 6

Causal effect of FDI on Percapita Growth rate -CHINA

Dependent Variable	Independent Variable	Long run Cointegration	Short run Error Correction Term	Granger Causality
Per capita growth (PCG))	FDI	NO	42.5137 %	PCG-FDI

There is no long-term cointegration between PCG (Private Consumption Growth) and FDI (Foreign Direct Investment) in China. However, in the near term, there is a beneficial effect of Foreign Direct Investment (FDI) on economic growth. There is a 43 percent probability that China will transition from a state of short-term imbalance to a state of long-term stability. Furthermore, in the short term, there is evidence of granger causality from PCG to FDI. The data may account for 45 percent of the observed scenario, as shown by an R-squared value of 0.45. The dataset was examined for autocorrelation and it was determined that the data is not affected by autocorrelation (Durbin Watson test-1.79).

Table 7

Causal effect of FDI on Percapita Growth rate -INDIA

Dependent Variable	Independent Variable	Long run Cointegration	Short run Error Correction Term	Granger Causality
Per capita growth (PCG))	FDI	YES	83%	PCG-FDI

India has a persistent relationship between per capita GDP (PCG) and foreign direct investment (FDI) over an extended period of time. However, in the medium term, there is no discernible effect of Foreign Direct Investment (FDI) on economic growth. India has an 83 percent probability of transitioning from a state of short-term imbalance to a one of long-term stability. Furthermore, in the short term, there is evidence of granger causality from PCG to FDI. The data may account for 58 percent of the observed scenario, as indicated by an R-squared value of 0.58. The dataset was examined for autocorrelation and it was determined that the data is not affected by autocorrelation, as indicated by a Durbin Watson test statistic of 1.88.

Table 8

Causal effect of FDI on Percapita Growth rate -SRILANKA

Dependent Variable	Independent Variable	Long run Cointegration	Short run Error Correction Term	Granger Causality
Per capita growth (PCG))	FDI	YES	67%	NA

Long-run cointegration exists between PCG and FDI in Sri Lanka (3.78). Positive effects of FDI on economic growth do occur, however, in the short term. The probability of transitioning from short-run disequilibrium to long-run sustained equilibrium is 67 percent. 34% of the actual scenario can be explained by the data (R square - 0.34). The dataset's autocorrelation is examined, and it is demonstrated that the data are devoid of autocorrelation using the Durbin Watson test-1.5.

Table 9

Causal effect of FDI on Percapita Growth rate -SINGAPORE

Dependent Variable	Independent Variable	Long run Cointegration	Short run Error Correction Term	Granger Causality
Per capita growth (PCG))	FDI	YES	110 % (Spurious)	FDI-PCG

Long-run cointegration exists between PCG and FDI in Singapore (5.415564). Indeed, foreign direct investment (FDI) has a positive effect on economic development in the short term. The probability of transitioning from short-run disequilibrium to long-run stable equilibrium is 110 percent; therefore, this result is erroneous and contributes nothing to the analysis. Additionally, there is a short-run Granger causality between FDI and PCG. 58% of the actual scenario can be explained by the data (R square - 0.69). The dataset's autocorrelation is examined, and it is determined that the data are devoid of autocorrelation using the Durbin Watson test-1.71.

Table 10

Causal effect of FDI on Percapita Growth rate -SPAIN

Dependent Variable	Independent Variable	Long run Cointegration	Short run Error Correction Term	Granger Causality
Per capita growth (PCG))	FDI	NO	87%	NA

Long-term cointegration between PCG and FDI does not exist in Spain. Foreign direct investment (FDI) has a positive effect on economic development in the short term. The probability of transitioning from short-run disequilibrium to long-run sustained equilibrium is 87 percent. 15% of the actual scenario can be explained by the data (R square – 0.15). It is demonstrated that the datasets are devoid of autocorrelation through the examination of autocorrelation in the dataset (Durbin Watson test-1.18).

6. Discussion :

In their research article titled "Primary determinants of India's per capita growth rate: foreign direct investment (FDI), inbound tourism, and manufacturing sector value added output (MANU) for the years 1996 to 2018, Piyali Roy Chowdhury and A Anuradha (2021) examined the impact of these factors on per capita economic growth (PCG).The findings of the present study provide empirical support for the notion that foreign exchange revenues from inbound tourism are causally related to the per capita growth rate of Sri Lanka. Long-term cointegration between PCG and EAR is evident in China. Long-term earnings from inbound tourism are contingent on per capita economic growth; in the short term, China has an 11% chance of transitioning from short-term disturbances to long-term stable equilibrium. China's foreign exchange revenues from incoming tourism are also influenced by the per capita economic growth Granger in the short term. Long-term cointegration between PCG and EAR does not exist in Sri Lanka. On the contrary, PCG does have a positive effect on EAR in the short term. Sri Lanka has a 5% probability of transitioning from a state of short-run disequilibrium to one of long-run stable equilibrium. Additionally, there is a short-run Granger causality between PCG and EAR. 74% of the actual scenario can be accounted for by the data (R square-0.74%).Therefore, Sri Lanka can effectively reverse its current economic crisis by concentrating on attracting foreign direct investment (FDI) into its tourism sector, given that it is a high-import economy that relies heavily on tourism revenue.Chowdhury P R and Anuradha A. (2020) utilized the Auto Regressive Distributed Lag Modelling Approach to determine the effect of economic growth and demonstrated that FDI and economic growth are cointegrated over the long term. Nonetheless, the results also indicated that economic growth and FDI were mutually causal in the short term. The findings of this study provide support for the existence of Granger causality between PCG and FDI in the contexts of India and China. In contrast, the Granger causality in Singapore is established between FDI and PCG.Although Spain, which was significantly impacted by the pandemic, did not observe any causal effects, the short-term phenomenon demonstrated that FDI positively influenced economic development. Long-run cointegration exists between PCG and FDI in Sri Lanka (3.78). Positive effects of FDI on economic growth do occur, however, in the short term. Sri Lanka has a 67 percent probability of transitioning from a state of short-run disequilibrium to one of long-run stable equilibrium. As a high-import economy that relies heavily on tourism revenue, Sri Lanka can therefore effectively manage its current economic crisis by concentrating on attracting FDI into its tourism sector in order to promote intelligent tourism.

Hence, empirical evidence unequivocally establishes that the foreign exchange earnings generated from inbound tourism have a causal relationship with the per capita growth rate for the chosen main economies in Asia and Spain, which were significantly impacted by the pandemic.Furthermore, with the exception of Spain, it is evident from the analysis results that FDI has a causal effect on the per capita growth rate in all the countries included in the study. The findings suggest that countries worldwide, particularly those with a high reliance on tourism revenue, must immediately formulate recovery strategies involving foreign direct investment (FDI) in order to integrate technology into the tourism industry in the aftermath of the pandemic, in accordance with emergent new travel trends.

7. Policy implications

7.1 Recovery measures to ensure socio economic sustainability in Tourism

Cannonier and Burke (2019) estimated that economic growth would increase by 0.4% to 0.7% for every 10% increase in tourism expenditures. The analysis was conducted for the tiny Caribbean island states.The investigators urge policymakers to allocate funds in an efficient manner in order to improve the quality and innovation of tourism.

While several countries impacted by the pandemic have received emergency financial aid from the International Monetary Fund (IMF), which is heavily reliant on the tourism industry to sustain their balance of payments, such assistance cannot be continued. The IMF provides these nations with such funds in order to rescue them from financial crises that may occur in times of emergency or uncertainty (e.g., pandemic outbreak). It is imperative for nations to develop the capacity to effectively devise policy measures for recovery in the face of crises. Several proposed recovery measures are provided below, following a review of the study's findings (which support the causal effects of EAR and PCG).

Masud Rana Mondal (2020) discovered in their article "Tourism as a livelihood development strategy: a study of Tarapith Temple Town, West Bengal" that the local populace was unable to capitalize on the substantial expansion of tourism in the region due to a deficiency in human capital.Thus, in order to safeguard the socioeconomic stability of the local populace, the government must prioritize providing formal instruction to artisans and locals on how to interact with tourists.

A study conducted in Japan, a country prone to valconic eruptures and earthquakes, suggests that during the recovery phase following a disaster, regional economic effects should be evaluated based on both short-term and long-term factors (Marly Valenti Patandianan & Hiroyuki Shibusawa, 2020).Thus, it is possible to guarantee the socioeconomic stability of that region.

According to the input-output analysis conducted by Prasad and Kulshrestha (2015), foreign visitor expenditure positively influences the tourism sector through both direct and indirect employment generation. They provide robust backing for initiatives that target specific categories of service providers, such as training, capacity building, and sensitization, with the aim of bolstering "tourism awareness programs" and promoting socio-economic stability.

Umurzakov et al. (2022) conducted a study on the Belt and Road countries in relation to sustainable development and tourism. The authors recommended that the governments of these nations provide tax incentives, loans, and subsidies to small and medium tourism-oriented businesses operating in rural regions. The objective was to foster the growth of eco-tourism, agro-tourism, and other forms of tourist activities.Furthermore, they have recommended that these nations reliant on tourism adopt policy measures to encourage the private sector to provide infrastructure associated with tourism. Such action would promote sustainable development and facilitate the expansion of the tourism industry.Enhanced tourism development and economic stability can be achieved through increased private sector and foreign actor participation in the provision of infrastructure associated with tourism, which can be facilitated by a liberal FDI policy.

In their study, Majeed and Mazhar (2021) examined the volatility of the tourism sector in low-income countries (LICs) and middle-income countries (MICs). The authors recommended that these nations facilitate international tourists' access to destination economies (primarily MICs and LICs) for business or venture establishment, devoid of any complications or delays. Such measures would effectively mitigate fluctuations in the tourism sector.This can be achieved through the attraction of foreign direct investment.Mishra, V., and Sharma, M.G. (2021) formulated a framework for the promotion of medical tourism in India in their research. The researchers assessed the quality dimensions of medical tourism in India using the SERVQUAL approach. They recommended that the healthcare administration enhance service quality within their organization in order to attract patients from Gulf and Western countries. This, in turn, would contribute to the socioeconomic development of countries like India that are also embracing medical tourism.

According to C. Pons-Morera et al. (2018), the partnerships between local governments and tourism operators that are both innovative and collaborative have the potential to enhance the economic stability of the residents in the destinations. Sari Hassoun, S.E., et al. (2021) examined the relationship between the tourism sector and economic growth in Algeria from 1995 to 2017 using the natural logarithm of per capita gross domestic product (GDP) and per capita international and national tourism expenditure (ITE).They discovered a positive correlation between the tourism industry and economic

growth in Algeria and recommended that efforts be made to develop mass-market package tourism and air transport infrastructure in order to boost domestic tourism and economic growth.The policy ramifications of attracting FDI inflows for technology integration in the tourism industry in order to guarantee socioeconomic stability in the aftermath of the pandemic are discussed in the following section.

7.2 Attracting FDI inflows for technology integration in tourism sector to encourage Smart Tourism

To develop smart tourism, an FDI regulatory framework that is conducive to FDI in the technology sector is required to attract FDI into digital infrastructure. Local enterprises, particularly small and medium-sized tourism businesses, will gain from any successful effort to attract FDI into digital infrastructure. The term "smart" was introduced to describe the incorporation of technology into the process of social and economic progress. The integration of technology to safeguard natural resources and biodiversity ought to be the foundational principle guiding future tourism development. Presently, it is crucial to utilize ICT to raise awareness regarding the socio-cultural authenticity of host communities and to preserve their cultural traditions and heritage.

Technology has the potential to facilitate sustainable and viable economic operations, thereby promoting equitable income distribution and poverty alleviation in both the destination and host communities.With the assistance of AI tools, technologically enabled co-creation of the intended experience is feasible. By leveraging cloud computing services, IoT, and end-user internet service systems, inventive technological instruments can be created to enhance the tourists' co-creation experience. According to Tyan, I. (2021), the utilisation of blockchain technology may present a favourable prospect for the establishment of a cryptocurrency-based incentive scheme aimed at promoting sustainable conduct among travelers. Tokens would be provided to the tourist for redemption against additional products and services at the host destination.

Tourists can be afforded an experiential understanding of the cultural assets present in the destination by utilizing innovative technological tools, including but not limited to Augmented Reality, Kinect stations, touch-screen panels, and displays in open areas. Smart tourism destination development necessitates the efficient application of technology.Utilization of AI will be required for the tourism industry to keep up with the most recent technological developments.FDI can be attracted in this sector to increase the number of visitors visiting nations that rely heavily on tourism revenue.Lopez de Avila (2015) provided the definition of a sustainable tourism destination as an area that ensures the sustainable development of tourist areas and provides opportunities for visitors to engage with local residents while also enhancing the quality of life in the surroundings through the implementation of cutting-edge technology infrastructure. Hence, foreign direct investment (FDI) has the potential to significantly impact the tourism sector and contribute to the sustainable advancement and progress of the nation via revenue generated from incoming tourists.

Utilizing technology through an information technology platform that can integrate data on tourism with data on resource consumption and utilization in the host destination is critical for ensuring sustainable economic growth, particularly in nations where the tourism sector is a significant contributor to the gross domestic product. Socioeconomic sustainability in the aftermath of a pandemic can be ensured through the enhancement of tourism service quality and the mitigation of industry vulnerability.The implementation of new technologies, including Metaverse, AR, VR, AI, and recommendation systems to assist consumers in selecting suitable destinations, has already begun in high-tech economies' tourism sectors. Attracting foreign direct investment (FDI) into the tourism industry can enable nations such as Sri Lanka to achieve sustainable economic development and growth.

8. Conclusion

In this article, the causal relationships between the Percapita Growth Rate, foreign exchange earnings from inbound tourism, and FDI on the Percapita Growth Rate are elucidated in detail. The objective is to propose post-pandemic recovery strategies for the tourism industry through the utilization of FDI in the area of technology integration.In accordance with emerging new travel trends and in order to guarantee socioeconomic stability, it is crucial for countries that rely heavily on tourism revenue to attract FDI in order to promote smart tourism.Enhancing the quality of services to promote medical tourism, implementing ICT and cloud computing services, IOT and end user internet service systems, AR, VR, Metaverse, and AI in tourism, and strengthening educational institution and tourism sector training are all policy implications that strongly endorse. By facilitating a swift recovery of the tourism sector from the current downturn caused by the COVID-19 pandemic, these measures can contribute to socioeconomic stability.In order to ensure their socioeconomic

sustainability, it is time for tourism destinations to acquire the knowledge necessary to transform their business strategies into emerging trends such as wellness and spa tourism, virtual tourism, ecotourism (also known as eco travel), green travel, and sustainable tourism. This can be accomplished through the integration of technology.

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