

4th Industrial Revolution and Impact on Sustainable Tourism Development

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Abstract

Travel & Tourism is an important economic activity in most countries around the world and the world travel, tourism and hospitality industry was revolutionized due to advancement in innovation and information and information technology. The rise of travel and tourism has shown significant resilience globally. Sri Lanka's future also is in service and not manufacturing. Tourism is one of the key sectors where Sri Lanka can be truly competitive globally. The country is still at an early stage in becoming a truly digital economy. Internet use among consumers is still relatively low, and many hotels in Sri Lanka still remain very backward and do not sufficiently utilize digital resources.

The fourth industrial revolution taking place is the progress being made in the physical, digital and biological science that has led to remarkable advancements across various fields. Yet, most of Sri Lankan traditional monopoly hotel companies are not ready for the fourth industrial revolution, and still these are in second and third industrial revolution era. However, it is evident that the SME sector including home stay and small hotels are moving fast with new technology. Also, it is quite evident that tourism can play a major role in socio-economic development of Sri Lanka. At the same tourism can lead the way to help preserve develop the environment, and rich culture of Sri Lanka, to ensure proper and sustainable growth, which will benefit the entire society. We have to find ways to technologically to develop tourism in sustainable manner and technology should used in an ethically improper actions.

In general, social media today is used by all demographic groups.US-based accommodation providers "Airbnb" is one of the newcomers who are making an ever bigger impact on the travel industry. The rapid growth of the web and mobile- based companies in the travel market also

reflects the relatively slow reaction of the traditional travel industry to the internet and social media channels. Millennials are intensive users of technology and social media. They are also the strongest users of "Alternative accommodation" forms, such as camping sites, home stay and small holiday resorts. With the rapid growth of newcomers, Sri Lanka traditional travel companies and hotels need to respond quickly with innovative products and services to defend their competitive positions.

This case study examines the impact of the fourth industrial revolution and the adaptation of Sri Lanka tourism to the modern changes and sustainable development. The study examines the said concept to a hotel case more specifically evaluation and the successful adaptation to the technological changes.

Keywords: fourth industrial revolution, travel and tourism, information technology, sustainable development, sustainable tourism development

Introduction

The Industrial Revolution was a fundamental change in the way goods were produced, from human labor to machines. Travel & Tourism is an important economic activity in most countries around the world and travel & Tourism's impact on the economic and social development of a country can be enormous; opening it up for business, trade and capital investment, creating jobs and entrepreneurialism for the workforce and protecting heritage and cultural values.

Over recent decades, travel and tourism have been large contributors to the world economy. International tourism has been growing at a slightly faster pace than the world economy and this seems likely to continue in the long-term. Tourism plays a crucial role in supporting economic growth and development, sustaining employment and generating foreign currency receipts.

Sri Lanka's future is in services and not manufacturing. Tourism is one of the key sectors where Sri Lanka can be truly competitive globally. We may be able to offer the world some major and distinct innovations from Sri Lanka.

We are still at an early stage in becoming a truly digital economy. Internet use among consumers is still relatively low, and many hotels in Sri Lanka still remain very backward and do not

sufficiently utilize digital resources. Technology must therefore be allowed to further develop of tourism without obstacles—this is essential in order for everyone to benefit and The Fourth industrial revolution is potential drive positive social and economic impact. This case study traces the discourse industrial revolution, focusing on impact of fourth industrial revolution on the process of impact of sustainable tourism development. This paper discuss that, how fourth industrial revolution spread across tourism industry in globally. Finally, this research is an exploratory paper. As no much academic literature has been identified this relates to the topic.

Problem Statement

Technology is becoming particular tourism organization destination marketing tools as the influence major markets in globally. As well as, new products and services emerge that tourism sector would not be possible without new underlying technology. We are still at an early stage in becoming a truly digital economy. Internet use among consumers is still relatively low, and many hotels in Sri Lanka still remain very backward and do not sufficiently utilize digital resources. We have to find solutions to develop tourism in sustainable manner with the support of latest technology. For that we should engage with the fourth industrial revolution, before arise the fifth industrial revolution.

Research Questions

01. How fourth industrial revolution revolutionized tourism development of Sri Lanka
02. How fourth industrial revolution will help to modern changes and sustainable development of tourism industry
03. How that fourth industrial revolution benefits

Main Objective of the study

To assess impact of fourth industrial revolution and the adaption of Sri Lanka tourism to the modern changes and sustainable development

Specific Objectives of the study

- 01.** This case study examines weather fourth industrial revolution and technology are an affects in sustainable development of Tourism.

02. To identify the benefits of fourth industrial revolution and application to tourism of Sri Lanka.

Limitation

The paper is critically focusing on the influence of fourth industrial revolution on the sustainable development of tourism industry. The research is limited to the extent that it has not critically evaluated with tourism industry. The influence of industrialization on development of tourism thought in this paper is also limited with the extent that assumptions presented are not empirically tested.

Literature Review

The Industrial Revolution was a fundamental change in the way goods were produced, from human labor to machines. The concept of Industrial revolution refers to the set of continuous events that took place in the era mid 17th -18th century (*C. I. Jones, 2001*). These events comprises of not only set of economic and social changes but also the technological ones (*Nicholson, 2011*). Another definition of industrial revolution describes that - The industrial revolution resulted in a transition of hand work to machines which led to increase in efficiency (*C. I. Jones, 2001; Nicholson, 2011*). This revolution spread across the eastern parts of the society and the economic adoptions accelerated (*Alford,1951*). The primary objective of this study is to review that how the fourth industrial revolution has been influence for sustainable development of tourism industry.

What was the Industrial Revolution?

The Industrial Revolution was a fundamental change in the way goods were produced, from human labor to machines

The First Industrial Revolution

The First Industrial Revolution used water and steam power to mechanize production and first industrial revolution marked with the discovery of steam power, which replaced human labor for producing movement for many processes.

The second revolution

The Second used electric power to create mass production. The second revolution occurred in the late 19th century, triggered by the discovery of electricity, which led to the creation of much technological advancement, from aircraft technology and automobiles to televisions.

The third revolution

The Third used electronics and information technology to automate production. The third revolution began in the 1960s with the development of digital technology, from computers to the internet.

Fourth industrial revolution

Now we live in the fourth industrial revolution era, said Klaus Schwab, founder of the World Economic Forum during an annual meeting in Davos, Switzerland, in January.

Since then, the fourth industrial revolution taking place is the progress being made in the physical, digital and biological sciences that has led to remarkable advancements across various fields. We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before.

Fourth Industrial revolution – the Impact on Tourism

One of the sectors most affected by the fourth industrial revolution is tourism. Everywhere we look at ads for tourist destinations that are so tempting and that increase our interest in travelling somewhere.

When compared with previous industrial revolutions, the Fourth is disrupting almost every industry in every country. And the breadth and depth of these changes herald the transformation of entire systems of production, management, and governance.

On the supply side, many industries are seeing the introduction of new technologies that create entirely new ways of serving existing needs and significantly disrupt existing industry value chains.

Then major shifts on the demand side are also occurring, as growing transparency, consumer engagement, as well as new patterns of consumer force companies to adapt the way they design, market, and deliver products and services.

According to the ITB World Travel Trends Report 2014/2015 in 2014 online bookings continued to boom with a further 7% rise to a 66% share of all travel bookings worldwide but there are signs they could be reaching saturation level at about 70% in mature markets. As well as the global market share of travel agency bookings has more or less stabilized at 24%, according to World Travel Monitor figures.

Meanwhile, there was another strong increase in bookings by Smartphone this year according to the ITB report. China (10% share) took first place in the share rankings, followed by the USA (7% share) and Japan (5% share).

Social media channels such as review portals, blogs and forums have also become very popular for planning trips, and are used intensively by more and more travelers around the globe.

In the accommodation sector, for an example, Airbnb now offers some 330,000 rooms worldwide, making it one of the world's ten largest "hospitality brands" alongside long-established leading hotel companies, according to ITB report figures. Meanwhile, fast-expanding Uber has taken a dramatic amount of business.

Airbnb and Uber have completely different business models compared to traditional travel companies they are essentially technology platforms that market accommodation and transport

on a commercial basis. For consumers, they are attractive because they offer lower prices, better accessibility, and great flexibility.

Enter the 4th Digital Revolution –Tourism of Sri Lanka

The fourth revolution in the travel industry is about commoditization of the core mobility and travel services offered and their pervasive distribution in all possible digital and physical channels.

The use of information technology in the hospitality industry of Sri Lanka also has grown fast over the past few years. With the introduction of information technology the world has witnessed many changes. The world travel, tourism and hospitality industry was revolutionized due to advancements in innovation and information technology.

Traditionally Sri Lankan hotels were largely dependent on paper works at the front desk to keep in touch with old and current customers. During the past few decades, nothing has enhanced the professionalism or increased the productivity of the hospitality industry more than technology. IT has changed the procedures and structure for issues such as marketing, reservations, food and beverage, management, and accounts system.

But most of Sri Lankan traditional monopoly hotel companies are not ready for the fourth industrial revolution, and still there in second and third industrial revolution era. But same time we can see that SME sector including home stay and small hotels moving fast with new technology. To evaluate this concept I am going to study about one selected small hotel which situated in Haputale.

Case study -Leisure Mount View Holiday Inn-Haputale

This is a small hotel which situated in hill country Haputale. From a business perspective, this firm owns the sales platform, but not much resource. There are four main effects that the Fourth Industrial Revolution has on business and which applied there business by the Leisure Mount View Holiday Inn.

- ✓ Customer expectations,

- ✓ Product enhancement,
- ✓ Collaborative innovation,
- ✓ Organizational forms.

Whether consumers or businesses, customers are increasingly at the epicenter of the economy, which is all about improving how customers are served. Mount View Holiday inn well understand this concept and achieving high profit of their business.

Leisure Mount View Holiday Inn-Haputale - Brief introduction about the property

Leisure Mount View Holiday Inn Haputale, started in 1999, and has been well maintained and modernized today. This is the resident of the first generation of this property which has been converted to a home stay in 2005. This property is geared to bring in unique experiences to its guests.

They started the hotel with three rooms and presently have 10 modern rooms with great views of tea plantations. All the bathrooms come with modern features and hot water. Each bathroom is supplied with all requirements.

During 1999 period the first generation of the business, owner of the property used to provide accommodation for local guests during the April season in his residence. That how the Leisure Mount View Holiday Inn's story begun. In that period home stay concept was not much popular, in Sri Lanka as well as especially in Haputale Bandarawela area. But most of people used to provide seasonal accommodation for local guests.

Then in 2005 the property was registered as a home stay with 03 rooms. Even though property owner is a non hotelier, he had good vision for the business. That period mainly they have done reservation through phone calls, walk-in guests and some are come because of recommendation of privies guests. Even they didn't have proper system to record details also. But they were success because of their location, homely food and personalize service.

In the modern world IT systems are very important in tourism and hospitality industry. They play a lot of roles in industry in order to provide more convenience service for the companies as well as the customers. But this hotel was not adopted any single technology up to that period. That period *Leisure Mount view* didn't deal with traditional travel agents, because of the lack of awareness. They had only the word of mouth publication, and even not used any kind of marketing tool. Up to 2011 they move the business very slowly.

But in 2012 onward the concept of hotel start to changed and moved with second generation of business. With the hotel school management theoretical background, experience of different hotels, the second generation introduced some system to the business such as;

- ✓ Proper documentation for reservation and hotel operation
- ✓ Profit and loss analyze system
- ✓ Branding and marketing of the property
- ✓ Link with traditional travel agents

Then same time the second generation expands the hotel up to ten rooms with modern facilities.

The second generation has understood that Physical products and services hotel and tourism sector can now be enhanced with digital capabilities that increase their value. So then within one year time, around 2013 the second owner of the business very fast moved with the new technology, because of he was very young and technology was his life fashion.

These new technologies make assets more durable and resilient. A world of customer experiences, data-based services, and asset performance through analytics and the emergence of global platforms and other new business models. This 4th industrial revolution has already begun to transform products, consumer expectations and how companies manage production in this environment.

In general, Social Media today is used by all demographic groups and is a much more diverse landscape than just the well-known leading platforms such as Face book and Twitter. Leisure Mount View understand that they can use Social Media for marketing, branding, customer

service, crisis response and diverse other business activities. So then Leisure Mount link with new digital media and new technology such as; Face book, instragramme , Trip advisor , Google, Tweeter and street map .

US-based accommodation provider Airbnb is one of the newcomers who are making an ever bigger impact on the travel industry. Leisure Mount mix and match the top quality digital platforms to reach its target travelers. In the accommodation sector, for example, Airbnb now offers some 330,000 rooms worldwide, making it one of the world's ten largest hospitality brands.

Same time they used to involve with booking.com, Agoda also. The current owner said that they have to pay 19% commission for each reservation, but its worth than the dealing with travel agents. The current owner is not depend on traditional travel agents because of they have to waiting long period for payments. Also there is a risk and delay when dealing with credit basis and even no 100% guarantee about the reservations. But when comparing the traditional travel agent bookings, web booking system are more convenience.

Same time in the booking.com providing software called "Pulse" as a extra facility for their existing consumers. That software is more convenient like opera and other hotel software. Presently Leisure Mount View using that app for their hotel operation. It's a very good package which they can use for selling rooms, analyze reservation patters etc.

Airbnb have completely different business models compared to traditional travel companies, the owner of the Leisure Mount explained. They are essentially technology platforms that market privately-owned assets or resources such as accommodation and other facilities. For consumers, they are attractive because they offer lower prices, better accessibility, and great flexibility

By using his smart phone the current owner of the hotel, linked with all remarkable sites, such as Booking.com, Trip advisor, Instagram, and Airbnb. From a business perspective, such firms are asset-light because they own the sales platform but not the resources. This means they can operate at low cost without high number of staff. This is a family concept hotel and all family members are like all-rounder of the property.

The rapid growth of the web- and mobile-based companies in the travel market also reflects the relatively slow reaction of the traditional travel industry to the internet and social media channels. Social Media such as Face book, Trip advisor and instagram has a particularly heavy influence on travel – before, during and after a journey, and the advance of mobile technology will increase this trend. Face book and Instagram are other social media apps which use by the Leisure Mount View hotel to increase their profitability. Even for the marketing and promotion also they are using social media, Booking.com, Trip advisor and airbnb. It is vital for the travel industry to understand this next phase of change and its impact on the travel business model, go-to-market and how consumers decide on their next trip.

In general, Social Media today is used by all demographic groups and is a much more diverse landscape than just the well-known leading plat- forms such as Face book and Twitter. Like Mount View hotel other companies also can use Social Media for marketing, brand monitoring, customer service, crisis response and diverse other business activities.

The millennial generation of young adults is not only the most optimistic about their personal future but also travels more. Millennial are intensive users of technology and social media. They have confidence in technology and trust social media which they see as an enabler of positive travel experiences rather than an interruption and In addition, they are also the strongest users of ‘alternative accommodation’ forms , such as camping sites , home stay and small holiday resorts.

Meanwhile, there was a sharp increase in bookings by smart phone. Social media channels such as Trip advisor, blogs and Face book have also become very popular for planning trips, and are used intensively by more and more travelers around the globe. Leisure Mount View hotel well understand this fact and using practically. Because of the new technology and web based booking system, even very low occupancy period also mount view hotel achieving profit well when comparing with other hotels.

Meanwhile, technology will have a dramatic impact on hotels in the future, according to the Leisure mount hotel owner. The Sri Lankan hotel room of the future could be very different to

today and there most likely developments in the near future are self check-in, individual choice of a specific room and individual energy-efficient lighting .Very recently Cinnamon Red introduced that system to Sri Lanka. Even some of hotels in Sri Lanka now a day using electronic key cards and tab menu etc.

Research Methodology

Since fourth industrial revolution is a recent addition to the tourism industry of Sri Lanka, researcher has carried out a qualitative method to compliment to the existing knowledge of the apply and develop by focusing on fourth industrial revolution for tourism promotion. As well as the empirical study on the particular subject area has shown a knowledge gap in Sri Lanka context, the research has been designed by using case studies to “study whether fourth industrial revolution will impact on sustainable development tourism in Sri Lanka”.

It is emphasized that this is an exploratory study that aims to explore impacts of fourth industrial revolution, define technological –era customer needs, and illustrate the marketing approach that has been developed by one business. Rich, thick, descriptive data is therefore sought (*Denzin and Lincoln, 2008; King, 2004*) and a qualitative research strategy with an inductive view is adopted. The findings are written up as a single case study. It is anticipated that the results will be transferred and used as a basis to undertake a larger study with more mainstream wedding operators and consumers in the future. Their input is used to help further develop and refine the results

Data analysis

The findings are written up as a single case study. This was an exploratory study and the opportunities for further research into this topic should continue, and requires further in-depth exploration.

Conclusion

This case study has provided an exploratory analysis of the fourth industrial revolution its impact on sustainable tourism development. A review of case study illustrated growth and demand factor of technology for business environments.

Overall, Leisure Mount view Holiday inn agreed that technology will continue to impact dramatically on the travel industry by enabling companies to offer far more individualized services in the future. The main future plans are of Leisure Mount view, introducing electronic card system, tab menu and registration cards instead of papers, and also very soon they will add the Uber and virtual tour app to their web site.

With the rapid growth of newcomers such as Leisure Mount View Holiday Inn, who are winning market share with digital media business models, traditional travel companies and hotels need to respond quickly with innovative products and services to defend their competitive positions.

Also the SME sector has innovated unique tourism products & services in small hotels, and has accepted those products and services by the tourists. And if any business who is not willing to change the current systems and make changes to fit for the 4th industrial revolution drivers, will be not be able to survive or vanishing from the industry. Technology and innovation are the keys to the survival of tourism industry today's business and market environment.

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