

# Future Technology and Service Industry: A Case study of Travel and Tourism Industry

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## Abstract

Travel and tourism the most vibrant segment of service industry is backbone of almost 35 countries and each country desires to augment its world share for the reason that it is the best source of earning foreign exchange. Today's world civilization is technology savoir-faire and altering accordingly at a fast pace. In future, Space Tourism and Ocean Depth Tourism will become new-fangled precincts of movement. *Virgin Galactic, Space Adventure Company, World View, Google Lunar, Astrobotic, Blue Origin, SpaceX Project, Sierra Nevada, Orbital ATK, Finnair* etc. are in the pursuit of Space Tourism Development. Space Hotels will be fashioned and populace will go on Moon for enjoying their holidays. In future, with the help of smart, sensible and talking computers search for extra-terrestrial intelligence will be improved. In upcoming year's new pink tourist, personage regular travellers, back packers, older generation tourist and couples travelling farthest areas/sites will raise new forms of tourism and tourist sites. Upcoming tourist will become *negligent, informed, urbane, self-governing, impatient and thrilled*. Smart phone and Social Media will turn out to be guide, escort and agent. Make use of Space Technology in transportation network will revolutionized mobility of tourist. Tour planning will be grandee, open and exceedingly personalised. The periphery among leisure and exertion will be dissolved by digital technology. Tourist will appraise every aspects of tourism on interactive experiences base (personal and others) and social media opinion will matter a lot. Future tourist will be highly conversant, elegant, knowledgeable, refined, ordering online, anticipate speedy response and well linked to social network. In view of that services and training of service support staff will renovate. In future *CSR, Crisis Management, Environmental concern, Ethics, Legal Rights and Contact less payments* will be very high-flying. The current paper is the study of upcoming travel and tourism blueprint and type of technology going to decide world tourism trend.

**Keywords:** Digital Technology, 3 D Printing, Maglev, Space Tourism, Space Hotel, Social Media

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## 1. Introduction

The service industries also called "tertiary sector" entail the prerequisite of services to businesses as well as to ultimate customers<sup>1</sup>. Such services incorporate travel and tourism, legal, doctors, hospitality, entertainment, food services, distribution, transport, retail, accounting, mechanic, plumbing (tradesman ship), computer services, restaurants, etc. Here business is not producing principal physical merchandise but first and foremost earning revenue through intangible services and products. Travel and tourism the most vibrant segment of service industry is backbone of almost 35 countries and each country desires to augment its world share for the reason that it is the best source of earning foreign exchange. This industry comprises transportation network, accommodation, entertainment, retail, shopping, souvenirs, guiding, escorting, travel agency, tour operators, security, telecommunication, institutional and government agencies. This

trade is exceptionally susceptible to technology and we recognize that industrialisation and swift transformation in technology has impacted all characteristics of world happenings.

Today's world civilization is technology savoir-faire and altering accordingly at a fast pace. Every aspect of world's accomplishments will execute in external and internal environment like *C-PEST, Legal and Ethics*. As per *Robinson* our travel and tourism( service industry) upcoming will be predisposed by certain factors like New Forms, Market variables, Globalisation, Virtual and Augmented Reality, Crisis Management, Slow-Tourism and New-Colonialism<sup>2</sup>.

## 2. New Variables

In upcoming year's new pink tourist, personage regular travellers, back packers, older generation tourist and couples travelling farthest areas/sites will raise new forms of tourism and tourist sites<sup>3</sup>.

The social structure, family value system and standard of living will revolutionize and a travelling family may include step parents/ Children's, same sex parents with poles apart requirements and interest. Travel and tourism as a service industry will have to congregate need and wants of older age group and children's simultaneously. Information revolution (24 x 7), social media, Internet sources etc will transform accepted wisdom and understanding foundation of tourist. Everything will be managed, booked and searched with fingers merely. Upcoming tourist will become *negligent, informed, urbane, self-governing, impatient and thrilled*. Smart phone and Social Media will turn out to be guide, escort and agent.

The upcoming travel and tourism phenomena is going to be determined by expansion of middle class particularly in some countries like BRICS countries ( Brazil, Russia, India, China etc.) along with Indonesia and South Korea .India's and Chinese outbound tourism will remodel the growth and geography of world travel pattern<sup>4</sup>.

Tour planning will be grandee, open and exceedingly personalised. The periphery among leisure and exertion will be dissolved by digital technology. Tourist will appraise every aspects of tourism on interactive experiences base (personal and others) and social media opinion will matter a lot. Future tourist will be highly conversant, elegant, knowledgeable, refined, ordering online, anticipate speedy response and well linked to social network. In view of that services and training of service support staff will renovate. In future CSR, *Crisis Management, Environmental concern, Ethics, Legal Rights and Contact less payments* will be very high-flying.

Safety and security will remain leading apprehension owing to terrorism which will turn out to be a fact of life. Future destination managers will have to put up for sale inspiration and experiences as a replacement for physical resources. End user will desire variety of food permutation which has wellbeing information and holiday-maker will make an effort to involve self in food production process.

### 3. Information Technology

In future, tourism interpretation, consciousness and judgment making will be inclined by virtual and augmented reality. Prior to visiting several destinations tourist will experience its ambience, bordering and escalation with the help of Touch Mobile having *Feeling Sensors*. Destination sites, its way etc will be explored by means of miscellaneous software/technology such as *Google Earth, Web 2.0 Platform, and Satellite Technology*<sup>5</sup>. These touch mobiles will be used to feel animal's skin, can hug a tiger, can feel fish (*Interactive Experience*) etc. virtually prior to visiting any nature reserves. Destination's code of conduct and voluntary

services at sites will boost satisfaction level of tourist. Computer expertise will be used to fabricate virtual substitutes of endangered species/replica of destination and artefacts. Tourism and entertainment will be amalgamated by creating synthetic destinations with provision of leisure, lodgings, shopping, catering and activity under one cover.

*Internet, Social Media, Mobile Computing, Clouds, Smart Phones with travel APPS, GPS Technology etc* will manipulate tourist decision building process and promotion of travel services will be highly reliant on World Wide Web/ net. Hybridization of human being and artificial intelligence will take care future tourist service requests and Destination Management Companies and marketing organisations will have to generate online distinctiveness in order to survive future cut-throat competition. Innovative substance/material/technology like Graphene, Nano, and Intelligent and Multifunctional furniture will decide model and architecture of tourism resource development. Upcoming know-how and websites like Google, Google (Earth, Maps, Street, Glass), Wearable Computers, Nike, Fuelband, Oakley Ski Goggles, Ski-europe.com, Travelocity.com, Tripto, Tiscover.com, Tripadvisor.com, Tripit.com, Tourism futures, Smart Tourism, Smarter Planet etc will persuade tourist activities, fashion and demand (Pierre) 6.

Future tourist will utterly reliant on Information and communiqué for purchase, consume and experience. Consumer generated media will decide business factors of destination and tourism professionals will covenant through social media ethics.

### 4. Extreme Frontiers of Travel and Tourism

In future, Space Tourism and Ocean Depth Tourism will become new-fangled precincts of movement. *Virgin Galactic, Space Adventure Company, World View, Google Lunar, Astrobotic, Blue Origin, SpaceX Project, Sierra Nevada, Orbital ATK, Finnair* etc are in the pursuit of Space Tourism Development. Different Space Companies will explore and extract rare materials from Asteroids. Space Hotels will be fashioned and populace will go on Moon for enjoying their holidays. With the help of Carbon Nano Tube/Ribbon/Cable an elevator will be erected in Space for Space Visit and Space Walk. The frame of mind, accepted wisdom, commotion and behaviors of space tourist will revolutionize by bearing in mind thin layer of earth environment and boundary-less earth. In future, with the help of smart, sensible and talking computers search for extra-terrestrial intelligence will be improved. Space Tourist and Astronauts will use 3D Technology in Printing for producing essential articles/goods and foods during space walk/stay.

*Virgin Galactic* has designed space travel with the help of *White Knight Two* and *SpaceShip Two* Shuttle but an accident in year 2014 ( Pilot Michael Alsbury killed) strained company to amend the strategy. *SpaceShip Two* uses an exclusive method for safely re-entering the Earth's atmosphere. *SpaceShip Two's* cabin has been planned to maximize safety and comfort — it is the only space rocket in history designed unequivocally to optimize its passengers' experience. *Virgin* is not the solitary concern who is investing millions of dollar on space travel/walk but *Elon Musk's SpaceX Project* and *Jeff Bezos Blue Origin* are also aiming in identical course. At hand some companies like *Sierra Nevada* and *Orbital ATK* are researching in space payload movement. *Google* has funded \$ 1 billion in *SpaceX Programme* and the company has landed a rocket after blasting into low earth orbit. *Blue Origin* also achieved identical reverse landing. They all are researching in reusability of rocket programme for multi- planetary space travel/walk. Astrobotic company is researching possibility for extracting rare materials from extra territorial objects and *Google Lunar XPrize* has announced a prize of \$20 million for moon mission. Worldwide nearly 18 teams are participating in making a rover who can move on Moon (at least 500 m) and record videos.

Make use of Space Technology in transportation network will revolutionized mobility of tourist. This will make possible airliner to attain hypersonic speed and to a great extent superior range without stops and refuelling. The better comfort level in enhanced aircraft configuration will be a delightful experience in itself rather than a tiresome voyage. *Vertical take-off and landing aircraft (VTOL)* will be used for short-haul journey<sup>7</sup>.

*PAL-V Europe NV* (Dutch company) has tested a 'personal air and land vehicle' which is an amalgamation of private car and gyrocopter<sup>8</sup>. These flying cars are capable of attaining speed up to 180 km/hour and have range in between 350 to 500 km and a few types can cover up to 1200 km. They can manoeuvre on ground and within air by means of petrol and biodiesel or bio ethanol. They comprise potential of landing everywhere, have trouble-free control and cannot stall. Various Governments are planning to construct 'digital freeways' by using GPS technology. The entrepreneur *Elon Musk (Founder of SpaceX, Tesla Motors and co-founder of Pay Pal)* has given a visualization of solar power-driven, speed of sound, self-propelling means of transportation called "*Hyper Loop*" (Tube with capsules). It will connect cities in the range of 1600km and would be constructed over ground, powered by top solar panels and can attain speed of 1200 km/hour.

A different hallucination of future air travel is anticipated by *Finnair*. The concern is working on plan of two aircraft, one cruiser, and an aircraft for everyone. Concern is also working on design of Space Hotel and Space ship. A brief is given below<sup>9</sup>

#### 4.1 Finnair A 600-850m

- For long haul route, Zero-emission aircraft.
- Material is Nano-ceramic, have Intelligent wings and seats (Internet ,satellite links and display)
- Entertainment and wellness services.
- AV windows with Zoom able views of Sky and Earth.
- Seat is adjustable according to weight, height and age of tourist.
- Seats have capability to measure pulse rate, blood pressure and temperature.
- Customer can receive light massage and heat treatment
- Seating Capacity:- 600 to 850
- Speed :- 4.5 mach
- Range :- 26,600km
- Power:- Solar Energy

#### 4.2 Finn air A600-850 (HD 1080P)

- For short haul routes, can take off vertically
- Half of passenger area has cabins for 4 people with satellite internet links.
- Have either real window or AV window
- Vessel restaurant has shows, can be seen on television
- Seating capacity :- 600 to 800
- Speed :- 890 km/h
- Range:- 9600km

#### 4.3 Finn air A 1700-2400 Cruiser (HD1080 P)

- Can glide, take-off vertically and can land on water
- Have one to 4 person cabins with toilet, shower, internet and Satellite links
- AV windows with zoom able views. Windows can act as TV
- Restaurants organized shows.
- Vessel has hologram theatre, restaurants, beauty parlor, bars, meeting rooms, , first aid station, gymnasiums, shops, quiet room etc.
- Seating capacity :- 1700 to 2400
- Speed: - 160-750 km/h.
- Range :- 21,600 km
- Power:- Solar cells

#### 4.4 An Aircraft for everyone (HD1080p)

- Combination of aircraft and helicopter
- Low Cost
- Rotor Blades adjusted by computer (length adjusted in between 1.30 to 3.60m)
- Seating Capacity :- 3
- Speed :- 240 to 320 km/h

- Power:- Solar Energy and hydrogen

#### 4.5 Space Hotel and Service Ships

- Space Hotel will be situated at an altitude of 500 km
- Orbiting Earth in 9 hours
- Average stay for 4 days, Tourist will be in weightlessness
- Facilities:- Restaurants, recreational area, auditorium, health station, Greenhouses
- Capacity:-450 Beds

#### 4.6 Space Service Ships

- Move directly from earth to space hotel
- No Food and Drinks on board
- Seating capacity:- 100-140
- Flight Time:- 20-25 minutes
- Frequency :- 3-6 Flights per week

Likewise Ocean beds will be explored and Ocean hotels will be created. In a short time we have much supplementary information concerning space environment but ocean deepness is still protracted as uncharted areas. Deep Ocean walk, Ocean residential complexes, floating residential complexes with all amenities and services and enormous capacity Ocean cruises will appear in picture. Future transportable luxurious living model is projected by Freedom Ship. It's a gigantic maritime vessel would abode suburban complexes, shops, hospital, schools, library, banks, hotels, casinos, restaurants, amusement, offices and light manufacturing units etc. It will cruises most of the coastal regions and occupants be able to trip land region by means aircraft, hydrofoils and small ferry services. This floating "Community on Sea" has 4500 feet length, 750 feet width and 350 feet height (25 stories).

#### 4.7 Mobility and Power

Rail voyage will remain mobility spine due to its carrying capacity, speediness and superior power efficiency. Upcoming railways will be based on "Magnetic Levitation (Maglev) and hyper loop technology"<sup>10</sup>. Maglev technology was developed in Germany and current soaring speed train is operational in Japan which is touching a speed of 430 Kph. Japan is in the process of achieving speed of 500 Kph by using technology of "Superconducting Magnetic Levitation, SCMaglev". Japan will connect Tokyo to Osaka with SCMaglev trains by the year 2027. France has created a world speed record of 574.8 Kph with TGV's Alstom.

Hyper loop concept is based around straight vacuum tube with capsule for movement at a speed of 1220 km /hour. It will be powered by battery and solar cells. In China, Dr. Deng Zigang is undertaking research on "Evacuated Tube Transport ETT" systems which might permit HTS Maglev trains to attain tremendous soaring speed of 3000 km /hour<sup>11</sup>. It might be useful for armed forces and space launch agency. However high speed

trains may create health risk like motion sickness, discomfort, rapid acceleration and de-acceleration, vision disillusion, and fatigue etc<sup>12</sup>.

Future road will be smart, intelligent, interactive, self illuminated and pedestrian friendly. Roads may have netways system (pods movement), elevated ways (on pillars), earthway (U shaped below or above ground level) <sup>13</sup>.

Road material may be concrete mixed with bacteria to heal cracks and roads may function like solar cell to power electric poles and moving-intelligent-driverless car. They will glow in dark; have interactive light system, and wind/solar power-driven light<sup>14</sup>. Future roads may be made by high density glass material containing solar cells for powering driverless car.

Elon Musk's Tesla Company and Google are researching for driverless, artificially intelligent, and interactive cars. These cars will park automatically, offer pick up and drop services, navigate registered destination with the help of GPS technology and provide crash-free journey. Laser, Radar and Cameras will be used to make them artificially intelligent who can communicate with path, surrounds, smart phones and fellow cars. Sunlight, battery and electricity will be core supply of power. Without human intervention car will take shortest and traffic congestion free route to reach destination. On the way in road expedition some apps will reveal state of onwards journey weather conditions i.e. *temperature, snowfall, humidity, cloud cover, wind direction and speed, rain etc.* with the help of total EDD "Enhanced Data Display" technique<sup>15</sup>. It will track upcoming weather alongside the road trip.

In future major power supply source will be "Hydrogen fuel cell, Nuclear Fusion, Wind, Ocean, Biofuel Butanol, Microbes Biofuel, Waste, Thermo-Chemical Solar Power, Solar Wind and Space based Solar Power"<sup>16</sup>. Solar energy will be harvested in space may be on Moon etc. and transmitted back to earth.

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