A Futurist's Perspective of Ten Certainties of Change

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Introduction

In *Physics of the Future* Michio Kaku (2011) demonstrates that in 2100 we will control computers via tiny brain sensors and, like magicians, move objects around with the power of our minds. Artificial intelligence will be dispersed throughout the environment, and Internet-enabled contact lenses will allow us to access the world's information base or conjure up any image we desire in the blink of an eye. So what does this mean for tourism? Is the future a world of flying cars, teleportation and space ships? More realistically, what about peak oil and ageing populations? What about the middle classes of China and India, the debate about the climate change emerging technologies such as claytronics used in hotel design.

The purpose of this chapter is to illustrate the future through based upon ten certainties of change. The chapter will make you think, you might not agree with the illustrations but at least you will find them illuminating and thought provoking. The foundation of the chapter is ten certainties of change what will shape the destiny of tourism in the future decades. The ten certainties are drawn from the author's own experience and a number of research projects including *New Zealand 2050* (www.tourism2050.com), and *Tomorrows Tourist* (www.tomorrowstourist.com).

A Futurist Perspective of Ten Certainties of Change

From a knowledge perspective (Sparrow 1998), certainty is perfect knowledge that has total security. This is something that will happen, a continuity from the past or a high degree of precision. However, certain knowledge from a social sciences perspective is based upon experiences which the author believes is the truth. Therefore, certainty is more a matter of belief that change will occur based upon the patterns that 'I' see. This is the role of the expert, or a futurist. Futurists understand the change, can see beyond the horizon. They have the ability to layer patterns of trends, draw conclusion,s in order to make predictions. This is the world of subjectivity in which the mind of the futurist is an interpretation device. Futur-

ists deal with multiple types of knowledge and could be described as jack of all trades rather than experts in one particular field.

A futurist is a person who pieces together knowledge as a set of cognitive patterns which represents a pattern of the future and illustrates answers in picture frame of sense. Futurists help us make sense of the world. Futurists live in a world of emergent construction that changes as data emerges from the different tools, techniques and approaches to elicitation (Weinstein & Weinstein 1991). They often deploy triangulation of methodologies in order to capture and understand the world around them. Futurists never present objectivity but a range of alternatives of subjectivity. The research they are involved in presumes interpretation which Schwandt (1994) labels of constructivist interpretation (Schwandt 1994). This is an ontology that is predominantly local and specific in which the creation of knowledge is grounded in practise. This epistemology views knowledge in a subjective and transactional manner as merely suggesting directions along which to look, rather than providing descriptions of what to see (Blumer 1954). Therefore the following ten certainties are what 'I' see as certain, it's as simple as that. Believe me or not.

1.   The New Middle Classes

The world's economic balance of power is shifting rapidly, accelerated by the global recession in 2009. According to Stancil and Dadush (2010), China remains on a path to overtake the United States as the world's largest economic power within a generation and India will join both as a global leader by mid-century. Traditional Western powers will remain the wealthiest nations in terms of per capita income, but will be overtaken as the predominant world economies by much poorer countries. Prior to the Global Financial Crisis, the world's balance of economic power, as measured by real gross domestic product (GDP), was gradually shifting to the South and the East. Now, as industrialized countries slowly resume growth along their pre-crisis trajectory but do not fully recover output lost during the crisis, developing countries—whose output losses during the crisis were much lower—will accelerate out of the recession. In the coming years, the most successful developing countries, especially but not only those in Asia, will converge even more rapidly towards their advanced counterparts. So, what does this all mean for international tourism? For example, many observers (Sachs 2010) have pointed to future developments,

such as the rise of China and India and other emerging economies as drivers of international tourism. With travel traditionally being strongly correlated to GDP and the ageing of the population in Western countries in the long term means falling GDP per capita, this will have a major impact on the outbound travel from Western countries such as Germany and France, which in the past has fuelled the growth of world tourism.

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2000-2008 outbound increase / decrease
Republic of Korea	5,508	6,084	7,123	7,086	8,826	10,080	11,610	13,325	11,996	118%
Argentina	4,953	4,762	3,008	3,088	3,904	3,894	3,892	4,167	4,611	-7%
Australia	3,498	3,443	3,461	3,388	4,369	4,756	4,941	5,462	5,808	69%
Brazil	3,228	2,674	2,338	3,225	3,701	4,667	4,625	4,823	4,936	53%
Canada	19,182	18,359	17,705	17,739	19,595	21,099	22,732	25,163	27,037	41%
China	10,473	12,133	16,602	20,222	28,853	31,026	34,524	40,954	45,844	338%
France	19,886	19,265	18,315	18,576	21,131	24,800	25,080	25,139	23,347	17%
Germany	74,400	76,400	73,300	74,600	72,300	77,400	71,200	70,400	73,000	-2%
India	4,416	4,564	4,940	5,351	-	7,185	8,340	9,783	10,868	146%
Indonesia	-	-	-	3,491	3,941	4,106	4,967	5,158	5,486	57%
Italy	21,993	22,421	25,126	26,817	23,349	24,796	25,697	27,734	28,284	29%
Japan	17,819	16,216	16,523	13,296	16,831	17,404	17,535	17,295	15,987	-10%
Mexico	11,079	12,075	11,948	11,044	12,494	13,305	14,002	15,083	14,450	30%
Russia	18,371	18,030	20,428	20,572	24,507	28,416	29,107	34,285	36,538	99%
Saudi Arabia	-	-	7,896	4,104	3,811	4,403	2,000	4,126	4,087	-48%
South Africa	3,834	3,733	3,794	-	-	-	4,339	4,433	4,429	16%
Turkey	5,284	4,856	5,131	5,928	7,299	8,246	8,275	8,938	9,873	87%
UK	56,837	58,281	59,377	61,424	64,194	66,494	69,536	69,450	69,011	21%
USA	61,327	59,442	58,066	56,250	61,809	63,503	63,662	64,028	63,684	4%
Spain	4,100	4,139	3,871	4,094	5,121	10,464	10,678	11,276	11,229	174%
Belgium	7,932	6,570	6,773	7,268	8,783	9,327	7,852	8,371	8,887	12%

Table 1: Outbound Departures from Source Country (,000) Source: UNWTO

Table one reflects the rise of outbound travel from the G20 countries, with the developing economies China and India leading the way. Between 2000-2008, outbound travel from China and India has grown 338% and 146% respectively. Other emerging economies such as Russia (99%), Indonesia (57%) and Turkey (87%), lead the way with percentage increases, whereas traditional developed economies of USA (4%), Japan (-10%) and Germany (-2%) show evidence of stagnation and decline. So, who will be the future tourist? China and India in 2050 will be the first and third largest economy in the world, with average GDP growth rates of 5.6% and 5.9% respectively per annum.

2. Where have all the Germans Gone?

Post baby boomers in 2050, senior tourism could be a different proposition as many countries such as Germany, Italy, Spain and UK reform pension policy – therefore pensioners post 2050 will be economically less well off compared to previous generations and as a consequence the economic value of tourism will fall. In 2050, generation X & Y will probably retire with insufficient level of incomes. The average worker in 2050 as shown in OECD countries is expected to have a combined public – private pension benefits that represent less than 70% of final earnings. As a consequence, increased contributions with longer careers will become mainstream and retirement will become a fluid concept. Many private sector employers have already closed defined contribution schemes to new entrants and many public sector schemes have redefined many of the benefits.

Developed countries in the OECD have a large public sector with favourable pension provision compared to the private sector, as a consequence tourism has been one of the key benedictory of this policy. With falling birth rates and rising life expectancies, the commitment from government to pay for public sector pensions and benefits is declining. However, the future of pensions and public pensions depends only partially on demographics, it depends on the economic trends in employment and earnings that determine a national ability to pay for pensions in the future, and it depends on political factors that determine a country's willingness to pay. A study by Grimm *et al* (2009) for the German Federal Ministry of Economics and Technology, concluded the impact of demography on tourism was manageable and demand will be relatively stable. But a more long term perspective, ageing populations will become problematic for Germany and propensity to travel and actual travel pattern will fall due to less wealth per capita, health issues and stagnant house prices (Lohman & Danielsson 2004). A recent study by McKinney and Co (2009), examined Germany's demographic structure and observed that it is passing through an important point, its baby boomers are approaching retirement age and this will have an increasingly negative impact on wealth per capita in coming years.

This demographic pressure comes from two sources.

- Households available to create wealth will be limited by slowing population growth and reduced household formation.

- Financial asset accumulation will slow because the falling prime saver ratio will lower average savings per household and limit the pool of money that can be allocated to acquiring financial assets.

Adult population is increasing, with total population declining. While the total German population will begin to decline within the next two decades, the adult population (defined as people above 17) will still increase, with the group 55 and over growing the most at 1.3 percent per year. With an older population characterized by a higher household-to-population ratio than any other age group, the decline in the number of households will lag the decline in total population. Household formation is reduced. Lower rates of household formation will constrain aggregate wealth accumulation since there will be fewer households earning income and generating savings. Financial asset accumulation will be slowed by lower savings per household. Average savings per household will be reduced going forward because there will be fewer households in their prime saving years. The prime saving ratio measures the number of households in their peak savings years (defined as the 20-year age bracket with maximum household savings) relative to the number of elderly households (who save at lower rates or dissave) and therefore, captures the lifecycle effects caused by ageing. The ratio of German prime savers to elderly households has now passed an inflection point: the prime saver ratio will consistently decline over the next two decades, reaching 0.54 by 2024. This decline will impact the flow of savings from German households as older households save less.

Population ageing impacts wealth accumulation through lifecycle savings behaviour. Germany has a traditional "hump-shaped" lifecycle profile. The German household lifecycle savings curve is steeply inclined, reaches a peak in the late 40s, and then rapidly slopes down in the late fifties and retirement years. With income peaking at age 54 and the savings rate hitting the highest point earlier at 41, an average German household experiences peak savings around ages 45-49. This relatively early age for peak savings magnifies the impact of an ageing population since the decline in savings occurs at an earlier age than in other countries. Therefore, as the German population ages, it will experience a "lifecycle effect" on savings earlier than in other countries that have peak savings at later ages. While population ageing will affect German savings and GDP per capita accumu-

lation in the next two decades, the impact may be appreciably larger after 2030 because of the impending sharp decline in population.

3. Tourist Identity, Behaviour and Attitudes

Rising incomes and wealth accumulation distributed in new ways alter the balance of power in tourism. The tourist is the power base which has shifted from the institution of the travel agent through the opaqueness of online booking for holidays and travel to the individual. At the same time, the age is rich for new forms of connection and association, allowing a liberated pursuit of personal identity which is fluid and much less restricted by influence of background or geography. The society of networks in turn, has facilitated and innovated a mass of options provided by communications channels leading to a paradox of choice. In the future market place, the tourist can holiday anywhere in the world whether it is Afghanistan or Las Vegas, to the extent the tourist can take a holiday at the North Pole or the South Pole and everywhere in between including a day trip into outer space with *Virgin Galactic* (Yeoman 2008). If 25m tourists took an international holiday in 1950, 903m took a holiday in 2008 (Yeoman 2008). Why? The growth in world tourism is founded on increases in real household income per head, which doubles every 25 years in OECD countries. This increase in disposal income, allows real change in social order, living standards and the desire for a quality of life with tourism at the heart of that change. Effectively, consumers want improvement year on year, as if it was a wholly natural process like ageing. That change in disposable income, has meant greater and enhanced choice for tourists.

That tourist has demanded better experiences, faster service, multiple choice, social responsibility and greater satisfaction. Against this background, as the world has moved to an experience economy in which endless choice through competition and accessibility because of the low cost carrier, what has emerged is the concept of *fluid identity*. This trend is about the concept of self which is fluid and malleable in which self can not be defined by boundaries, in which choice and the desire for self and new experiences drives tourist consumption. The symbol of this identity, is the fact that the consumer on average changes their hairstyle every 18 months according to research by the Future Foundation (2007), from a tourist perspective it is about collecting countries, trying new things and the desire for constant change. It means the tourist is both comfortable with a hedon-

istic short break in Las Vegas or a six month ecotourism adventure crossing Africa. This fluid identity makes it difficult for destinations to segment tourists by behaviour or attitude as it is constant and fluid. However, as wealth decreases that identity becomes more *simple,* a new thriftiness and desire for simplicity emerges (Flatters & Wilmott 2009). This desire for simplicity is driven by inflationary pressures and falling levels of disposable incomes, squeezing the middle class consumer. As the economies of wealth slows down, whatever the reason, new patterns of tourism consumption emerge, whether it is the desire for domestic rather than international travel or what some call the *stayvacation.* A fluid identity means tourists can afford enriching new experiences and indulge themselves at premium 5 star resorts. They can afford to pay extra for socially conscious consumption, whereas a simple identity means these trends have slowed, halted or reserved. As resources become more scarce, a mindset of a whole generation of tourists changes behaviour. Between now and 2050 the world will go through a cycle of economic prosperity and decline which is the nature of the economic order. When wealth is great, a fluid identity is the naked scenario, however, when a recession emerges, belts are tightened, tourists like other consumers search for a simple identity.

4. How Technology Will Change Everything

The internet is one of the main drivers of product design as many mobile devices are increasingly equipped with mobile internet capabilities. Connectivity to the internet allows faster and more immediate access to information. A survey conducted by TNS Global (2008) indicated that many see the internet as 'an encyclopedia of information', where 3 out of the top 5 activities engaged by online users are related to information gathering. Survey results also indicate that 81% of respondents used a search engine to find information, 63% researched a product or service before, 61% visited a brand or product's website and 50% used a price comparison chart. These figures suggest that consumers are increasingly turning towards the internet to obtain information on products, brands and pricing. Within the tourism industry, internet is being targeted to become the most important channel for holiday sales, information and recommendation where 2 out of 5 reservations are completed online and 55% of all European travellers use the internet for information about their travel destination, travel providers and special offers (Isabel, 2009). Recognizing this trend, Tourism New Zealand in 2007 shifted its marketing activities from predominantly print media to embrace digital and screen technology. This includes advertising

through television, cinemas, outdoor screens and billboards and more significantly, the internet and social media (Tourism New Zealand, 2010).

Technology has become part of our everyday lives, creating a digital society. While one of the main reasons for this is due to the exponential advancement in technology, another key driver is due to the presence of the digital generation (Generation Y onwards), and their demand for fast, innovative technology products. High-speed broadband with larger bandwidth have allowed greater capacity of network traffic and data sharing while new gadgets increasingly equipped with mobile internet reflects the level of demand and comfort societies have towards technologies. This trend is further echoed when Amazon's sales of books for its e-reader, the Kindle, outnumbered sales of hard covered books (Miller, 2010). Technology has also allowed the development of online user-generated content, altering the way information is provided, gathered and perceived. Information provision has evolved from the traditional single-directional push of information from suppliers to consumers to a multi-directional share of information between suppliers and consumers, and between consumers themselves. Deloitte predicts that in 2011, more than 50% of computing devices sold globally will not be PCs. Instead, sales of smartphones and tablet computers would come to 425 million, well above the sales of 390 million PCs (Yeoman 2012). This implies that user-generated content will increasingly penetrate the online world of information, reflecting two future scenarios of a 'Free Information Society' and 'Real Information Society' proposed by Yeoman & McMahon-Beattie (2006). A free information society highlights that information is freely available and consumers no longer need to purchase information, whereas a real information society reflects how technology supports personal information rather than replacing it.

In today's society, digitalised information is the norm. Many guidebooks such as Lonely Planet have embraced mobile devices by providing digitalised guidebooks through the format of mobile applications designed for smartphone operators like Nokia, Apple, Google and Android (Lonely Planet, 2011). However, the continuous development of technology is bringing societies into a flip point, where technologies increasingly become more integrated in our daily routine. Driving this is ubiquitous computing – a concept opposing virtual reality. Ubiquitous computing refers to technologies which interact with humanity out in the open rather than users connecting through the computer; it is the interaction of one user with many interfaces through technology that is interwoven into the external environment. This concept puts forth many possibilities of interaction with

information technologies without the use of devices, for example the possibility of gathering information of a subject of sight through a pair of ubiquitous contact lens. As technology slowly recedes into the background and becomes an invisible interaction in our daily lives, the future of information provision may no longer require the need of mobile devices.

5. The Complexity of Science

There appears to be an exponential growth involving the usage of the term 'complexity' in the scientific literature. As society develops and grows, it finds new solutions, discovery is the heart of medicine, technological revolution seems endless and therefore mankind seems to be facing a world in which the pace of discovery is infinite. As a result, complexity and the pace of discovery is changing the world of science, technology and medicine, to the extent that simple human mortals cannot keep pace with this change, as a consequence the meeting's industry has been a beneficiary. For example, medical doctors instead of meeting every five years to keep abreast of change have to meet every two years instead (HCEA 2009). Why? Medical treatments for cancer have radically improved survival rates after five years from 50% in 1975 to 66% in 2002. In other fields of medicines, new and better treatments are emerging. Over the last decade we have seen life expectancy massively increase for patients diagnosed with HIV due to new treatments and drug therapy combinations. Shoemaker and Shoemaker (2009), notes that 1 in 5 people in advanced economies by 2030 will probably celebrate their 100th birthday in their lifetime. The authors go on to say that the average 50-year woman living in the USA in 1990 could look forward to an average of 31 additional years of life. If we assume for a cure for cancer, this increment beyond 50 years of age grows to 34 years; adding a cure for heart disease amounts to 39 years. After we conquer strokes and diabetes, the increment rises to 47, yielding a full life expectancy of 97 years of age. No one knows for sure how the boundary of death can be pushed, but optimistic scientists consider 130 years to be feasible by 2050. Basically, the more complexity we have the world, the more we have to discuss it, understand it and the meetings industry is the beneficiary.

6. The End of Human Trafficking

David Levy (2007), suggests in his book *Love+Sex with Robots* that by 2050 technological advancement will allow humans to have sex with androids, something akin to the *Stepford Wife* concept of a woman with a perfect body and who can perform great sex with a man. In 2006 (Levy 2007), Henrik Christensen chairman of EURON, the European Robotics Research Network predicts that people will be having sex with robots in five years and in 2010 the world's first sex doll was showcased at the AVN Adult Entertainment Expo in Las Vegas. Priced between $7000 and $9000 US Roxxxy is a truly interactive sex doll offering a range of replicated personalities from frigid Farah to Wild Wendy.

Robot sex offers a solution to a host of problems associated with the sex trade. Given the rise of incurable Sexual Transmitted Infections (STIs) including emergent strains of gonorrhea and HIV / AIDS throughout the world and the problem associated with human trafficking and sex tourism, it is likely that we will see an increase in demand for alternative forms of sexual expression. In 2050, Amsterdam's red light district will all be about android prostitutes who are clean of sexual transmitted diseases, not smuggled in from Eastern Europe and forced into slavery. The city council will have direct control over android sex workers controlling prices, hours of operations and sexual services. Android prostitutes will be both aesthetically pleasing and able to provide guaranteed performance and stimulation for both men and women.

7. The Future of Cities

By 2050, most regions of the world will be predominantly urban as 193,107 new city dwellers are added to the world's urban population every day. This translates to slightly more than two people every two seconds (UN-HABITAT 2008), reflecting that the world's urban population will swell to almost 5 billion in 2030 and 6.4 by 2050. Cities have long been the centre of tourist activity, from the early times of civilisation through to their highly developed state in the global economy. Cities hold a particular fascination for tourists, from the vast highly developed metropolitan cities like Los Angeles to small historic cities like Durham in the North East of England. Professor Stephen Page of Stirling University argues (Page & Connell 2006), that urban tourism is arguably one of the most highly developed forms of tourism at a global scale, by a post industrial society and

an affluent society. According to Yeoman (2008), the growth of world tourism in the last decade has been due to inter-regional travel rather than inter-continental travel fuelled by inter-city short breaks and the budget airlines. Cities have become activity places for culture, sports and amusements as well as offering leisure settings with physical characteristics and socio cultural features. Many planners have turned to tourism as a means for urban regeneration. For example, the redevelopment of the London Docklands in 1980s onwards has been marketed as an example of London's vibrant tourism economy. The urbanisation of tourism in Los Angeles has become a key component of the city's economy and integral part of the city's urban development. In recent years, I-Max screens, themed environments, mega stores, theatres, museums and sports venues have displaced marble-clad office towers in Los Angeles as it has become a sprawling metropolis of entertainment in the era of the experience economy. However, what is the future for the city of Los Angeles? According to studies by Scott et al (2004), California and the cities of San Diego and Los Angeles could be classified as an optimal climate for tourism and all year round visitation. But what does the future hold given warmer climates, rising sea levels, water shortages, peak oil and the continuing trend of urbanization? Scott's et al (2004), study examined climate change scenarios for tourism in U.S cities through 2030 to 2080 and found that Los Angele's tourism would be marginally better off in the winter months but overall would move from 'excellent' to 'marginal / unfavourable', as the climate would become unbearable for tourists. If so, how will the city of Los Angeles adapt and mitigate for such change given the certainty of climate change? Would Los Angeles in 2050 be something akin to *Logan's Run* (Nolan & Johnson 1967), as portrayed in the classic science fiction film, where life is controlled and managed within a domed complex? This chapter takes a futuristic perspective on what tourism in urban Los Angeles will be and the relationship to California's hinterland in 2050.

More than 70% of the population in developed worlds are living in an urban environment. According to the United Nations, this urban population is expected to remain largely unchanged in the next two decades, increasing from nearly 900 million people in 2005 to nearly 1.1 billion by 2050 – growth resulting from external in-migration rather than natural population growth. North American cities grew the fastest among all cities in the developed world between 1990 and 2000, particularly cities in the United States, which grew an average of 1% per annum. Las Vegas – the gambling and tourist resort in the state of Nevada – grew at the annual rate of 6.2%, and the city of Plano on the outskirts of Dallas, Texas, saw growth rates of 5.5% per year due to migration from other parts of the United

States. As the US's most populous state, California's population increased from 30 million in 1990 to 336.5 million in 2004, growing at 600,000 people per year. According to the California Department of Finance (Yeoman 2008), the state's population is projected to exceed 48 million by 2030 and reach 60 million by 2050. These projections indicate that the majority of Californians will continue to reside in Southern California and Los Angeles will remain the most populous county in California. Los Angeles often abbreviated as L.A. and nicknamed *The City of Angels*, has an estimated population of 3.8 million, its metropolitan area with 12.9 million residents, and spans over 498.3 square miles (1,290.6 km^2) in Southern California.

8. The Price of Food

According to Evans (2008), the main drivers for food inflation are: the rising costs of agricultural inputs and energy, water scarcity, decreased land availability and climate change.

Today's global agricultural system is predicated on the availability of cheap, readily available energy, for use in every part of the value chain: both directly (e.g. cultivation, processing, refrigeration, shipping, distribution) and indirectly (e.g. manufacture of fertilizers, pesticides). World oil prices peaked in 2008 and will remain relatively high in the long term as the world has passed the point of peak oil. In addition, since food can now be converted into fuel, there is effectively an arbitrage relationship between the two, implying an ongoing linkage between food and fuel prices. Secondly, water scarcity is likely to become a more pressing issue. Global demand for water has tripled in the last 50 years; 500 million people live in countries chronically short of water, a number likely to rise to 4 billion by 2050.

Thirdly, is the issue of land availability? Some commoditys analysts argue that although historical increases in demand have been met through increasing yields, the future would require an expansion of acreage. However, this will be expensive, given the infrastructure investment involved; there may also be diminishing returns, since much of the best land is already under cultivation. Above all, there is simply increasing competition for available land, including food, feed, fibre (e.g. timber, paper), fuel, forest conservation, carbon sequestration and urbanization, on top of high rates of soil loss to erosion and desertification. The Food and Agricultural

Organisation (FAO) of the United Nations estimates that there is at most 12% more land available that is not already forested or subject to erosion or desertification, and that 16% of arable land is already degraded.

The fourth and perhaps most fundamental factor is climate change. The International Panel on Climate Change (Parry 2007) projects that global food production could rise if local average temperatures increase by between 1 and 3 degrees Celsius, but could decrease above this range. This projection is before extreme weather events are taken into account; and the IPCC judges that extreme weather, rather than temperature, is likely to make the biggest difference to food security. It estimates that glacial melting will affect agriculture and many Himalayan glaciers could disappear by 2035, bringing catastrophic outcomes for Chinese and Indian agriculture industries. It assesses that 'climate change increases the number of people at risk of hunger', and will lead to an increase of the number of undernourished people to between 40 million and 170 million.

As a consequence, food tourism becomes the new luxury as availability and scarcity drive demand for this new luxury product. Food pervades our lives from almost any perspective we care to consider; it is a primary feature of everyday life—we must find, purchase or prepare food and eat every day to stay healthy and alive; food permeates our relationships—we eat with others, and in particular and symbolic ways; food infiltrates our language—the images and metaphors of food surround us (I'm fed up with you, you make me sick, etc). Food reflects our position and status—whether we eat minced mutton, rabbit ragout or pasta primavera; food pervades popular culture—evidenced by the large number of cooking programmes on television, the ubiquitous cooking recipes and restaurant reviews. Food is a critical contributor to a human's physical well-being, a major source of pleasure, worry and stress, and the 'single greatest category of expenditure'.

9.   The Modernity of Sustainable Hotels

The sustainability agenda is becoming the increasingly important priority for countries around the world, as Matteo Theo says (Putz-Willems 2009: 67)

The term sustainability could almost be defined as the buzz word of the early 21ˢᵗ century. Sustainability is the talk of the town, not only in the economy or in politics, but also in the construction industry. Considering everything closely however, only one aspect of sustainability catches the industry's attention, the ecological perspective. In this respect, the use of different resources throughout a building's complete lifecycle is balanced. This ecological balance corresponds to the materials used from production to demolition and even the essential resource needs for building management throughout the whole usage period. The two other aspects of sustainability are often forgotten, the economic and socio-cultural points. The building should maximise its potential to reduce maintenance costs, if possible even generate profits and should lose very little in value. On the other hand, it should also cater to the user's wellbeing in regard to health and comfort aspects as well as be aesthetically pleasing.

Architecture is important for offsetting the negative aspects of hotel buildings by enhancing efficiency of resources as well as making the design aesthetically pleasing. The modernity of architecture finds a home in futurism, in which sustainable design provides an opportunity for pushing out barriers and thinking beyond the present. Futurism and technology sit together, and given the future Chinese tourists will have an expression for newness captured by Generations Y and Z. Innovation in architecture has a linimal space where reality and science fiction are blurred, new ideas and concepts are emerging that shifts the concept of a hotel bedroom. What we think of science fiction, in fact comes true. Whether it is self cleaning devices, mood zones, claytronics and gestural interfaces – all concepts more akin to sci-fi film *Minority Report* than the hotel in 2050. Technology is being largely infused within new modern hotels for two main reasons: to improve the efficiency of hotel operations and to cater better to the evolving new segments of hotel users. The future hotel will become a technologised space, shifting from its original labour-intensive nature. This trend is driven by new innovations such as nanotechnologies in self-cleaning devices, robot room attendants, hi-technology wall-mounted toilet designs and elements of lighting, ambience and furniture that allow guests to recreate their personal space to suit their moods.

As a report by Amadeus (Talwar 2010) points out, at the core of any hotel stay, guests will want to exercise most choice when it comes to the location and contents of their room. The range of options would need to include the floor, corridor positioning, view, room dimensions, shape, number of windows, size of bathroom, and the type, amount and layout of

furniture. By 2020 (Talwar 2010), modular, intelligent furniture with built-in memory will remember a guest's preferred settings and adapt to changes in body posture. Taking this concept one stage further, claytronics will allow furniture to re-configure themselves based upon programmable matter.

At the heart of a hotel room, customers want to choose from a range of different beds, pillows, linens and amenities at different quality levels and price points. Some require transparency on the environmental footprint of the supply chain of everything that goes into their room. Guests want the ability to control environmental factors such as temperature, lighting and even the colour of the walls. Choice could also be extended to the type of artwork displayed on the walls or for the provision of digital photo frames to display the guest's own choices. As technology advances and intelligent wallpapers emerge, so guests may be able to configure the room décor on arrival or download their preferred design beforehand. The Citizen M Hotels (www.**citizenm**.com/) in Amsterdam combine several innovations in room technologies to provide the guest with a chic and due to the small size, affordable experience. The pod like size requires an innovative approach to space management – for example there isn't room to move around the bed to change the sheets. Citizen M has applied to patent a system whereby the whole mattress can be pulled up to the front of the bed vertically. The used sheets fall off and the clean sheets can be hung up on the two upper corners.

The rate of advance in technology and the likely emergence of high bandwidth mobile devices means guests may want a room with no technology (just to get away from everything). Others may simply be looking for a display screen or surface to project a larger image from their own device. Those who do, the hotel to supply the technology may wish to specify the channels they would like to view and request a holographic TV. A guarantee of the chance to try out the latest gadgets may become a brand differentiator and attract a particular type of customer. Some guests may want to book the opportunity to test out a new product or schedule a session with a technology advisor to help them master what they already have. Given the trend towards individualism and life with technology, Trump Soho in Manhattan (www.trumpsohohotel.com) boasts as an exemplar of this trend. Central to its guestrooms and suites is the energy saving 'Control4 Suite System' which enables guests to control ambient temperature, lighting, curtain drapes and entertainment options with a remote device. Guests can set their own room preferences using the green feature button. This offering is augmented by flat screen televisions, a home iPhone/iPod and docking station as well as optional in-room computers

and personalized stationery. The offering is completed with a Nespresso coffee maker in each guestroom and suite. Moving into the future, technology will play and even more important part in the hotel bedroom, the use of gestural interfaces will change room control panels. 3D hologram TVs will become the norm. The application of technologies is probably unimaginable and occurring very fast. One example is the medical mirrors designed by MIT researcher Ming-Zher Poh (Chandler 2010), which will advise consumers of health requirements, how they feel and what they could order off the room service menu courses of actions. The system works by;

...measuring slight variations in brightness produced by the flow of blood through blood vessels in the face. Public-domain software is used to identify the position of the face in the image, and then the digital information from this area is broken down into the separate red, green and blue portions of the video image. In tests, the pulse data derived from this setup were compared with the pulse determined by a commercially available FDA-approved blood-volume pulse sensor

Chandler (2010)

10. Peak Oil

Peak oil is the point in time when the maximum rate of global petroleum extraction is reached, after which the rate of production enters terminal decline. This concept is based on the observed production rates of individual oil wells, and the combined production rate of a field of related oil wells. The aggregate production rate from an oil field over time usually grows exponentially until the rate peaks and then declines—sometimes rapidly—until the field is depleted. According to Becken (2010), the world is now in the period of peak as majority of the studies about Peak Oil suggest a point between now and 2022 (Figure 3).
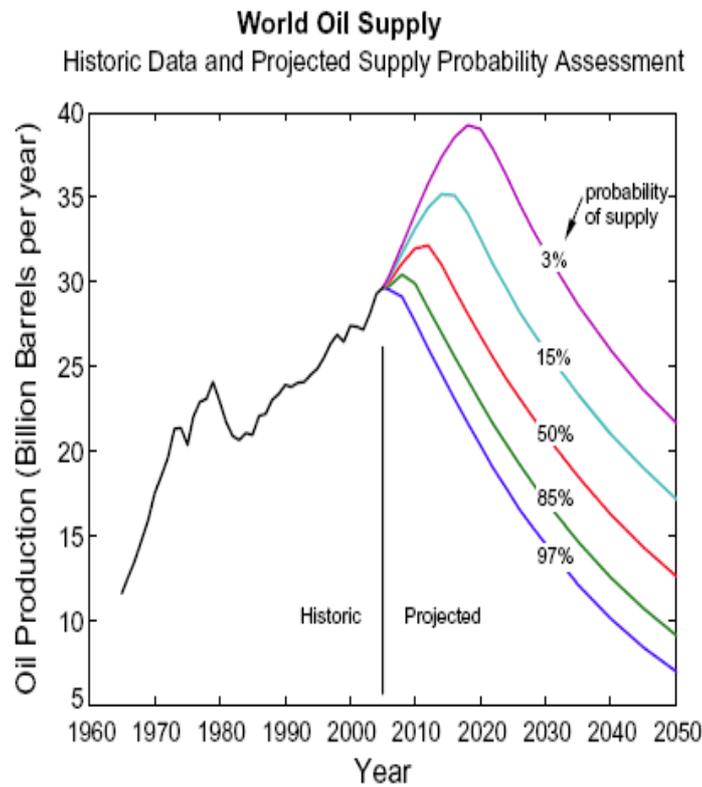
Figure 3: Probability of Peak Oil (Becken 2010)

A point of Peak Oil signifies a period of oil depletion and exponential decline with the end of oil predicted to be pessimistically 2054 and optimistically 2094.

The US Department of Energy (DoE) calls oil "the lifeblood of modern civilisation" (Hirsch etc al 2005). Around 86 million barrels (13.7 billion litres) are consumed each day. Oil supplies 37% of the world's energy demand and powers nearly all of the world's transportation. Without it, production and trade would grind to a halt. Studies have shown that GDP growth is very strongly related to increased use of oil (Smith 2010). When the price of oil increases, the cost of nearly all economic activity rises. This often induces recessions. High oil prices have been associated with three major periods of economic recession in the past 40 years, including

the lead-up to the recent global economic crisis. The world's oil production capacity may not be sufficient to match growing demand in coming years. When that happens, a price spike may be triggered, with major detrimental effects on economies, especially economies dependent on tourism (Yeoman et al 2007).

Reflection Thoughts

Some would say that the only certainties in life is birth and death, everything else that happens in between is uncertain. Uncertainty stems from risk, a lack of understanding or lack of familiarity. All that 'I' am saying is, that the ten certainties presented in this chapter are what 'I' truthfully believe is going to happen, given that change is inevitable. For the tourism industry it is about dealing with that change as the only real certainty is that 'you' can only live in the future as the past has already happened. The purpose of this chapter is about making you think about the future, 'I' hope the words have made this possible, if not try these questions:

- How will an ageless society impact upon you business or markets?
- How are the behaviours and attitudes of Indian and Chinese tourists different from your present market? How do you prepare for such change?
- What do you think the tourist will be doing more of or less of in the future?
- How does technology change your distribution channel?
- Would tourists really have sex with a robot?
- Does the greater urbanization of society result in tourists wanting a rural authentic experience?
- How do you sell in a market size of one?
- What if the oil ran out?
- Reflecting on everything written in this chapter, what are the most important points to you?
- What are your ten certainties for the future?
- What if, the future tourist had less monies in the future? How will it change your market or business?
- How do you position food as a luxury experience?

And finally, just enjoy the future as much as 'I' do.

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