

HUOM! TÄMÄ ON RINNAKKAISTALLENNE.

Käytä viittauksessa alkuperäistä lähdettä:

Tuominen, P. P., & P Ascenção, M. (2016). The hotel of tomorrow: A service design approach. *Journal of Vacation Marketing*, 22(3), 279–292. <https://doi.org/10.1177/1356766716637102>

PLEASE NOTE! THIS IS PARALLEL PUBLISHED VERSION OF THE ORIGINAL ARTICLE.

To cite this article:

Tuominen, P. P., & P Ascenção, M. (2016). The hotel of tomorrow: A service design approach. *Journal of Vacation Marketing*, 22(3), 279–292. <https://doi.org/10.1177/1356766716637102>

Copyright © The Authors 2016

The hotel of tomorrow: A service design approach

Abstract

Reports from the UN World Tourism Organization, the World Travel and Tourism commission, the European Travel Commission, Amadeus and other similar organisations are all unanimous, the future of tourism and hospitality is prosperous. Tourism destinations and hotels have suffered paradigmatic shifts from Fordist to post-Fordist, and then to neo-fordist modes of production and consumption. The current century is bringing us new neo-fordist forms of hotel businesses, like mass-tailoring, and due to the industry's steady growth, more and more companies are required to develop new perspectives in order to stay relevant, and to gain competitive advantage in the various fragmented markets. In an era of impermanency and fluidity, destinations and their businesses are forced to be dynamic and innovative. Considering the current and unforeseen developments in technology, in consumption, in management and operations, the hotel of tomorrow will not be incrementally, but radically different from today. In this context, this paper focuses on describing, interpreting and anticipating the changes the hotel industry is expected to face in the coming years. The study uses service design approach and various data collection instruments such as e-Delphi and Lego® Serious Play®, to depict how the hotel of the future will be. Involving current and future hospitality and tourism professionals, this study synthesizes three possible scenarios, thus portraying a foresight into the hotel of the future.

Keywords

Hotel of the Future; e-Delphi, Service Design, Lego® Serious Play®, Scenarios

Introduction

Notwithstanding the expected growth, the visions for the future forms of tourism and hospitality vary greatly. However, the main predictions frequently contain the emerging economies, ubiquitous technology, multi-generational travel, non-traditional families, and mobile working. Challenged by changing patterns of consumption, demographic changes, and innovations in consumer electronics, the development of new service concepts and processes will play a major role for hotels in the future. In addition, the impact of the Internet, development of electronic distribution channels (Thakran and Verma, 2013), and the increased savviness and negotiation power of the consumer will continue to impact on the tourism and hospitality industry (O'Connor, 2013.)

New global explorers will emerge, for example Asian travellers are expected to account for a third of tourism spending by 2020 (TravelRave, 2012). By 2030, more than 50% of the growth in global traffic will come from Asia Pacific, of which around 40% will come from China (Budde et al., 2013). Similarly, the World Tourism Organization forecasts that by 2030 international tourist arrivals are expected to increase up to 1.8 billion (UNWTO, 2011; 2015).

The volatility of future consumers' behaviour also means that guestrooms and public spaces of tomorrow's hotel will continue to be a stage for 'out-of-time' and 'out-of-place' where expressions of superfluous and thought-provoking modes of behaviour possibly will occur (Pritchard and Morgan, 2006) thus allowing the transgression of boundaries of self. (Yeoman et al., 2012.)

Another considerable viewpoint to the hotels of the future is the 'experience logic' (Andersson, 2007; Gilmore and Pine, 2002; Hultén et al., 2009; Pine and Gilmore, 1999) which derives from sensory experiences contributing to the formation of for example cognitive, emotional, and physiological responses that may influence or shape identity, values, and behaviours. Therefore, the sensory experience should be rendered in a way that inspires moods, feelings and emotions to overrule logic and rationality in the human brain.

The convenience of interfaces, and the overflow of up-to-date information we already experience suggest that the convergence of technology in our everyday life will continue to grow. The digital revolution will expand to developing economies, regardless of the location and wealth of the nation. (Yeoman et al., 2012.)

This paper presents the results of an inquiry of current and future hospitality and tourism professionals about the key driving forces, consumer types, hotel types, and technologies for the hotel of the future. The service design approach guides the data collection, and the driving forces identified in the literature guide the inferring of future conditions (i.e. conceivable future events) and ‘explanatory claims’ (predictions) in order to provide future forecasts (Bergman et al., 2010: 859). From the data collected, three narrative scenarios are created portraying a foresight into the future of the tourism and hospitality, and especially the hotel of the future.

Drivers shaping the future

Any projection for the hotel of the future needs to recognise urbanization and the changes in price of land, changing demographics, the increasing wealth of the world population, climate change, as well as the transmodern ways of being that favour sustainability, and new forms of community (Hall et al., 2015; Yeoman et al., 2012; Whittington, 2014) via active citizenship. Amongst some of the projected drivers, futuristic architecture can already be seen in the emerging business hubs around the world. In addition, sustainability is already evident in the ways companies evaluate and develop their operations (Yeoman et al., 2012: 195).

Correspondingly, new opportunities for innovative solutions to the environmental, social and economic effects of the industry have recently attracted increasing attention. It is evitable that the future hotel managers must run their companies successfully under changing conditions and developing legislation whilst helping the society towards new, more sustainable conditions. (Jones et al., 2014.)

In addition, climate change will also bring about many new experiences as it alters the environment. The tourism destinations relying on climate regularity should be concerned for the loss of biodiversity, degradation of the ozone layer, changing climates, toxic contaminants to soil, water and air, and loss of ocean life. (Whittington, 2014.) Also, the global challenges of growth, urbanisation, scarcity and environmental change become the key drivers for hospitality and tourism,

A dramatic change in consumer preferences, lifestyle and consumption behaviour has been exposed through the millennial generation and late generation Y, who are seeking alternatives to traditional destinations, forms of transport and accommodation. Concurrently, the upsurge of mobile and creative work entails the introduction of new lobby concepts, as well as nomadic-, and polymorphic (i.e. shape shifting) workspaces.

In a recent report, Amadeus (2015) projected six consumer tribes for 2030, namely 'simplicity searchers', 'cultural purists', 'social capital seekers', 'reward hunters', 'obligation meeters' and 'ethical travellers'. In addition, according to Yeoman (2008: 41) 'Tomorrow's tourists [will] lead complicated lives and have a fluid identity.' Hotel consumers will live a life of opposites (paradoxical juxtapositions). On one hand they will stay at eco-stress-free hotels, on the other hand, at the same time they gamble at the nearest casino or 'shop til they drop' at the fanciest mall in town. Thus tourism and hospitality offers will be a mashup of high and low culture signifiers. This in turn will lead to new neo-fordist forms of hotels in the coming decades.

Despite pre-Fordist, Fordist, post-Fordist and neo-Fordist elements coexisting at any given destination, neo-Fordist forms of prosumption of destinations' offers, such as hotels, are increasingly individualized through mass customization and/or mass tailoring (Ioannides and Debbage, 1997; Skjevvald and Idsoe, 2005). The use of technology systems, by hyper-specialised companies in network with partners, allow the consumer to custom design the final offering, is a manifestation of neo-fordism

(Ioannides and Debbage, 1997; Torres and Skillicorn 2004). This final offering is personal, meaningful, shareable and sustainable.

However, in the short-term most consumers will continue experiencing modern forms of consumption and postmodern consumption, with only a few making a transition to the transmodern consumption condition. For Magda (2005: 73) 'Transmodernity is postmodernity without its innocent rupturism'. Transmodernity refers to the 'intuitive aspirations for inclusivity, diversity, partnership, sacredness, and quality of life, deep play, sustainability, universal human rights, the right of nature and peace on earth' (Ateljevic, 2011: 509; Mura, 2012). In transmodernity, there is a universal yearning for a new kind of authenticity. If the Experience economy is an answer to postmodernity, the mashup of transformation economy, creative economy, and green economy are the sparks to transmodernity.

The digital society that we already live in, and the expansion of the high-speed broadband as well as wireless technologies, enable the ubiquitous interfaces and personalized information regardless of the location or the demographic of the traveller. According to Amadeus (2015), the forthcoming changes, related to technology, and developments that will influence future travel the most are 'connectivity everywhere', 'polymath devices', 'computers learn human', 'bodies of research' and 'remote control'.

In addition, displaying life experiences, documenting personal moments, and sharing the entire process through social networks will keep growing. By 2050, these processes of documentation and sharing will be streamlined and innovations like cars with in-dash social media capabilities will be mainstream rather than research projects or PR-stunts. (Munar and Jacobsen, 2014; Whittington, 2014.) In the future, these technologies have the prospective of helping brands to engage with consumers with extraordinary and personalized offerings, thus making for instance the flying experience safer, faster, economical, and relaxed for the consumer (Amadeus, 2013; 2015; Finnair, 2008).

Due to the ubiquity of digital technology, Milgram et al. (1994) see reality and virtuality not as antitheses, but as lying at opposite ends of a continuum, which they refer to as the Reality-Virtuality (RV)

continuum. Similarly, Pine and Korn (2011) put forward the multiverse framework, which contains eight realms anchored by Reality on one end and virtuality on the other. In most of these realms, consumers receive value from some type of technology that enhances their experiences. Thus, hotels of the future will operate and co-create value within RV continuum and the multiverse with infinite possibilities.

An emotional environmental element such as enjoyable music, fresh scent, ambient light, or soft fabrics arouse desire leading to patronage intents (Baker et al., 2002), willingness to buy (Kotler, 1973/74), revisit (Wakefield and Brodgett, 1996), and recommendation (Sherman et al., 1997). Moreover, consumer experience can be seen as a multi-sensory, affirmative and wide-ranging emotional experience that facilitates profound personal change. As postulated by Tarssanen and Kylänen (2006), by activating individuality, authenticity, compelling storytelling, multi-sensorial perceptions, interaction and deep contrasts, tomorrow's hotel providers are able to construct memorable and unique experiences to future consumers.

Amongst the sensory stimuli, eyesight has generally been perceived to be the supreme human sense, and it is considered the most seductive way of communication (e.g. Pawaskar and Goel, 2014). For example, many hotels, restaurants, travel agents and attractions offer a virtual tour of their locations and offerings (Guerra, Pinto and Beato, 2015; Huang, et al., 2013). However, the pioneers in the industry already see the possibilities beyond the traditional visual stimuli. For instance, the international hotel chain Marriot has incorporated multiple sensory stimuli to their promotional #geteleported mixed reality trip.

Conjointly with visual atmosphere and ambience, the audible sounds, namely noise and background music and sounds, influence consumer's purchase intentions, moods, perceptions of service, and consumer decision, (Alpert and Alpert, 1990; Areni and Kim, 1993; Milliman, 1986; North and Hargreaves, 1996; Räsänen, 2012). The findings of the 'World Soundscape Project' (Schafer, 1977) form the basis of the way that acoustics and noise are assessed today. Their model conglomerates objective

physical measurements (e.g. sound levels) with psychoacoustic factors (e.g. loudness, roughness, sharpness, etc.) and subjective experiences (verbal descriptions, interviews, questionnaires) in a more holistic way. According to Botteldooren et al. (2011), 'soundscape' combines both the sound sources and the milieu, and is subject to other sensory stimuli, for example the functionalities of the milieu, the motivations and expectations of people present and the individual aural and cultural background of each participant. Therefore, 'soundscape' design can regulate when a sound should be heard and through analysis, and the management of the elements in the soundscape, new and innovative components can be created to augment the existing ones (Brown, 2004; Siebein, 2010).

Lindström (2005) and Hultén (2011) have confirmed that the sensation of sound is linked to emotions and feelings and these sensations impact brand experiences, interpretations, and companies have great opportunities to create a signature sound, which symbolises the brand, creates sensory experiences and enhances recall. (Botteldooren et al., 2011; Pawaskar and Goel, 2014.)

Moreover, various studies have illustrated that the use of scents influence consumers, for example, scents increase the usage of slot machines (Hirsch, 1995), ambient scents influence positively social interactions (Zemke and Shoemaker, 2007), waiting in scented areas is perceived less stressful (McDonnell, 2002), and scents increase sales (Morin and Chebat, 2005). This olfactory stimulation, (Gutiérrez and Horillo, 2014), hence the scents, can be harnessed by managers to add longevity to the experience, or to strengthen brand communication and enable emotional bonding. Consequently, when consumers have a pleasant experience and later smell the same blend of scents, they immediately think of the brand they connect to and want to relive the experience (Kita and Nakatani, 2011).

The sensation of taste, however, is problematic in the tourism industry because of its tangible characteristics but holds an enormous importance in the food and beverage industry. However, Klosse et al. (2004) and Biedekarken and Henneberg (2006) state that the sensation of taste is the most distinctive emotional sense frequently relating to other senses, and therefore, despite the concreteness, Pawaskar and

Goel (2014, 261) advise that different taste experiences can greatly contribute to creating an image of a brand, and therefore should be incorporated in multisensory service design.

In view of the human senses, the ideology of 'tactile sensations' (Gutiérrez and Horillo, 2014), as well as 'haptic feedback' (Bagozzi et al., 1999) incorporate the sense of touch in branding communications of certain products. The sensation of touch, relating to physical and psychological reactions, and to emotions about a product through physical interactions (e.g. Citrin et al., 2003; Pawaskar and Goel, 2014) provide good opportunities for brands and services to create an identity and image using tactile marketing. The limitations of haptic feedback (e.g. vibrations and shocks) and input (e.g. keyboard or mouse for motion) have been lately challenged by wearable technology. These emerging technologies are capable of transferring the observed motions of the consumer into the virtual environment and allow a perceived solidification of virtual objects. Technology can detach the consumer from reality, matching the virtual movement with the input device by recognising the corresponding hand movements using haptic gloves or movement detection systems.

Dede (2009: 66) defines immersion as the 'the subjective impression that one is participating in a comprehensive, realistic experience', regardless of how the immersive experience is generated. This is similar to Witmer and Singer's (1998) perspective, where they describe immersion as a psychological state where individuals perceive themselves to be enveloped in and interacting with virtual environments that provide a stream of stimuli and experiences and referred to as psychological immersion (Ermi and Mäyrä, 2005; Schubert and Regenbrecht, 2001). In marketing literature, the concept of neuromarketing correspondingly touches the topic of multi-sensory emotions and immersion. Research has suggested that an advertisement that simultaneously stimulates several parts of the brain is more powerful and may lead to a proliferation of shopping need (Moilanen, 2014).

Furthermore, a simulation can take the expectations into account and create a highly immersive space using advanced means to stimulate the sensory system and react accordingly on the input of the

consumer; 'the greater the immersion, the greater the participant's suspension of disbelief that she or he is 'inside' a [...] setting' (Dede, 2009: 66; Gorini et al., 2011). In the future, immersion and emotions will play a significant role in the formation of consumer experience and the hospitality and tourism industry will most likely have to develop polymorphic spaces where the atmospherics can be adjusted according to the detected consumer requirements.

However, building an emotional connection between interior design and the consumer experience has been challenging. Traditional design approaches have not been able to conjoin people with the milieu and experience. Virtual environments have been shown to be an effective medium (Cruz-Neira et al., 1992), as variables that are difficult to control or duplicate in real-world settings are responsive to control in virtual realities due to the unique affordances of the digital world. Authenticity, immersion, and emotion are interesting by themselves; the challenging part is to merge them in commercial space. (Reiners et al., 2014.)

In the coming decades, artificial intelligence (AI) and machine learning techniques will play a more central role in consumers' lives. The outburst of wearable technologies has paved the way to rise of the Quantified Self (QS) movement. Combining the traditions of participant ethnography, and exploiting the features of wearable technology, numerous people track their physical functions with the purpose of developing a specific habit or just to raise awareness of one's self. (Nafus and Sherman, 2014.) Moreover, Service-Oriented Architecture (SOA) has led to the development of more reusable and flexible robotic systems that can function in multiple service situations. (Avgeriou and Zdun, 2014.) In their research projects, Zalama et al. (2014) and Nieto et al. (2014) introduced and successfully tested hotel robots in real-life transportation duties and as an intermediary between a hotel and the hotel consumer. Moreover, Yotel New York features world's first hotel robotic luggage handler, and Starwood Hotels and Resorts is piloting robotic butlers in commercial settings at Aloft Hotels.

Research methodology

Moritz (2005: 40) defines service design as “planning and shaping useful, usable, desirable, effective and efficient service experiences”. Furthermore, “service design is [interdisciplinary and] increasingly considered as [an] ‘approach’ or ‘thinking’ that can be transferred to a wide variety of practices for service innovation” (Yu and Sangiorgi, 2014: 195; Stickdorn and Schneider, 2010) and consequently also suitable to guide the development of new concepts as well as future scenarios. Service design approach allows the use of various instruments of data collection within the interpretivist paradigm (IDEO, 2011; Brown, 2008; Mager, 2008; Moritz, 2005), and relies on divergent and convergent thinking whilst allowing abductive, deductive and inductive forms of collaborative reasoning.

The service design process includes a minimum of three phases: inspiration, ideation, and implementation (Brown, 2008), which allow the exploration of design opportunities with several stakeholders, the creation of ideas and solutions, and producing actionable outcomes for implementation. When designing for service encounters and especially experiences, service designers try to visualize and describe the intangible experiences into more tangible form: i.e. personas, customer journeys, service blueprints, storyboards, scenarios and experience prototypes. (Yu and Sangiorgi, 2014.)

In order to avoid obstruction in developing fresh ideas, this exploratory study did not use any formal theoretical framework, nor was the literature review done with a positivist deductive logic (Heath, 2006: 519). Instead, the drivers described in the literature review functioned as inspiration and prior-knowledge for the study (Carson et al., 2001). During the inspiration phase, international hospitality students learned about drivers, contexts, and future consumers. This information was subsequently used in the ideation phase using Lego® Serious Play® (LSP). LSP has also been used in various companies to support innovative thinking, developing inspired cultures, and contributing to the development of concepts and processes (Kristiansen and Rasmussen, 2014). LSP is a very hands-on, minds-on experience as the participants use the hands and body as well as the mind (Executive Discovery, 2002). In this

research, LSP was used to represent abstract and imaginary future experiences, feelings or ideas.

(Gauntlett, 2014.)

The LSP exercise involved a set of activities combining metaphorical modelling, building with Lego and peer discussion to explore possibilities. In general, participants produce a deeper and more meaningful understanding of the challenge by building in metaphors, engaging in dialogue via stories and ultimately reflecting and giving meaning. In addition to LSP, participants used Six Thinking Hats® and brainstorming. The use of Six Thinking Hats® was a practical way of carrying out group ‘parallel thinking’, which allowed participants to focus on constructive thinking instead of adversarial thinking (De Bono, 1995).

This study was conducted in Finland and involved two types of participants; international hospitality students, and hospitality professionals. The selection of both groups was purposive rather than based on the principles of random or probability sampling. A total of 300 students studying hospitality related degree programmes taught in English were invited to participate in the LSP exercise, 92 accepted to join the study, of which 60 students were from Finnish university of applied sciences and 32 students were from a French university partner. The e-Delphi used 38 hospitality professionals as panellist from the Finnish university of applied sciences alumni directory.

Hence, in this study, International hospitality students first identified and described up to five key drivers/trends that should shape hospitality and tourism businesses in the decade from 2020 to 2030, and then depicted which consumer types are likely to dominate in the same decade. After that, based on the drivers and one consumer persona selected by each group of students, the hotel of the future concepts were built via LSP. When building the hotel of the future, the students focused on main touchpoints and the different types of ‘customer experiences’ (Schmitt 1999) at each touchpoint of the consumer journey.

Based on the drivers used in the LSP exercise and review of the literature, an iterative two round e-Delphi process was set up. The Delphi method is considered the most common qualitative forecasting

method in tourism studies, although the research of the theoretical and empirical suitability for forecasting purposes has been minute (Lin and Song, 2014.) The purpose of the multiple rounds is to give participants feedback from the previous rounds with expert arguments and evaluations (Tapio, 2003). Whilst not seeking for consensus, the e-Delphi method in this research was established by means of the following stages:

Stage 1. Each panellist respectively offers a ranking value to each shortlisted category. The minimum value represents the most definite perceived value, while the maximum value represents the most pessimistic perceived value. Within the first stage, the panellists also had to evaluate the timeframe of commercial availability of the shortlisted technologies.

Based on the consumer experiences, touchpoints, and consumer journeys derived from literature review, LSP exercise and the first round e-Delphi rankings, three narrative scenarios for future hotel were created.

Stage 2. The three scenarios were given to the panellists to discuss, amend and comment. At this stage, the comments of the other panellists were visible to others, thus allowing the co-creation and learning from others.

Findings

The LSP exercise produced twenty conceptual metaphors of hotels of the future as well as metaphors of touchpoints and conceivable future consumer experiences. The stories created by each team of international students allowed the authors to begin putting together significant future events and dynamics that could occur in the final narratives. Based on the literature, and the LSP exercise outcomes, the panel of experts provided professional insight into the possible future drivers, technologies, consumer personas and hotel types, thus shaping the direction of the narrative drafts. These first drafts of the narrative scenarios were revealed to experts for evaluation. After reviewing the dynamics and plotlines that appear

in stories created by the authors, the panellists provided further suggestions. Based on these suggestions, the final narratives were formed.

The following tables present the findings with percentage of the most definite perceived value given to each driver by the panel of experts.

Table 1. e-Delphi round 1 Perceived value of the drivers of the future review (n=38)

Driving forces	Perceived value
Fragmentation of consumer types	18,03 %
Technology	16,39 %
Ageing of the population	9,84 %
Global warming	9,84 %
Urbanization	8,20 %
Convergence	6,56 %
Increasing wealth	4,92 %
Slow culture (food, travel etc.)	4,92 %
Experiences	4,92 %
Smartness	4,92 %
Wellness	3,28 %
Combining work-leisure	1,64 %
Green initiatives	1,64 %
Mobility of people (neo-nomadism)	1,64 %
Security (risks)	1,64 %
Asia centrism	1,64 %
Aestheticization of the offer	< 1%
Anti-technology	< 1%
Community (tribes)	< 1%
Extended 'family' – multigenerational groups	< 1%
Localization	< 1%
Nostalgia	< 1%
Robotics	< 1%

The predicted role of different drivers for the future is shown in Table 1. These predictions did not appear to be influenced by the location, nor the occupation of the panellists. Future hotels will be influenced, to a great extent, by fragmentation of consumer groups and the ageing of the population. The

scale of changes may be exposed by uncertainty in terms of global warming, urbanization and other sustainability related drivers. Green initiatives, and the yearning for extended families, tribes and the community, may arise from the uncertainty (of the extent of e.g. global warming, security risks) and the realization of the unequal distribution of wealth and income. The consensus, however, considering the drivers, is that the future of hospitality and tourism will be shaped by the convergent technology.

Table 2. The ranking of the most prominent hotel categories of the future according to the e-Delphi panellists (n=38)

Hotel categories	Perceived value
Orbital / Space hotels	12,65 %
Sub-ocean hotels	11,02 %
Organized peer-to-peer hotels	10,65 %
Crowdsourced ‘social’ hotels	9,32 %
Forbidden/hidden hotels	7,51 %
Traditional resorts	7,01 %
Techno-immersive hotels	6,35 %
Urban city hotels	5,56 %
Ultra-luxurious hotels	4,85 %
Floating ‘island’ resorts	3,55 %
Hospital Hotels	3,21 %
Celebrity ‘endorsement’ hotels	2,60 %
Chain operated international 4star hotels	1,86 %
Nature hotels	1,22 %
Mobile-unit hotels	1,00 %
Pop-up hotels	1,00 %

The most prominent additions to the traditional list of hotel categories, according to the panellists, are shown in Table 2. The largest transformation is anticipated in the ownership/provider base of the accommodation, when the organized peer-to-peer, crowdsourced, and pop-up hotels gain market share. However, based on the panellists’ opinions, the untraditional locations for future hotels are significant. Supporting the scarcity of space (in urban locations), the space hotels and underwater hotels

can be instrumental in shaping the future of hospitality and tourism. Also, the hotels offering a deeper meaning or a more profound experience and intriguing storyline were perceived protuberant for the future.

Table 3. The consumer types ranked in accordance of the perceived value based on the e-Delphi panellist (n=38)

Consumers types	Perceived value
Visit Friends and Relative (VFR) Traveller	17,04 %
Independent Traveller	13,65 %
Generation 'S' (Senior) Traveller	11,23 %
Small Business Traveller	10,01 %
Female Business Traveller	9,02 %
Gay, Lesbian, Bi & Transsexual traveller	8,11 %
Younger generations (X/Y/Z)	7,10 %
Sub-cultural tribes	6,05 %
Chinese	5,01 %
Family	3,05 %
Business	2,87 %
Fan-travellers	2,40 %
Religious travellers	2,00 %
Environmentally conscious traveller	1,36 %
Hedonic traveller	1,00 %

The key findings regarding the future consumer groups are shown in Table 3. The role of extended families can be seen also here, while the VFR Traveller was perceived the most prominent future consumer group. Given the importance of business travel, the small business, and the female traveller may have significant influence on how the hotel offering should be developed for the future. While there was unanimous feeling about the need for catering for the independent traveller, there was disagreement of the significance of the generation S, X, Y and Z, the religious and GLTA travellers, which in a sense, could fall into the independent traveller category.

Table 4. The relevancy of suggested technology, and the commercial availability of a certain technology for tourism and hospitality industry (n=38)

Hotel room technology	Relevancy	Commercial availability	
		Mean average (yrs.)	stdDev (yrs.)
Robotic butler	13,02 %	19,56	7,27
Holographic computing and screens	8,48 %	19,10	10,92
Personal wireless monitoring/sensing	8,03 %	16,14	6,44
Personalized sounds & scents	7,66 %	15,63	9,43
Mobile control	7,60 %	11,71	2,19
Voice control	7,45 %	12,14	2,47
Projection walls (e.g. changing the interior design)	7,33 %	16,57	13,31
Remote (virtual) medical assistance	6,94 %	17,29	13,52
Electro-responsive fibres in sleepwear	6,54 %	14,57	4,75
Automated luggage handling	5,48 %	24,25	15,67
Automated check-in	5,16 %	12,50	4,33
Automatic room access with NFC or other	4,36 %	20,71	13,21
Ambiance adjustment according to personal mood	4,13 %	22,00	12,69
Real-time monitoring of carbon footprint	3,07 %	20,67	14,07
Uninterrupted (no logins/pay, high speed) Wi-Fi	2,86 %	12,67	2,13
Sensory surfaces	1,60 %	20,25	12,56
Nano-materials	<1%	15,63	9,43

The relevancy of existing, embryonic technology and its perceived commercial availability for the hospitality and tourism are shown in Table 4. The panellists, almost unanimously, agree that in twenty years, the robotic butlers will be commonly available, and play a more prominent role in hotels. The hotels will also have to be prepared to offer personalized monitoring and sound and scent control for their customers in the near future. At the same time, the expectation is that there will be a high level of automation, and remote controlling.

Based on all the data gathered, the following three narrative scenarios were created to describe the possible consumer experience in the hotel of the future.

Scenario 1 – Hotel meets hospital

The anxiety of travel, due to being in a location where the native language is strange and hard to understand and being thousands of miles away from the trusted local GP. These factors have hindered Mary's and Allen's trips in recent years. In addition, Mary's high blood pressure and Allen's type 2 diabetes have made it difficult for the pair to travel great distances. However, with recent advancements in wearable technology, and after the travel consultant reviewed their medical and biographical data, they have been offered a highly tailored trip to Nauru Islands with services to meet their special requirements.

Remote monitoring of several bodily functions and the personal monitoring device provided by the travel consultant, which in Mary's case is a necklace and Allen's case a sporty diving wristwatch will keep track of their nutrition, workout, sleep and cross-analyse the data with the information at their GP's medical records during their vacation.

The room that they have chosen is equipped with sensor floors so that the hotel personnel, and their virtually present GP can detect the changes in their medical condition. The chosen tailored package has adjusted the in-room entertainment offering music and movies to suit their tastes in their native language. Also, the chosen room category includes king size beds with sensors, which analyse the quality of their sleep, and the linen, towels and other furniture fabrics are made of nanofibers, with nanoparticles and nanofilaments (nanotechnology). For example, towels made of silver nanoparticles, which kill bacteria and fungi, and prevent nasty odours. Furthermore, the travel consultant has offered an all-inclusive luggage handling that has taken care of their luggage from their home door to their hotel room.

While settled in their paradise, Mary and Allen want to enjoy the sun, and based on the forecasted UV-index, the smart room provides them with recommendations for the hours that the couple should stay in the sun meanwhile adjusting the shower to provide a protective shield to their skins. Also, the bathrobes and beach shirts incorporate sun blocking technology. After a day at the beach the room

monitoring and sensing system analyses the UV-A and UV-B intake and adjusts the room lighting to activate the healing of skin and adding a treatment cream to shower water, which will stimulate the local immune response against skin cancer cells.

Whilst visiting the local market place the couple experiences the easiness of translation through 'Travelglasses' provided by their travel consultant. Wearing a pair of contact lenses, connected to their personal monitors, the devices are able to provide a simultaneous verbal translation of what their taxi driver is saying and Allen even manages to bargain for the price with a native Nauruan speaker. For their dinner at the harbour restaurant, the device will come handy because it is able to translate the restaurant menu from Nauruan into English in seconds. The 'Travelglasses' will sync also food nutrition values with their wellness bracelet, which tracks steps, heart rate, sleep, and other biometrics. A UV sensor measures sun exposure and a galvanic skin response sensor tells them if they are stressed out. There are also other sensors such as an optical heart rate sensor, a 3-axis accelerometer, a gyro meter, an ambient light sensor, and a skin temperature sensor. All data collected by the wellness bracelet is sent to the cloud, and can be available to the family and their General practitioner.

Scenario 2 – Diginative on a citybreak

Working for a NGO in Luxemburg, Sonya is finalizing her Master degree and decides to take a minibreak in Shanghai. Sonya can be referred to as a 'digital native' as she has been playing with her dad's tablet since age two, and got her first smartphone at the age of five, thus technology has been ubiquitous in her life. Sonya's personalized e-butler, Marzello, has been recently upgraded to travel management level and therefore Sonya will be able to continually engage and interact with him to fine-tune her trips in real time and troubleshoot any problems that arise.

To get to the hotel, Sonya uses peer transport booked by Marzello, who has also booked the hotel from 'Rec'otel' service, which combines Sonya's taste for music, movies, entertainment and travel history to highly personalized recommendations.

While considering her options for a day trip to experience the local culture on Sunday, her wearable A.I. connects online with a new generation of 'try before you buy' websites operated by destination marketing organization of Shanghai as well as on-line communities of likeminded people. It returns with an array of virtual reality samples that allow Sonya to see the sights, hear the sounds, and even feel the landscape, of a variety of different experiences available within the area. Vibration-based haptic techniques enable Sonya to feel for example the texture of the wool, silk or cotton of the item that would be on offer at the downtown marketplace and with the haptic technology she can feel the sand between her toes on a beach located an hour away from the hotel.

With a wave of her hand, Sonya switches between the possibilities that the gesture-controlled unit projects to OLED screens. Her sense of anticipation and excitement will be detected by Marzello, suggesting "Perhaps one of the new restaurants in the Coral Bay area", lowering the lights, filling the room with the sound of lapping waves on coral and projecting a hologram of a gorgeous seascape viewed through the panoramic windows of a room beneath the crystal-clear waters of the ocean.

Sonya's relaxed and exciting virtual reality tour through a series of very different travel scenarios allows her to fine-tune her wishes. Now she knows whether she would prefer a walk downtown to experience local hidden treasures or a trip to an idyllic beach to meet with local c-pop lovers. The integrated sensors and advanced algorithms understand, react and even anticipate Sonya's moods and emotional states and deliver the information so that Marzello, the A.I. enhanced travel buddy, can react to her actions.

Therefore, Marzello sets off on the next stage of discovery: actively seeking, and finally planning and booking the driverless transportation and the brunch table at the new nearby restaurant and uploads personalized maps with recommendations from local inhabitants.

Relaxed after a short yoga workout in a virtual pavilion, Sonya instructs Marzello to order her usual afternoon snack from room service, which will be delivered on time by a robotic butler, while she is freshening herself. Smart meters are used to reduce water usage while motion sensors and galvanic shower panels, embedded in the shower, alter temperature, water flow, and water pattern and dispense vitamin C and chromatherapeutic lighting according to Marzello's recommendations to stimulate and energize Sonya towards the evening. After her energizing shower, the interactive mirror reports the real time consumption (energy, waste, CO₂) and adjusts the eco efficient lightning, OLED screens (instead of windows) to reduce the consumption. The interactive mirror gauges also the mood of Sonya by her facial expression and body posture and therefore Marzello suggests Sonya to go to a supper club – evenings with paid-for dinners hosted by local foodies in their own homes. Next day, Sonya is back in Luxembourg hosting family and friends and showing videos of the trip captured by the drones.

Scenario 3 – Pink party

Mary, the Sales rep for global renewable energy company decides to extend her work related trip to Africa and joins her friends in the floating party island of 'Zia Zora' in Cape Verde. Her three friends have already arrived and they will share a polymorphic four en-suite bedroom with an underwater living-dinner-partyroom.

Right after Mary's arrival and the welcome drinks that the robotic bartender has prepared for the girls, the Resort Vibe Manager Kathya visits their room and ensures that the technology and the room amenities are according to the requirements. Kathya also suggest some new tunes, which are trending now amongst the party island DJs and other partygoers. After ensuring that their profiles in Zinder, the *glocal* dating service for destinations and resorts are up-to-date, Kathya presents the recently introduced branded fragrance of the Zio Zora, which is available only at the resort.

Competing against the likes of Ibiza, Dream island of Ras Al Khaimah (UAE) and Boracay (Phi), the hotels at the Zio Zora party island offer endless telepresence possibilities to explore the live atmosphere of these party destinations around the world. Through immersive sound systems, holographic screens and integrated OLED walls, Mary and her friends can choose if they like to 'teleport' their warm-up party to any of these hip destinations. Controlling the room decoration and sounds by a simple app on her phone, Mary adjusts the party room with OLED screens projecting the morning chill out sounds and live scenes from the famous Café del Mar club from Ibiza. The girls have sent invitations to nearby party minded people through Zinder application and the robot butler is already preparing the first drinks for the evening.

The freedom to move within the whole island area has been made possible by the agreement by all service providers to accept paying with consumers' fingerprint and accessing the hotel room with Retina recognition. During the evening at several bars and clubs within the ZioZora area, each purchase made by the girls is logged, which enriches the repository of consumer information held by the hotel. In the morning, the vibe manager Kathya uses this data to create personalised offers for the remaining days. In addition, hotel staff has overheard the girls discussing the possibilities of seeing the world famous drag-show the following evening and has made a record of this to their consumer profiles. Seeing this data, and based on the profiles, the resort vibe manager Kathya has booked seats at the downtown club for Saturday evening, in case Mary and the girls would like to see the Show. The next day, they check-out with their smart phones and receive a message informing them that one percent of their spending could be kept for the return visit or instead, be given to one of the three listed local charities. A few hours later their supersonic flight lands in Suqian, PRC.

Conclusions and implications to the practice of management

In this study, the authors have depicted three narrative scenarios of future hotels, and described how the future consumers will experience the hotel offerings by emphasising the leading technologies. The transformation of the lifestyles, the inevitable changes in the environment in which the industry operates, and the unforeseen developments in both the consumer and service technology will change the way the industry operators have to manage their future offerings. Considering the emerging values of community, self-fulfilment and the wholeness, one must consider the increase of transmodern forms of consumption in the future. Although the pure hedonistic indulgence will prevail as a significant reason to travel, there is a clear demand for educational escapism, travelling to unknown territories and culturally authentic destinations. Hence, the idea of developing meaningful hotels has to be considered.

Although the scenarios presented a combination of possible futures, the existing knowledge and views from current and future hospitality professionals in this study suggest three focus areas for future hotels.

First, future hotels have to respond to demographic trends which are difficult to overlook and unlikely to change while the massive Baby Boom generation gets older. Developing new offerings for the mature and experienced consumer, who often tend to be the most demanding and unforgiving of service failures or inferior facilities, will be vital. For example, requirements for new approaches to signage, menu, food flavours, security systems, and medical services are expected to rise.

Secondly, future hotels have to fully embrace the emerging technology, and the technology already available in the other industries while rapidly testing the possibilities of embryonic new solutions. Regardless of hotel category, or style, the future consumers want experiences, converging service, media and technology. However, this does not mean that all hotels have to be converted to hyper-connected technopolises. Instead, hotels should embrace the unforeseen possibilities of listening to their consumers and respond to their desires accordingly, with the help of technology. Enhancing the consumer experience with ubiquitous technology does not have to be visible but immersive and seamlessly operative.

Finally, the consumers will be like chameleons, and future hotels must be prepared for rapid individualisation of the offering and providing meaningful targeted ancillary offerings with the help of immersive technology and available real-time consumer insight. In the future, polymorphic service areas, rooms and mobile units will be the norm and the requirement for revenue on square meter per hour has to be met whilst delighting consumers. Destinations in general, and hotels in specific will have to be prepared for this 'silent revolution' where consumers armed with technology put emphasis on co-creation and seeking meaningful experience for themselves and the others (e.g. community).

The three focus areas that emerged from this study and the drivers that underpinned them are in line with previous studies. However, the findings highlight that tomorrow's hotel will provide a more immersive experience supported by digital and media convergence. Furthermore, the hotel of the future has to be flexible and customizable in order to meet the ever-changing needs of transmodern consumers.

Limitations and future research

Being an exploratory, qualitative and future oriented study this study uses a small number of participants. Using international graduating students as future professionals in the LSP exercise can be seen as a limitation, however, the outcomes of LSP exercise were not in conflict with the views of current hospitality experts used as panellists in the e-Delphi. However, the use of other types of participants such as real transgenerational hotel consumers and other stakeholders would have enriched the study. A critical point of scenario formation within the Delphi method is the choosing of the final scenarios for evaluation, and in this study, there was an attempt to acknowledge the value of earlier data, in order to come up with scenarios with as little personal prejudices as possible.

Despite the limitations, the findings put forward suggestions, which can be further developed into hotel embryos and prototypes. Indeed, before moving towards the expensive development of a new or improved service, hospitality and tourism operators should consider the possibilities of prototyping and

testing the narrative scenarios quickly and cheaply via mock-ups of the structure, the milieu and the personnel. In addition, acknowledging the possibilities of the present technology, the computer aided and moving image or simulations could be used in the evaluation of consumer experiences. Future researchers could research the touchpoints of a new service concept in a controlled environment whilst using projection walls, or immersive mixed reality appliances, combined with artificial scents and ambient sounds.

As society moves towards technological singularity, it can be concluded that the current series of pilot technologies being tested in the various industries will become commonly present in destinations and in the hotels of the future.

References

- Alpert J and Alpert MI (1990) Music influences on mood and purchase intentions. *Psychology and Marketing* 7: 109-133.
- Amadeus (2013) *Future Traveller Tribes 2020: Report for the Travel Industry*. Madrid, Spain: Amadeus.
- Amadeus (2015) *Future Traveller Tribes 2030 - Understanding tomorrow's traveller*. Madrid, Spain: Amadeus.
- Andersson TD (2007) The tourist in the experience economy. *Scandinavian Journal of Hospitality and Tourism* 7(1): 46-58.
- Areni CS and Kim D (1993) The influence of background music on shopping behaviour: classical versus top-40 music in a wine store. *Advances in Consumer Research* 20: 336-340.
- Ateljevic I. (2011) Transmodern Critical Tourism Studies: a call for hope and transformation. *Turismo em Análise* 22: 497-515.
- Avgeriou P and Zdun U (eds) (2014). *Software architecture. Proceedings of 8th European Conference ECSA, August 25-29, 2014. Vienna, Austria: Springer International Publishing.*

- Bagozzi R, Gopinath M, and Nyer P (1999) The role of emotions in marketing. *Journal of the Academy of Marketing Science* 27(2): 184-207.
- Baker J, Parasurman A, Grewal D, and Voss GB (2002). The influence of multiple store environment cues on perceived merchandise value and patronage intentions. *Journal of Marketing* 66(2): 120-141.
- Bergman A, Karlsson JC, and Axelsson J (2010). Truth claims and explanatory claims - An ontological typology of futures studies. *Futures* 42(8): 857-865.
- Biedekarken O and Henneberg S (2006). Influence of brands on taste acceptance: ice cream brand versus discount brand; brand recognition influences sensory acceptance positively or negatively, an effect that can sometimes be quite dramatic. *Food Engineering and ingredients* 9(1): 24-26.
- Blackman A, Naranjo MA, Robalino J, Alpizar F, and Rivera J (2014) Does tourism eco-certification pay? Costa Rica's blue flag program. *World Development* 58: 41-52.
- Botteldooren D, Preis A, Dubois D, Aspuru I, Guastavino C, Brown L, Nilsson M, and Andringa TC (2011) Understanding urban and natural soundscapes. In: *Forum Acusticum*, Aalborg, DK, 27 June-1 July 2011. Aalborg, European Acoustics Association, 2047-2052.
- Brown L (2004) An approach to the acoustic design of outdoor space. *Journal of Environmental Planning and Management* 47: 827-842.
- Brown T (2008) Design thinking. *Harvard Business Review* 86(6): 84-92.
- Budde F, Tranter P, Fechtel A, Wise A, Lui V, and Milunsky T. (2013) *Winning the Next Billion Asian Travellers – Starting with China*. Boston, MA: Boston Consulting Group and TripAdvisor.
- Carson D, Gilmore A, Perry C, and Gronhaug K (2001) *Qualitative Marketing Research*. London: SAGE Publications.
- Citrin AV, Stem DE, Spangenberg ER, and Clark MJ (2003) Consumer need for tactile input: an internet retailing challenge. *Journal of Business research* 56(11): 915-922.

- Cruz-Neira C, Sandin DJ, DeFanti TA, Kenyon RV, and Hart JC (1992) The CAVE: audio visual experience automatic virtual environment. *Communications of ACM* 35(6): 64-72.
- De Bono E (1995) *Parallel thinking: from Socratic thinking to de Bono thinking*. London: Penguin Books.
- Dede C (2009) Immersive interfaces for engagement and learning. *Science* 323(5910): 66-69.
- Ermi L and Mäyrä F (2005) Fundamental components of the gameplay experience: analysing immersion. In: de Castell S and Jenson J (eds) *Worlds in play: International perspectives on digital games research*. New York: Peter Lang Publishing, 37-54.
- Executive Discovery (2002) *The science of LEGO® SERIOUS PLAY™. Play, Construction, Imagination*. Enfield: Executive Discovery llc. Available at: <http://www.strategicplay.ca/upload/documents/the-science-of-lego-serious-play.pdf> [Accessed 20 April 2015].
- Finnair (2008) *Departure 2093: Five Visions of Future Flying*. Helsinki: Publisher Finnair plc.
- Gauntlett D (2014) The LEGO System as a tool for thinking, creativity, and changing the world. In: Mark J and Wolf P (eds) *LEGO Studies: Examining the Building Blocks of a Transmedial Phenomenon*. New York: Routledge.
- Genuit K and Fiebig A (2006) Psychoacoustics and its benefit for the Sounscape approach. *Acta Acustica united with Acustica* 92: 952-958.
- Gilmore JH and Pine BJ (2002) Differentiating hospitality operations via experiences: why selling services is not enough. *The Cornell Hotel and Restaurant Administration Quarterly* 43(3): 87-96.
- Gorini A, Capideville CS, De Leo G, Mantovani F, and Riva G (2011) The role of immersion and narrative in mediated presence: the virtual hospital experience. *Cyberpsychology, Behavior, and Social Networking* 14(3): 99-105.
- Gretzel U, Werthner H, Koo C, and Lamsfus C (2015) Conceptual foundations for understanding smart tourism ecosystems. *Computers in Human Behavior*. Epub ahead of print 9 April 2015.

- Guerra JP, Pinto MM, and Beato C (2015) Virtual reality shows a new vision for tourism and heritage. *European Scientific Journal* 11(9): 49-54
- Gutiérrez J and Horrillo MC (2014) Advances in artificial olfaction: sensors and applications. *Talanta* 124: 95-105.
- Hall CM, Amelung B, Cohend S, Eijgelaare E, Gössling S, Higham J, Leemans R, Peeterse P, Ramh Y, and Scotti D (2015) On climate change skepticism and denial in tourism. *Journal of Sustainable Tourism* 23(1): 4-25.
- Heath H (2006) Exploring the influences and use of the literature during a grounded theory study. *Journal of Research in Nursing* 11(6): 519-528.
- Hirsch AR (1995) Effects of ambient odors on slot-machine usage in a Las Vegas casino. *Psychology & Marketing* 12(7): 585-595.
- Huang YC, Backman SJ, Backman KF, and Moore D (2013) Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. *Tourism Management* 36: 490-501.
- Hultén B (2011) Sensory marketing: the multi-sensory brand-experience concept. *European Business Review* 23(3): 256-273.
- Hultén B, Broweus, N, and van Dijk, M (2009) Sensory Marketing. Basingstoke: Palgrave Macmillan.
- IDEO (2011) Human-Centered Design Toolkit. San Francisco: IDEO.
- Ioannides D and Debbage K (1997) Post-Fordism and flexibility: the travel industry polyglot. *Tourism Management* 18: 229-241.
- Jones DL, Day J, and Quadri-Felitti D (2013) Emerging definitions of boutique and lifestyle hotels: a Delphi study. *Journal of Travel and Tourism Marketing* 30(7): 715-731.
- Jones P, Hillier D, and Comfort D (2014) Sustainability in the global hotel industry. *International Journal of Contemporary Hospitality Management* 26(1): 5-17.

- Kita Y and Nakatani Y (2011) Smell-based memory recollection and communication support. *Haptic and Audio Interaction Design*: 128-134.
- Klosse PR, Riga J, Cramwinckel AB, and Saris WH (2004) The formulation and evaluation of culinary success factors (CSFs) that determine the palatability of food. *Food service technology* 4(3): 107-115.
- Kotler P (1973/74) Atmospherics as a marketing tool. *Journal of Retailing* 49(4): 48-64.
- Kristiansen P and Rasmussen R (2014) *Building a Better Business Using the Lego Serious Play Method*. Hoboken: John Wiley & Sons.
- Lin V and Song S (2014) A review of Delphi forecasting research in tourism. *Current Issues in Tourism* 1-33.
- Lindström M (2005) *Brand Sense. Build Powerful Brands through Touch, Taste, Smell, Sight, and Sound*. New York: Free Press.
- Magda RMR (2005) The Pleasure of the Simulacrum. In: de Sotelo E (ed) *New Women of Spain: Social-political and Philosophical Studies of Feminist Thought*. Münster, Germany: LIT Verlag, 68-77.
- Mager, B (2008). Service Design. In: Erhoff, M and Marshall, T. (eds) *Design Dictionary: Perspectives on Design Terminology*. Basel: Birkhäuser, 354-357.
- McDonnell J (2002) June. Sensorial marketing for those who can wait no longer. In: *Proceedings of the first International Conference of Sensorial Marketing*. Nice, 2002. The Academy French Marketing and Columbia University: Nice.
- Milgram P, Takemura H, Utsumi A, and Kishino F (1994) Augmented reality: A class of displays on the reality-virtuality continuum. In *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*. 2351: 282-292.
- Milliman RE (1986) The influence of background music on the behavior of restaurant patrons. *Journal of Consumer Research* 13(September): 286-290.

- Moilanen T (2014) What is Neuromarketing? In: Heikkinen V and Inkinen S (eds) *FUTUAeroport II: Visions and Futures of Service Landscape and Innovations at Tomorrow's Airport*. Helsinki: HAAGA-HELIA University of Applied Sciences, 212-215.
- Moritz, S (2005) *Service Design: A Practical Access to an Evolving Field*. London: Köln International School of Design.
- Morrin M and Chebat JC (2005) Person-place congruency the interactive effects of shopper style and atmospherics on consumer expenditures. *Journal of Service Research* 8(2): 181-191.
- Munar AM and Jacobsen JKS (2014) Motivations for sharing tourism experiences through social media. *Tourism Management* 43: 46-54.
- Mura A (2012) The symbolic function of transmodernity. *Language and Psychoanalysis* 1: 68-87.
- Nafus D and Sherman J (2014). This one does not go up to 11: the quantified self movement as an alternative big data practice. *International Journal of Communication* 8: 1784-1794.
- Nieto D, Quesada-Arencibia A, García CR, and Moreno-Díaz R (2014) A Social Robot in a Tourist Environment. In: Hervas et al. (eds). *Ubiquitous Computing and Ambient Intelligence. Personalisation and User Adapted Services: 8th International Conference, UCAmI 2014, Belfast, UK, December 2-5, 2014, Proceedings. Vol. 8867*. Springer International Publishing, 21-24.
- North AC and Hargreaves DJ (1996) The effects of music on responses to a dining area. *Journal of Environmental Psychology* 16: 55-64.
- O'Connor P (2013) *Online Travel Agencies: The Empire Strikes Back?* Grandvaux: HSyndicate.
- Pawaskar P and Goel M (2014) A conceptual model: Multisensory marketing and destination branding. *Procedia Economics and Finance* 11: 255-267.
- Pine BJ and Gilmore JH (1999) *The Experience Economy: Work is Theatre and Every Business a Stage*. Boston: Harvard Business Press.

- Pine BJ and Korn KC (2011) Cosmos Incogniti: Introducing the Multiverse. In: *Infinite Possibility: Creating Customer Value on the Digital Frontier*. San Francisco: Berrett-Koehler Publishers, 11-25.
- Pritchard A and Morgan N (2006) Hotel Babylon? Exploring hotels as liminal sites of transition and transgression. *Tourism Management* 27(5): 762-772.
- Räisänen A (2012) *The influences of music to consumer emotions, shopping intentions and behavior in HandM retail store*. Master's Thesis. Aalto University: Helsinki Finland
- Schafer R (1977) *The Tuning of the World*. Philadelphia: University of Pennsylvania Press.
- Schmitt B (1999) Experiential marketing. *Journal of marketing management* 15(1-3): 53-67.
- Schubert TFF and Regenbrecht H (2001) The experience of presence: factor analytic insights. *Presence* 10(3): 266-281.
- Sherman E, Mathur A, and Smith RB (1997) Store environment and consumer purchase behavior: meditating role of consumer emotions. *Psychology and Marketing* 14(4): 361-378.
- Skjevdal R and Idsoe EA (2005) The competitive impact of product configurators in mass tailoring and mass customization companies. *World Congress on Mass Customization and Personalization*, Hong-Kong, China.
- Stickdorn M and Schneider J (2010) *This is Service Design Thinking*. Amsterdam: BIS Publishers.
- Tapio P (2003) Disaggregative policy Delphi: using cluster analysis as a tool for systematic scenario formation. *Technological Forecasting and Social Change* 70(1): 83-101.
- Tarssanen S and Kylänen M (2006) A Theoretical Model for Producing Experiences – A Touristic Perspective. In: Kylänen M (ed) *Articles on Experiences 2*. Rovaniemi: University of Lapland Press, 134-154.
- Thakran K and Verma R (2013) The emergence of hybrid online distribution channels in travel, tourism and hospitality. *Cornell Hospitality Quarterly* 54(3): 240-247.

- Torres R and Skillicorn P (2004) Montezuma's revenge - how sanitation concerns may injure Mexico's tourist industry. *Cornell Hotel and Restaurant Administration Quarterly* 45: 132-144
- TravelRave (2012) *TravelRave unveils significant industry insights*. Singapore: YourSingapore.
- UNWTO (2011) Tourism Towards 2030 / Global Overview - Advance edition presented at UNWTO 19th General Assembly - 10 October 2011. Madrid: UN World Tourism Organization.
- UNWTO (2015) Tourism Highlights, 2015 Edition. Madrid: UN World Tourism Organization.
- Wakefield KL and Blodgett JG (1996) The effect of the servicescape on customers' behavioral intentions in leisure service settings. *The Journal of Services Marketing* 10(6): 45-61.
- Whittington A (2014) Family vacation 2050: socially and technologically-driven scenarios of the future of family travel, recreation and tourism. *Tourism Recreation Research* 39(3): 379-396.
- Witmer BG and Singer MJ (1998) Measuring presence in virtual environments: a presence questionnaire. *Presence: Teleoperators and virtual environments* 7(3): 225-240.
- Yeoman I. (2008) *Tomorrow's Tourist: Scenarios & Trends*. Oxford: Elsevier.
- Yeoman I, Rebecca TLY, Mars M, and Wouters M (2012) *2050 - Tomorrow's Tourism*. Bristol: Channel View Publications.
- Yu E and Sangiorgi D (2014) *Service Design as an Approach to New Service Development: Reflections and Futures Studies*. Lancaster: Lancaster University.
- Zalama E, García-Bermejo JG, Marcos S, Domínguez S, Feliz R, Pinillos R, and López J (2014) Sacarino, a Service Robot in a Hotel Environment. In: Armada M, Sanfeliu A, and Ferre M (eds) *ROBOT2013: First Iberian Robotics Conference* 253. Springer International Publishing, 3-14.
- Zemke DMV and Shoemaker S (2007) Scent across a crowded room: exploring the effect of ambient scent on social interactions. *International Journal of Hospitality Management* 26(4): 927-940.