World Tourism Day 2018

Tourism and the Digital Transformation

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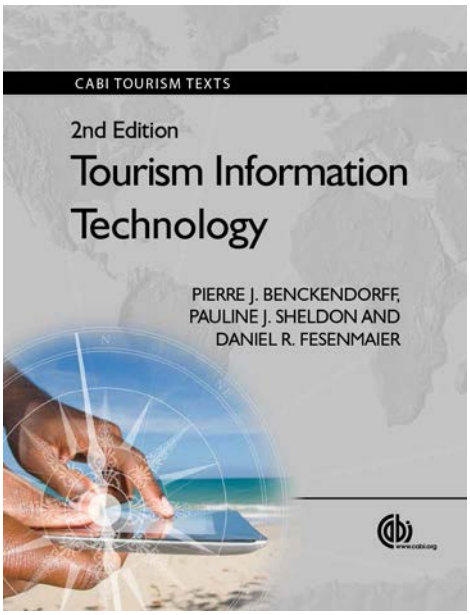

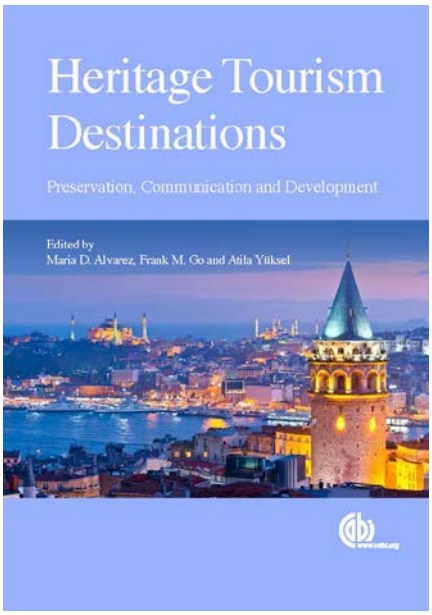

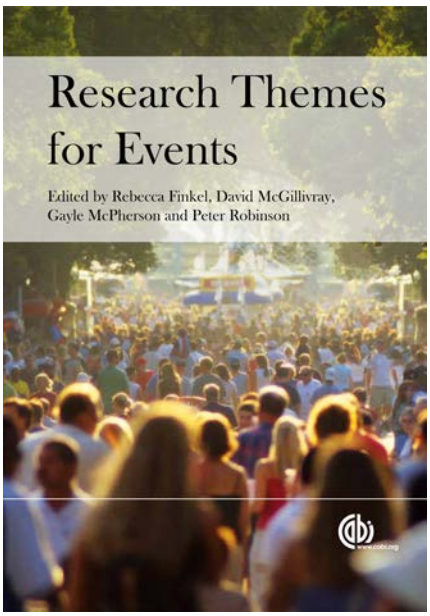

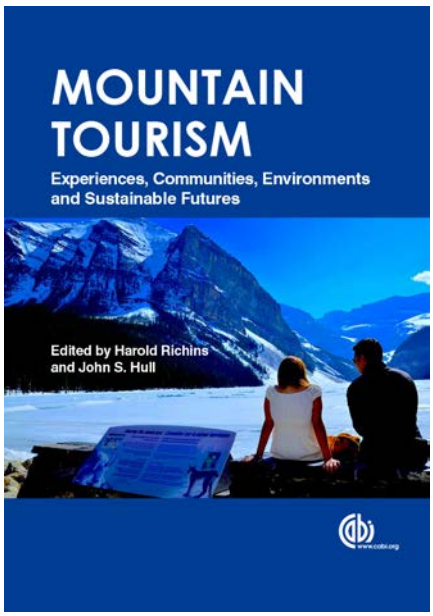

#WTD2018

Contents

chapter 6

Mobilities and Information Technology

LEARNING OBJECTIVES

After studying this chapter you should be able to:

- apply the mobilities paradigm to the understanding of mobile technologies and travel;
- explain the key elements of mobile devices using the mobile technologies ecosystem;
- know what a context-aware tourism system is and how it can facilitate the tourist experience;
- explain how the various mobile functions described in this chapter can be used to enhance travel experiences; and
- appreciate some of the opportunities and challenges in implementing mobile technologies.

INTRODUCTION

Over the last decade mobile devices such as smartphones and tablets have become such an essential part of our lives that many of us experience anxiety when we are separated from them for even short periods of time. This chapter is concerned with how travelers use mobile technologies during the travel experience. In the digital tourism ecosystem (Chapter 2), mobile technologies have the capacity to address not only the inspiration and transaction stages of the journey, but also the on-site experience and reflection on past experiences. Arguably mobile technologies have the greatest impact when visitors are on the move because they help travelers to deal with risk and uncertainty (Hwang, 2010). They play a critical role in unplanned behavior and support the creation of a range of personalized, location and time specific, value-added experiences that were not previously possible (Sharma and Nugent, 2006; Wang *et al.*, 2012). Instead of acting as a substitute for travel, they are playing a complementary role in fueling travel demand, thereby changing the very nature of the travel experience (Line *et al.*, 2011; Aguiléra *et al.*, 2012).

The remarkable uptake of mobile technologies over the last decade has disrupted traditional paradigms and ideas about travel. This disruption has generated renewed interest

in mobilities from scholars working in the fields of transport, economics, anthropology, sociology and geography (Sheller and Urry, 2006). The **mobilities** paradigm explores the movement of people, ideas and things, as well as the broader social implications of those movements (Sheller, 2011). Mobilities is a useful paradigm for understanding the impact of IT because travel is enabled by increasingly complex socio-technical systems composed of interconnected infrastructures, services and modes of transportation and communication (Pellegrino, 2009; Molz, 2012). The use of mobile devices means that there is no longer a clear separation between everyday life and the liminal nature of travel experiences. There is a **spillover** of habits and behaviors from everyday life as travelers use mobile devices during all stages of the travel experience (MacKay and Vogt, 2012). On the other hand, some travelers seek experiences where they can escape from these technologies as we discussed in Chapter 2.

Mobile technologies are enabling the **fluidity** and **liquidity** of experiences by providing connectivity and softening the links between activities, space and time (Green, 2002; Uriely, 2005). They break down the boundaries between tourist experiences and everyday life, arguably removing some of the magic and sense of escape created by travel (Jansson, 2007; Pearce, 2011). They can transform how travelers engage with places by transporting them to virtual social settings (Dickinson *et al*., 2012). As a result, travelers can experience a site physically but may be socially engaged by interactions with family and friends located in other places. Urry (2002) suggests that this use of technology creates occasional co-presence, imagined co-presence and virtual co-presence, which results in travelers enjoying an experience not just for themselves but also for the benefit of others. Pearce (2011) uses the phrase **digital elasticity** to describe how travelers remain electronically linked with everyday life as they explore other places. Mobile technologies also blur the distinctions between activity time and travel time by supporting **micro-coordination** and making travel time more productive (Aguiléra *et al*., 2012).

Pellegrino (2009) suggests that the technologies of mobility are characterized by the following phenomena:

- **Convergence**: the miniaturization and portability of electronics has resulted in the amalgamation of multiple technologies into one device. Nowhere is this more evident than the smartphone, which combines a camera, mobile phone, portable music player, GPS, personal digital assistant (PDA) and microcomputer into one small device;
- **Saturation**: mobile devices saturate the environment increasing expectations of continuous availability. In the travel context, this feature reduces the importance of pre-trip planning and coordination. Mobile technologies are transparent, invisible and difficult to grasp, but we become aware of their importance when technology fails;
- **Hybridization**: as technologies converge and saturate our environments they blur the distinction between the human and non-human – our interactions increasingly involve a hybrid of the natural and the artificial. Similarly we increasingly find ourselves in hybrid spaces that merge social connections,

digital information and physical space (de Souza e Silva, 2006);

- **Ubiquity**: mobile technologies are omnipresent and are embedded into our surroundings. These devices communicate with users, each other and the surrounding environment using a range of signals and sensors.

Mobile technologies also empower travelers to create new engaging, interactive experiences that increase creative capital by enabling personal development and identity creation (Richards and Wilson, 2006). These conceptual foundations are important to understand as we explore the practical applications of mobile technologies. In the following pages we present a model of the mobile IT ecosystem and explore its various components. We conclude by considering the many applications of mobile technologies for both travelers and organizations.

THE MOBILE TECHNOLOGIES ECOSYSTEM

As we have done in previous chapters, we can adopt an ecosystem perspective to better understand the potential applications and impacts of mobile devices. Figure 6.1 presents a schema of the mobile technologies ecosystem in a travel context. The mobile technologies ecosystem consists of six major components:

1. Mobile device: the key components of most devices include an operating system (OS), apps, signaling technologies and sensing technologies. The components allow the device to detect inputs and to perform a range of functions.

2. Context: sensing and signaling technologies work together to collect contextual information about space, time and other objects in the user's environment.

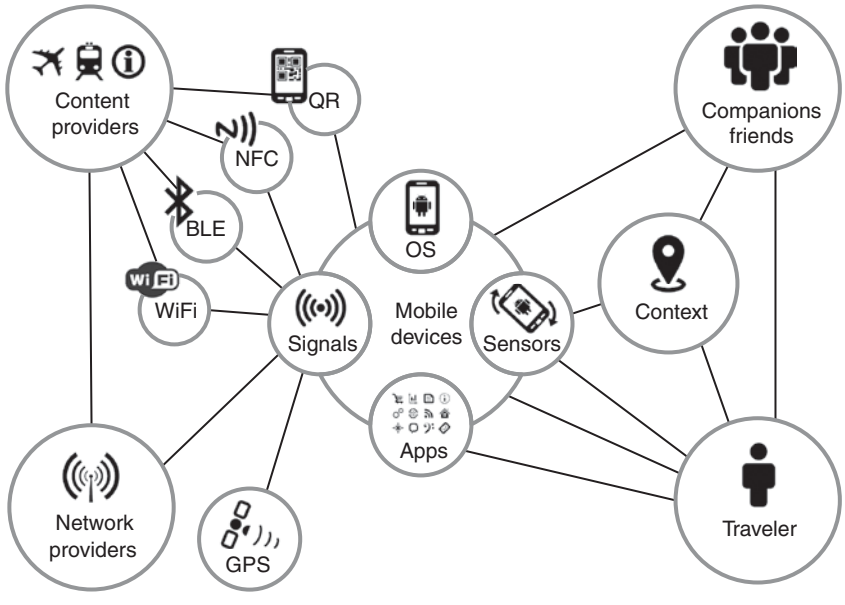

Fig. 6.1. Mobile technologies ecosystem.

3. Content providers: these can include travel suppliers, intermediaries, advertisers, websites, social media, search engines and third-party information (e.g. weather forecasts, currency conversion).
4. Network providers: users must subscribe to a network provider or carrier to access a cellular network.
5. Travelers: users who interact with mobile devices in a travel context by using OS and app interfaces. Devices also use sensors to gather contextual information from travelers (e.g. eye tracking, movement).
6. Companions and friends: travelers use mobile devices to interact with travel companions as well as friends and relatives located in other places. It is this element that brings the social aspects of everyday life into the travel experience.

Mobile devices collect and combine data from a range of inputs and then use apps to perform particular functions. The most innovative applications in travel rely on sensing and signaling technologies as well as intelligent apps to anticipate travelers' needs. In this chapter we will explore how various devices, inputs and applications are used in travel.

MOBILE DEVICES

Mobile devices are characterized by enormous hardware diversity. Devices vary in terms of: screen parameters (e.g. size, resolution, color depth, orientation, aspect ratio); memory size and processing power; input modes (e.g. keyboard, touchscreen, voice recognition); sensing technologies (e.g. camera, accelerometer, gyroscope, compass); and signaling technologies (e.g. NFC, BLE, WiFi, GPS) (Gruber, 2011). These differences exist because particular devices are designed for specific tasks and markets. For example, a digital camera has different capabilities to a smartphone. Smartphones may combine features found in other mobile devices but they do not always provide all of the functionality found in purpose-built devices such as cameras and navigation devices. The most common mobile devices carried by travelers are GPS navigation devices, digital cameras, smartphones and tablets. We will review the key features of each below and will conclude with an overview of the latest developments in ubiquitous mobile technologies.

Global positioning system navigation devices

A GPS navigation device receives signals from the **Global Positioning System (GPS)** to determine a user's location (latitude and longitude) on Earth. Their key capabilities include a digital map, an indicator to show the location of the user, turn-by-turn directions (by text or voice), traffic congestion updates, speed limits, warnings for fixed speed and red light cameras and nearby points of interest (POI) such as attractions, restaurants and fuel stations. Newer devices also can link to smartphones and other devices using Bluetooth to share information such as POIs. In the travel industry these devices are mainly used by motorists, cyclists and pedestrians to find attractions and other points of interest. They are included as an option by rental car companies, which charge a rental fee for the device.

Mass transport operators also use navigation devices as a key component of **geographic information systems (GIS)**. A GIS stores, analyzes and displays geographically referenced information provided by the GPS

(US Government, 2013). GISs are used by rail, bus and other services to improve on-time performance, monitor vehicle locations and advise passengers of precise arrival times (see Chapter 8). Navigation devices are important in outdoor recreation by guiding hikers, sailors, mountain bikers, cross-country skiers and other outdoor adventures. Newer navigation devices have the ability to download and share waypoints with other adventurers. A good example is the travelbygps.com website, which allows travelers to download hundreds of GPS maps, tour guides and POI.

Delays from getting lost or stuck in congestion on highways can impact the enjoyment of travel and may result in property damage, personal injuries, increased air pollution and excess fuel consumption (US Government, 2013). GPS navigation devices have reduced inefficiencies and improved safety by greatly reducing the likelihood of travelers getting lost. They have improved road safety by advising motorists of speed limits, reducing distractions such as reading maps while driving and providing directions. However, the use of navigation devices can also impact the travel experience negatively. Unfortunately the fastest route identified by navigation systems is not always the safest, or perhaps the most scenic. These observations highlight the need for additional contextual information to provide travelers with better route recommendations.

Digital cameras

Affordable photography has been available to travelers since the 1930s. Since this time devices have changed from bulky box cameras to color cameras, instant cameras and finally filmless digital cameras. Modern "point-and-shoot" digital cameras produce vastly superior color images to the 35 mm color film cameras from 20 years ago. This is due to advances in electronic image sensors, digital memory, image stabilization, improvements in lens technology, and post-processing to enhance images. Most modern digital cameras can capture both still images and video. The latest digital cameras also include a GPS receiver and WiFi connectivity. A GPS receiver allows images to be **geotagged** with contextual data that can later be combined with mapping tools such as Google Maps. Geotagged images can also be used by destinations and other content providers as inputs for GIS applications and tourist recommender systems (Cao *et al.*, 2010). WiFi connectivity allows users to easily transfer images from the camera to other digital devices or to social media accounts.

Despite the rapid growth in smartphone ownership, compact digital cameras are still the most common mobile devices carried by travelers (Pearce *et al.*, 2009), perhaps because they can be easily slipped into a pocket. Unlike film cameras, there is no cost associated with taking multiple images of the same scene and users can easily delete unwanted images. Their advanced digital zooming capabilities also allow travelers to capture scenes that are not easily accessible (Pearce, 2011). This has fundamentally changed the experience of travel photography as travelers can now capture higher quality images with little effort and planning (Lee, 2010). Digital cameras have also made it easier for images to be displayed, printed, stored, manipulated, transmitted and archived. This capability is particularly important for travel operators because it means that images of a bad meal, dirty

hotel room or strange travel companions can be instantly transmitted and shared on social media and photo-sharing sites. On the other hand, suppliers can easily capture and share special moments using their own websites and social media channels.

Smartphones and tablets

As we have seen, **smartphones** are a hybrid of many other technologies including the laptop, PDA, mobile phone, wristwatch, portable music device, camera and GPS navigation device. The smartphone puts a relatively inexpensive supercomputer in the hands of users. This computer has the sensing and signaling capability to communicate with other devices, people and objects around the user, providing contextual information to deliver more relevant digital content. The capabilities of smartphones support millions of mobile apps that extend their functionality. We will explore some of the technologies and travel applications behind these capabilities later in this chapter.

Tablets are the big cousins of smartphones. They typically have larger screens, making them more suitable for reading, gaming and Internet browsing. Unlike other portable computers such a laptops, tablets generally do not use external input devices such as a keyboard or mouse. Most are equipped with the same sensing and signaling technologies as smartphones, although cellular access is often an optional additional feature.

Ongoing advances in surface materials (e.g. **graphene** and bendable glass) and electronics (e.g. more efficient batteries and **organic light-emitting diodes (OLEDs)**) are resulting in thinner, lighter and more durable devices that allow digital content to be updated and manipulated through a variety of inputs.

Ubiquitous devices

Ubiquitous technologies involve the use of **smart devices** and objects connected to each other and to networks using technologies such as Bluetooth, NFC and WiFi. They are a key element of **ambient intelligence** and are sometimes referred to as the **Internet of things**. Users interact with ubiquitous technologies in natural ways, using eye movements, voice commands, gestures or touch. Wearable technologies are one example of the many devices that make up the ecosystem of ubiquitous technologies.

Wearable technologies such as the wristwatch and portable music players have played an important role in travel for many decades (Pearce, 2011). However, these technologies are not "smart" devices. **Wearable smart devices** are miniature electronic devices worn by the user. A number of wearable smart devices have been used for industrial, medical and military applications, but the commercialization of these technologies has only been realized in the 2010s, with the development of small lightweight smartwatches such as the Samsung Galaxy Gear and Sony Smartwatch and **optical head-mounted displays (OHMD)** such as Google Glass (see Case Study). Many use the same platforms and architecture as smartphones, enabling users to install a variety of third-party apps. As a result, these technologies have the same application as smartphones but the wearable nature of devices like Google Glass creates additional opportunities for the delivery of information and interpretation using augmented reality.

MOBILE SIGNALS AND SENSORS

Mobile devices rely on a range of signaling and sensing technologies to provide inputs and contextual data. **Sensing technologies** are able to detect sensory data such as movement, touch, images and sound. **Signaling technologies** receive or read data from mobile phone towers, transmitters and beacons. Together, these technologies allow smart devices to see, hear and feel, imbuing them with the capacity for ambient intelligence (Manes, 2003). Each offers different capabilities and it is important to understand these before considering how travelers and tourism organizations might use them.

Sensing technologies

Most mobile devices include a range of contextual sensors that provide the device with inputs about users and their surroundings. Sensors are what make smartphones "smart". Modern smartphones typically contain the following sensing technologies:

- **Touchscreens**: interactive screens that respond to touch from fingers or a stylus are part of most handheld mobile devices. Haptic feedback is also becoming common, allowing two-way exchange of tactile sensations. Some touchscreens also can collect biometric information, such as fingerprints for security applications.
- **Gyroscopes, magnetometers and accelerometers**: these technologies allow the device to detect the direction and magnitude of movements. Sensing the tilt, rotation and orientation of a device supports applications such as navigation, photography, gamification and augmented reality.
- **Digital cameras**: digital cameras are used as the "eyes" of many mobile devices. Their application extends far beyond their common use in capturing photos and video. In many cases the camera also detects gestures and eye movements. This is used for automatically scrolling text when reading, pausing a video when a user looks away and touch-free navigational gestures. Cameras are also used to capture **Quick Response (QR) codes** that can then be interpreted with suitable apps.
- **Ambient light sensors**: many digital devices can adjust displays based on the amount of ambient light. This reduces power consumption and increases battery life. Some sensors can also detect the user's presence and proximity.
- **Temperature, humidity and pressure sensors**: weather is important to travelers and the integration of ambient temperature, humidity and pressure sensors has many applications when combined with other sensory inputs and data sources.
- **Microphones**: these are the "ears" of mobile devices and, like cameras, they can do more than capture sound, such as speech recognition and commands. They can also analyze voice patterns and adjust digital content and access to features based on the user's identity.

Signaling technologies

Signaling technologies allow mobile devices to receive or read data transmitted by radio waves, microwaves or light waves. Many mobile devices now incorporate multiple signaling

technologies. Smartphones may contain some or all of the following signaling capabilities:

- **Radio-frequency identification (RFID)**: a wireless non-contact use of radio-frequency electromagnetic fields to identify and track items using an information-encoded chip. RFID chips are the size of a rice grain and can be embedded in a range of items, including animals and people. They can be battery-powered or unpowered and activated when they come near an electromagnetic reader. Passive RFID tags are used in travel settings because they are smaller and less costly. Travel applications include smart cards (ID cards, credit cards and integrated public transport cards), luggage tracking, e-toll tags, loyalty cards, mobile payments, inventory tracking, ski passes and e-passports.
- **Near Field Communication (NFC)**: a set of standards supporting two-way communication by allowing mobile devices to act as RFID readers/transponders. NFC allows devices to communicate with each other when they are very close (less than 7 inches). The technology also allows devices to communicate with unpowered NFC chips embedded in objects. A user can wave their smartphone near an NFC tag area and information will be transferred instantly. For example, by reading a NFC tag a device can launch an app or access a website link (Pesonen and Horster, 2012). NFC devices can be used in contactless payment systems, electronic ticketing, exhibits and attractions, information sharing, social networking, electronic identification and virtual frequent flyer cards. A good example is Disney's MagicBand (see Chapter 10 Case Study).
- **Bluetooth**: a wireless technology standard for exchanging data over short distances using short-wavelength microwave transmissions. Bluetooth is similar to NFC, but with much greater range (up to 30 feet). The latest version of Bluetooth is referred to as **Bluetooth Low Energy (BLE)** or Bluetooth Smart. BLE is more cost effective than conventional Bluetooth and is useful for low power applications. In 2013 Apple developed a low-power, low-cost transmitter known as iBeacon based on BLE technology. iBeacon is a pervasive context-aware wireless sensor that can pinpoint the location of mobile users and send out push notifications. In a travel context, the technology can be used as a geofencing tool to provide localized visitor information, interpretation and orientation.
- **WiFi**: a technology that allows mobile devices to exchange data or connect wirelessly to the Internet using radio waves. Connections are established through a wireless hotspot, with a range of around 65 feet in indoor settings and greater in outdoor settings. The technology is used in airports, cafes, hotels and public spaces. Some destinations have rolled out extensive free WiFi networks.
- **LiFi**: visible light communication (VLC) systems using light waves from diodes to provide high-speed connections between mobile devices and network access points. LiFi is a new technology and is expected to be cheaper and faster than WiFi but since light waves cannot penetrate walls, LiFi will be shorter-range for indoor settings.
- **Cellular network**: wireless communication networks distributed over large land

areas. Users buy a **subscriber identification module (SIM) card** and pay a fee to a telecommunications provider to access voice or Internet services. Some carriers offer global roaming services so that international tourists can use their SIM card on overseas networks, but this can be costly. As a result many smartphone users rely on WiFi hotspots or purchase pre-paid SIM cards when they arrive at a destination.

- **Global Positioning System (GPS)**: a space-based satellite system that provides location and time information anywhere on the Earth. We have already discussed the use of GPS navigation devices, but the GPS satellite service supports other mobile device applications, including digital cameras, smartphones and tablets. Its global nature makes it well suited to navigation in outdoor environments. GPS can also be combined with context-aware mobile apps to create geofences that trigger specific activities and notifications.

It is important for tourism organizations to understand the applications and limitations of each of these technologies. One of the most obvious distinctions is their range, which in turn impacts how they can be deployed and used (see Fig. 6.2). A combination of technologies may be needed to create a ubiquitous network that keeps travelers connected. It is important to ensure that the transition between different networks is seamless and transparent (Kaplan, 2012).

MOBILE OPERATING SYSTEMS AND APPS

The hardware on a mobile device (including sensory and signaling technologies) is controlled by a **mobile operating system (OS)**. Most smartphones, tablets or wearable devices use Google Android, Apple iOS or various versions of Microsoft Windows. The downloading of mobile apps is an important feature of mobile devices. **Apps** refer to tailor-made software that

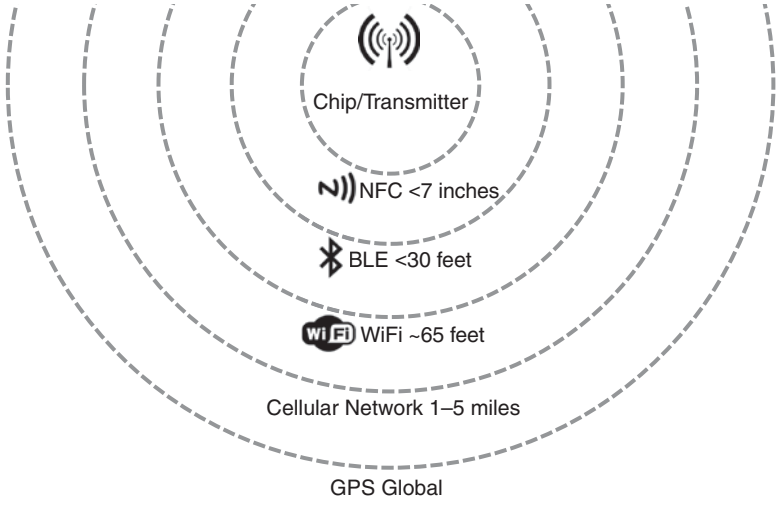

Fig. 6.2. Typical range of various mobile signaling technologies.

exploits the hardware found in mobile devices to provide additional functionality. They are provided by mobile device manufacturers and also by third-party developers through online **app stores**. There is now a vast range of apps, including games, productivity tools, media and entertainment, navigation, education, lifestyle and travel apps.

Many third-party travel apps are also available for the three major mobile operating systems. Wang and Xiang (2012) grouped travel apps into 12 categories based on functionality and app store user reviews. They found that travelers use a combination of different apps for different travel purposes. Travelers prefer designs that: reduce decision-making effort; provide instant support/feedback and a sense of control; and are fun, easy to use and interactive. An example of this is Urbanspoon, which randomly selects a restaurant near the user when they shake their device. Travelers dislike apps that are copies of websites or brochures and do not add any value to their decision-making. Dickinson *et al*. (2012) provide a useful overview of travel apps and their capabilities and organize travel apps into five functional categories: information, two-way sharing, context awareness, Internet of things and tagging.

FUNCTIONS OF MOBILE DEVICES IN TOURISM

Mobile devices can be used both by travelers and tourism organizations. While mobile apps enable much of this functionality, interactions between mobile devices and other systems, such as GIS and CRM applications, are also possible. Mobile devices can harness the information collected by sensors and signals and combine this with existing "big data" sources such as social media profiles, online behaviors and individual preferences. In Table 6.1 we present the ten functions of mobile devices in tourism, starting with the most basic (information provision) and progressing to increasingly more sophisticated applications relying on the interaction of a complex ecosystem of sensors, signals, systems and technologies. These functions have been expanded from the original work done by Dickinson *et al*. (2012) and Wang and Xiang (2012).

Informing

The delivery of information is the primary function of most travel apps. Mobile apps can change travelers' behavior and emotional states by addressing a wide variety of functional and hedonic information needs (Wang *et al*., 2012). The types of information provided by travel apps include: marketing and visitor information about attractions, accommodation and dining; local information such as travel safety advisories, weather and exchange rates; transport information such as timetables and flight status; or interpretive information about people, places and objects (Mirski and Abfalter, 2004; Kang and Gretzel, 2012; Wang and Xiang, 2012). Travelers can also search for tips, recommendations and user-generated content such as reviews, blogs and travel forums. Table 6.2 provides a useful schema to illustrate the different types of tourist information needs addressed by mobile apps.

Table 6.1. Major functions of mobile devices in tourism.

Function	Description	Travel applications
Informing	The ability to source and access information while traveling	Attraction and destination guides Timetables and schedules Currency conversion Interpretation (e.g. virtual guides, QR codes)
Contextualizing	Services based on the smartphone's contextual sensors. Ability to communicate not just with other people but also with the "Internet of Things"	Interactive, real-time location awareness Push notifications relative to location and context Provision of live travel information, flight status, weather, safety, events and offers Real-time public transport and luggage tracking
Personalizing	Combining contextual information with user data to provide personal services	Recommender systems Trip planning and scheduling Facilitating personal interactions
Socializing	Communication capabilities such as telephony, social media and messaging	Mobile telephony and messaging Mobile social media (e.g. SNSs, blogs, reviews, media sharing)
Managing	Collecting data about the user and presenting management interventions to change behavior	Data mining (e.g. visitor behavior, travel flows and patterns, dwell time) Push notifications to manage behavior
Translating	Use of online or offline capabilities to translate image, text and voice inputs	Real-time translation of brochures, signs, speech Multi-lingual apps
Purchasing	Ability to source and book travel products	Suppliers, travel intermediaries, metasearch
Gamifying	Using digital information to incentivize travel experiences	Geocaching Virtual games set in the real world

(*Continued*)

Table 6.1. Continued.

Function	Description	Travel applications
Augmenting	Overlaying the real world with digital content	Destination and attraction information Interpretation
Reflecting	Capturing travel experiences for future enjoyment	Geotagged photographs and video Personal diaries and messages

Table 6.2. Visitor information needs addressed by mobile app (adapted from Wang *et al*., 2012).

Type	Description
Functional	Tourists need information to learn, add value to the trip, improve efficiency and reduce uncertainty.
Innovation	Tourists need information to inspire novel, spontaneous and creative experiences.
Hedonic	Tourists need information to be excited, enjoy the destination and experience the local culture and life.
Aesthetic	Tourists need information to imagine destinations and form expectations.
Social	Tourists need information to give advice to others, share their experience and be valuable for their friends.

There are two strategies for delivering information to mobile users:

- **Web-centric information**: content is delivered over the mobile web using a mobile browser and standard web technologies (e.g. HTML/HTML5, JavaScript, CSS). Web-based content can be accessed on devices using different OSs but may not be suitable in some travel settings where a constant network connection is not available; and
- **App-centric information**: purpose-built apps use the hardware capabilities of the device (e.g. cameras, microphones, location, Bluetooth) to deliver travel information needs (Gruber, 2011).

Mobile-based information can be presented in a variety of formats. Hyun *et al*. (2009) provide a typology of mobile information sources based on the concept of **telepresence**. They suggest that mobile communication systems can be organized according to two dimensions:

- **Fidelity**: the sensory intensity or vividness of the presentation based on the depth (text, 2D effect, 3D effect) and

breadth (audio, visual) of the content; and

- **Interactivity**: the ability of users to shape the form and content of information based on speed (synchronized, asynchronized), range (changing, rotating, zooming) and mapping (observational self, functional self and intelligent self).

The framework allows us to organize a range of mobile information sources into categories as shown in Fig. 6.3. The typology of mobile-mediated virtual experiences highlights that information can be delivered in a variety of formats, from text-based systems to interactive virtual guides.

It is also important to distinguish between **pull** communication (initiated by the traveler) and **push** communication (initiated by the content provider) (Kaplan, 2012). Apps can deliver both types of content but many replicate existing information sources, such as travel guides or websites. It is important for apps to provide an effective mechanism to search for this information. Innovative approaches to this challenge include the use of **semantic search** tools recognizing verbal requests presented to **virtual assistants** like Siri or Google Now.

Tourism organizations use QR codes (such as those in this book) to deliver visitor information and interpretation. Hotels are creating in-room guides containing QR codes, Las Vegas casinos are using QR codes to promote shows and events around the city, and historic sites are placing QR codes on buildings and near objects to provide guests with historical, architectural, regional or cultural information (Vela, 2012). An example of an interpretive QR code is shown in Fig. 6.4. BLE and NFC technologies can also be used for pull communications.

Contextualizing

The pervasive availability of information means that users suffer from information

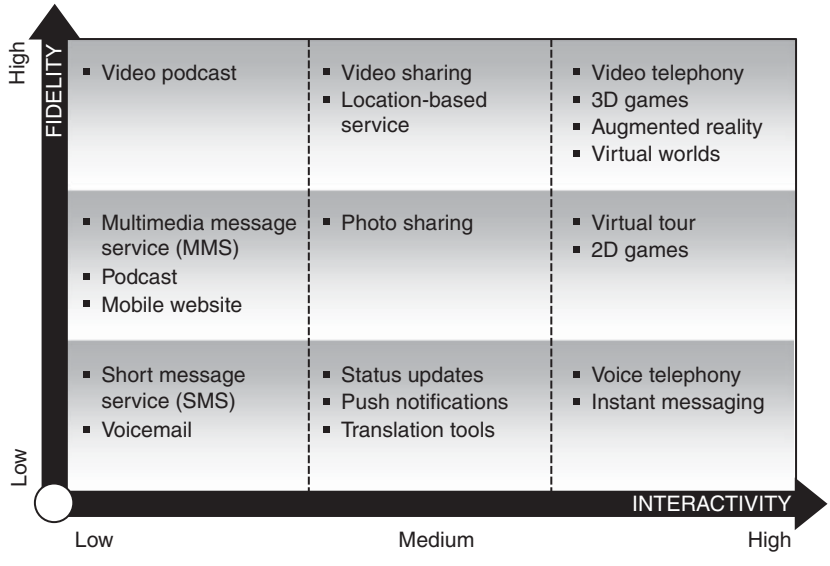

Fig. 6.3. Typology of mobile-mediated virtual experiences (adapted from Hyun *et al.*, 2009).

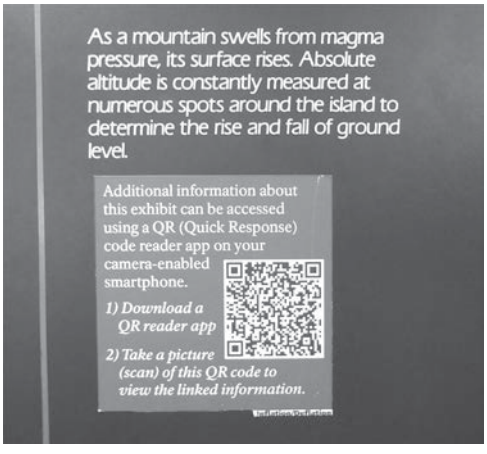

Fig. 6.4. Example of a QR code used for interpretation, Hawai'i Volcanoes National Park.

overload. This is avoidable because mobile apps can filter content to present relevant, context-based information. At the very least, a mobile app should use location information garnered through GPS, WiFi or BLE to filter out information irrelevant to the location. GPS-enabled apps are good examples of **location-based services (LBS)** in travel (Tussyadiah and Zach, 2012). The overlaying of digital maps with various layers, such as restaurants, hotels, attractions and traffic congestion offers a basic level of contextualization. However, context is about more than location. Travelers are not only interested in where something is, they want to know how to find it, how long it will take to get there, whether they will like it, and what the weather will be like.

Tan *et al*. (2009) argue that mobile travel content must be based on a rich understanding of the context. They propose a framework called the **TILES Model** to refer to the five categories of contextual data considered by mobile apps to customize data:

- **Temporal**: content contextualized according to time (e.g. current time and day of the year, current events, seasons, itinerary);
- **Identity**: content contextualized based on the user's identity (e.g. interests, demographics, motives, food and activity preferences, activities already completed, language, budget, trip characteristics);
- **Location**: content contextualized based on the user's movement and location (e.g. current location, nearby attractions, traveling speed and direction, mode of transport);
- **Environment**: content contextualized according to the user's environment (e.g. weather, traffic conditions, congestion and availability, waiting times); and
- **Social**: content contextualized according to the user's social setting (travel companions, group interests, nearby friends and family, recommendations, social media activity).

Context-aware apps therefore consider location, time, people and objects when selecting information to present to users (Paganelli and Giuli, 2008). This provides travelers with local contextual knowledge that would otherwise take time, repeat visitation and extended familiarization to achieve. The combination of everyday objects transmitting data and people carrying sensing devices allows for the co-production and consumption of travel experiences to occur in real-time (Dickinson *et al*., 2012). Contextual information may have other unanticipated benefits. By revealing distances and journey times on different transport modes, travelers may decide to walk rather than using a car or public transport, thereby reducing CO_2 emissions. This can be enhanced by ensuring that quality navigation

information is available not just for drivers but also for pedestrians (Riebeck *et al*., 2008). Contextual information can also be used to improve traveler convenience and safety. For example, GPS devices embedded in taxis, buses and other types of public transport can help visitors to track these vehicles in real time.

Some of the information necessary for fine-grained context-aware applications can only be provided by locals. Google has created innovative programs to develop this local knowledge. Google+ Local takes advantage of the convergence of social, local and mobile content. The program combines business listings from Google Places with reviews and photos contributed by customers, including reviews aggregated from other review sites. The company also runs the Google City Experts program to further supplement this information with local expertise which is displayed on Google Maps. Another innovative example includes Locish, the crowdsourcing app that matches travelers with locals who have similar interests and profiles.

Another application of context-aware technologies in travel is **geofencing**. A geofence is a virtual perimeter generated for a real-world setting, such as a hotel lobby or a precinct. Travelers using LBSs can trigger push notifications or other activities when entering or exiting a geofence. The user's location is determined from the GPS, NFC, BLE or WiFi capabilities of their device. Google's Field Trip uses this technique to push content (called cards) to mobile devices whenever a user approaches something interesting. This content includes everything from local history to the best places to shop, eat and have fun. It has enormous potential for travel when combined with wearable devices such as Google Glass. Travel organizations and destinations will need to consider how they are represented in these global apps. Watch the following video to learn more about Field Trip and how it is integrated with Google Glass: http://youtu.be/yyRJG2rrw0E/.

http://youtu.be/yyRJG2rrw0E

Personalizing

We have seen how mobile devices can contextualize information based on various inputs. Now imagine what that information would look like if it were personalized to individual needs. Data from the contextual sensors can be combined with personal information and used to further extend a sense of context and customization. This personal information can be sourced from details stored on the mobile device (e.g. personal records, apps, photos, email and calendar), information from social media profiles and usage data such as search histories and device habits. This is the "identity" component of the TILES model, but is treated separately in this chapter because of its richness for travel industry applications.

Individuals often provide organizations with personal information in exchange for better services or special benefits. Frequent flyer programs and hotel loyalty cards are good examples. In addition, users often agree to the terms and conditions of a new app without reading them and may be unaware that they are sharing information with

providers. Travel app providers can aggregate these data to collect business intelligence about app use, purchase behavior and temporal and spatial travel data (Dickinson *et al.*, 2012). This type of business intelligence can enhance visitor experiences in airports (Chapter 7), attractions (Chapter 10) and destinations (Chapter 11).

Google again provides one of the leading examples of personalization with its Google Now service. Google Now interacts with photos, Google Maps, Gmail and Google Calendar to "surface" the information individuals need during the day without summoning it. A good example is the extraction of travel itineraries from emails sent by travel providers. Travel itineraries can fetch other information such as maps and weather forecasts. These details can then be displayed on personalized cards shown on the mobile device.

Personalization is also at the heart of technologies known as **mobile recommender systems**. Mobile recommender systems use spatial, temporal and personal data to filter content to offer context-sensitive recommendations (Ricci, 2010). There is evidence that travelers using mobile recommender systems spend more time at a destination and are able to see more sights (Modsching *et al.*, 2007). The various trip planning apps (e.g. Gogobot, Citybot) now available for mobile devices are a good example of mobile recommender systems. The more these apps learn about you, the more accurate their recommendations become (Rodríguez *et al.*, 2012). Watch the following video to see an example: http://youtu.be/kQZBHko8A5M/. Another example is SmartMuseum (http://www.smartmuseum.eu/), an app that aims to personalize interpretive content about museum exhibits.

http://youtu.be/KQZBHko8A5M/

Mobile technologies can also be used by staff at hotels, attractions, airports and other facilities to personalize the visitor experience. The Disney MagicBand discussed in Chapter 10 is a good example of the innovative use of mobile technologies to personalize guest experiences. Cast members can preview the names of guests and greet them personally.

Socializing

With all of their functions it is easy to forget that mobile devices are still in essence communications devices. Most people own a smartphone so they can talk to others. The socialization function is as much about communication as it is about social media. This is an important point for travel professionals – mobile devices provide a range of telephony features but few organizations use channels such as Skype and FaceTime. These would seem to be obvious applications for a high touch industry like tourism. Similarly, very few travel organizations utilize services such as SMS and instant messaging. Beyond these communication functions, there is a range of social media applications unique to mobile devices.

The integration of social media with mobile devices is called **mobile social media** (Kaplan, 2012) and is differentiated from traditional social media because it incorporates contextual factors. Mobile social media applications can be classified into four categories, depending on whether the message takes

account of the user's location (location sensitivity) and whether it is received and processed by the user instantaneously or with a time delay (time sensitivity) (see Table 6.3).

Social media allows individuals to express their identity and self-disclose by sharing their travel experiences if they are consistent with how they would like to be seen by others. Organizations can encourage social mobile behaviors by incentivizing contributions such as reviews, status updates, check-ins and photos. For example, visitors to a theme park may receive a voucher for a free drink if they check in from various locations more than ten times during their visit. Providing NFC touch points or WiFi for visitors to check-in or post content on social media is an important part of this strategy. This social media activity contributes to the virtual presence of the organization and is an important source of business intelligence.

Travelers also use mobile social media while traveling because it reduces the social distance from their social circles. In some cases social media is used for safety and security purposes – by checking in regularly travelers can let their friends and family know they are OK. Travel retailers can use these same features to provide better in-destination service by monitoring mobile social media activity and providing proactive support when travelers share problems online. Another interesting example is Fearsquare, a UK application that compares Foursquare check-ins with official police statistics to inform users of the safety of their current location.

Organizations can integrate their app with social media, making it possible to use mobile social media and LBSs to socialize the experience itself by helping users find "friends of friends" or travelers with similar interests. Social discovery apps that allow travelers to see whether their friends have stayed in the same hotel or whether acquaintances may be on the same flight are a good example. These apps use information from social networking sites such as Facebook and LinkedIn to help travelers identify seatmates or potential travel

Table 6.3. Mobile social media applications (adapted from Kaplan, 2012).

	Location sensitive	**Location agnostic**
Instantaneous	Space-timers: exchange of messages with relevance for one specific location at one specific point in time (e.g. Facebook Places, Foursquare)	Quick-timers: transfer of traditional social media to mobile devices to increase immediacy (e.g. Tweets, Facebook status updates)
Time delay	Space-locators: exchange of messages, with relevance for one specific location, which are tagged to a certain place and read later by others (e.g. Urbanspoon, TripAdvisor)	Slow-timers: transfer of traditional social media to mobile devices (e.g. YouTube, Wikipedia)

companions. Social information can also be used to personalize the information presented by mobile recommender systems. By combining personal data with data from mobile social media, such as check-ins and status updates, apps filter content so that users see the recommendations and reviews of travelers sharing their traits (Spindler *et al*., 2008).

Real-time information from locals and travelers can be crowdsourced to improve the travel experience. For example, apps can allow travelers to report crowded or congested areas. The Waze app is a good example of combining mobile social media with LBSs to save travelers time and money by sharing real-time traffic and road information.

Some travelers may find the use of social media to monitor their mobile activities intrusive and disturbing. Care is therefore needed to ensure that mobile social relationships are built on trust and reciprocity. Kaplan (2012) advises organizations to follow the "Four I's of mobile social media" when engaging with travelers.

1. Integrate activities into your users' life to avoid being a nuisance.
2. Individualize activities to take account of user preferences and interests.
3. Involve the user through engaging conversations.
4. Initiate the creation of user-generated content.

In short, the socialization function is about combining information, contextualization, personalization and social data to deliver more relevant content and experiences.

Managing

Mobile devices can be used by travel organizations to manage traveler experiences by providing business intelligence and enabling management interventions. The managing function is often dependent on travelers agreeing to share information in exchange for better experiences. Mobile devices can provide time and location data about travelers to use for business intelligence. Once permission is obtained (either implicitly or explicitly) travel organizations can use data mining techniques to aggregate and visualize the "big data" generated by individual mobile devices. Examples include location and personal data to better understand visitor catchments, travel routes, dwell times, activity patterns and frequently visited attractions (Shoval and Isaacson, 2007; Modsching *et al*., 2008; Dickinson *et al*., 2012). More innovative applications include the use of geotagged photos to examine activity patterns (Sugimoto, 2011).

Organizations can identify the exact time a traveler arrives at their premises and what content they shared with others in their social circle. Embedded in this information is demographic data about the age and gender of visitors. Organizations may even determine where travelers live, what school they attended, their marital status and other personal information. These data can be linked with information stored in CRM databases.

The use of mobile devices to monitor visitor activities and behavior is only part of the equation. In order to create better experiences organizations need to act on these data. Organizations can turn observation into intervention by using mobile devices to influence traveler decision-making and change behavior. This might be: map updates showing congested routes; push notifications warning travelers about long queues or delays; alerts about carparks, attractions or areas that are underutilized; special offers; or safety and security information.

Translating

Smartphones and tablets can translate both text and speech in real time. There are many international travel contexts where this feature is important. Apps like Google Translate and Word Lens can translate written text when travelers point their mobile camera at a sign or menu. Purpose-built mobile apps also provide travel organizations with the ability to deliver marketing and interpretive content in various languages. Destinations, museums, airports and attractions are no longer constrained by providing signage in only one or two languages. Similarly, hotels and restaurants can use apps to deliver in-room guides and menus in different languages. The ability to translate any language in real time profoundly changes the travel experience for both international travelers and customer service staff working in the tourism industry. Some of these applications will be discussed in more detail in Chapter 10.

Purchasing

Mobile devices are also convenient tools for purchasing travel. This function is particularly relevant to travel intermediaries and travel suppliers seeking to streamline the purchase process for travelers. Many online travel agents (OTAs) and metasearch engines provide mobile apps that allow travelers to find, compare and book airline seats, hotel rooms, rental cars and other travel products. These apps are designed to be used on smaller screens and so serve a different purpose to websites, which are often difficult to navigate on mobile devices.

Apps also allow travelers to book products while they are on the move. This is a particularly important point for travel services that may be booked en route or when travelers are at the destination. We have seen how the contextualization, personalization, socialization and facilitation of information can change travelers' decisions while they are on the move. These changes can only be fully realized if travelers can act on those decisions by booking and reserving various activities. Once a transaction has occurred the mobile device can be used for ticketing, admission, check in, boarding, purchasing and other services required during the journey. Technologies such as NFC could be used at the check-in counter, security screening, boarding gate, car rental counter, the hotel reception and at entrances to attractions and events.

The sensing and signaling technologies we have already discussed support a number of these functions. Mobile payment and ticketing systems such as Apple Passbook and Google Wallet also play an important role. There are also mobile business applications that allow organizations to accept payments by credit card when travelers do not have their own mobile device. A good example is Square (http://www.squareup.com/), a small card reader that connects to a mobile device to turn it into a POS payment system. This technology is useful for settings such as hotels, restaurants and tours where staff require greater mobility or in situations where guests are not carrying cash. PayPal offers a similar service called PayPal Here.

Gamifying

Mobile technologies can also contribute to the gamification of travel experiences. **Gamification** is an informal umbrella term for the use of game design elements in non-game contexts to improve user experience and user engagement (Deterding *et al.*, 2011). Gamification can impact individuals' experience of their surroundings as well as their mobility

choices (Frith, 2013). Everyday experiences are increasingly being "gamified" using the contextual and social features of mobile devices. Getting a loyalty card stamped at your local café so that you can be rewarded with a free coffee is a low-tech application of gamification. By earning frequent flyer points travelers are essentially participating in a game with rewards attached to particular behaviors.

In the high-tech world of mobile technologies, travelers can become "mayors" and earn "badges" or real rewards for checking in on Foursquare, posting updates on Facebook or Twitter or reviewing hotels on TripAdvisor. Another approach involves setting travelers challenges and quests, such as a treasure hunt or a local version of *The Amazing Race* (Zichermann and Cunningham, 2011). This gamification is made possible by the convergence of social, local and mobile (SoLoMo) technologies to create a hybrid experience where virtual activities are layered over physical spaces. These types of experiences closely resemble **geocaching**, an activity where participants use a location-based service to hide and seek containers called caches (Schlatter and Hurd, 2005). Geocachers use websites (e.g. http://www.geocaching.com/) or apps (e.g. Geocaching, iGeocacher, CacheSense) to discover the coordinates of caches hidden in various locations.

Gamification can be applied to any sector of the travel industry, but is particularly useful for destinations and larger facilities such as ski resorts, casinos, airports, museums, attractions and events. Rather than taking a tour, visitors wishing to explore a destination can install an app that sends them on a quest to find various clues. Digital breadcrumbs or tags can guide a traveler to particular waypoints (e.g. sites of interest) and LBSs can reveal a new clue once the traveler reaches the waypoint. A competitive element can be introduced by requiring players to collect digital tokens. The aim is to create an experience characterized by playfulness, challenge, achievement and reward. For destinations, the use of gamification has the potential to not only enhance experiences, but to disperse travelers to less well-known sites. Linking rewards to commercial locations may also support marketing goals and increase length of stay and expenditure. Companies like Wildgoose (http://www.huntthegoose.co.uk/) and Strayboots (http://www.strayboots.com/) specialize in the design of tour apps that incorporate games and quests. Some destinations have partnered with Foursquare to offer travelers special badges for visiting particular sites (Tussyadiah, 2012).

The EpicMix app developed by Vail Resorts in the US is a good example of gamification. The app allows skiers to track the amount of vertical feet skied using RFID tags embedded in ski passes. Skiers can also connect with family and friends using social media, compete with other skiers and earn virtual pins for various challenges. Another example is the Aviation Empire mobile game created by KLM Royal Dutch Airlines. A larger scale application is Ingress, the augmented reality game created by Google startup Niantic Labs (see Industry Insight). These examples illustrate that mobile apps inspire the co-creation of new experiences. Indeed, there is some evidence that mobile apps can create more spontaneous and creative experiences by stimulating surprise, excitement and imagination (Wang *et al.*, 2012).

Augmenting

Like gamification, augmented reality represents another application made possible by the convergence of various mobile technologies. Augmented reality enhances or augments the

Industry Insights: Ingress

Ingress is an augmented reality game created by Google startup Niantic Labs. The game blends virtual events with physical settings in the real world. Ingress is based on the premise that the Earth has been seeded with exotic matter (XM) by an exotic alien phenomenon called the Shapers. Players compete in one of two factions: the Enlightened who believe that XM will benefit humanity; and the Resistance, who believe that XM is part of some kind of ingression by the Shapers. The game is played using a mobile app (the "XM scanner") that requires users to establish "portals" at various real landmarks and public spaces. The app uses GPS data to present a real map of the user's area indicating local sculptures, murals and cultural landmarks with virtual portals that are shown as green, blue or white light. White portals can be claimed by deploying virtual devices called resonators. Rival faction members can attack a portal by destroying the resonators to claim it as their own. Portals can be linked to create triangular control fields over physical geographic areas.

The game's creators cleverly mix events in the real world with the narrative and storyline that drive the game by releasing daily updates and staging various ad hoc events. From a travel perspective it is interesting to consider how this game may increase the mobility of travelers. Travelers are likely to continue playing the game while they travel and there are opportunities to create portals at key tourist sites and locations. Special codes can also be included on products, tickets and brochures to unlock additional items that can be used at specific locations. The development of wearable technologies such as Google Glass has also introduced a new dimension to games such as Ingress.

surroundings of the user with virtual information that is rendered so that it appears to coexist with the real world (Yovcheva *et al.*, 2012). Augmented reality can be experienced through apps that overlay a mobile device's real-world camera view with virtual information. Many of the functions already discussed in this chapter can be delivered through augmented reality. Several travel apps from well-known travel companies like TripAdvisor, Yelp, eTips and Lonely Planet have incorporated augmented reality as a feature. Various destinations have also released augmented reality travel guides, using platforms such as Layar (http://www.layar.com/) and Aurasma (http://www.aurasma.com/). Some of the applications we have already discussed, such as Word Lens, Google's Field Trip and Ingress also provide different applications of augmented reality. Collaborative applications include Wikitude (http://www.wikitude.org/), which includes different layers superimposed on to the real world.

Key applications for the travel industry include augmented reality for marketing, visitor information, translation, interpretation and gamification. When combined with LBSs and contextual data, augmented reality can display customized, real-time information that changes as a user moves through an environment. For example, a traveler walking down a city street might see vacancies and room rates floating next to the hotels in their field of vision. Menu specials and reviews could be displayed as travelers pass restaurants. Visitors to historic sites could experience historic scenes and characters

by applying different virtual layers over the real scene. Good examples of travel apps that provide this functionality include the Street Museum app developed by the Museum of London and the Past View (http://www.past-view.es/) experience developed for the Spanish city of Seville.

All of these applications sound wonderful but in reality travelers are reluctant to walk around in public while viewing through their mobile device. Wearable devices like Google Glass put this information directly in front of a user's eyes. There are many opportunities for tourism organizations – travelers will expect destination guides and visitor information to be delivered through augmented reality as these technologies mature (Linaza *et al.*, 2012).

Reflecting

The final function of mobile devices is to support the reflection and recall of travel experiences. Today's mobile devices make it easy for travelers to capture photos and videos of their travel adventures. As we have seen, mobile devices make it easy for travelers to instantly share photos online using social media platforms such as Instagram, Pinterest and Facebook photo albums (Lo *et al.*, 2011). There are opportunities for travel organizations to engage with this social sharing of experiences to build long-term relationships and encourage repeat visitation.

CHALLENGES AND OPPORTUNITIES

All of the technologies, applications and functions we have reviewed in this chapter suggest a fantastical future world where many processes are automated by mobile devices and information is conveniently filtered and automatically presented in user-friendly ways. This is a vision of what is possible, based on pockets of innovation already occurring in parts of the world. But in reality, delivering on the hype of these technologies requires further technological advances. There are challenges to overcome in terms of the connectivity, interoperability and cross-platform compatibility of various data sources and systems. Analytic systems designed to harness the potential of big data, contextual data and personal information are still being developed. Travel information is also characterized by product complexity, which makes comparisons challenging for technologies such as recommender systems. There are also legal, security and privacy challenges that need to be resolved. Network providers still charge high global roaming fees, creating a barrier for many international travelers. Finally, it is also important to remember that in spite of the many benefits afforded by mobile technologies there will always be travelers who will choose not to use them (Okazaki and Hirose, 2009; Fuchs *et al.*, 2011).

SUMMARY

In this chapter we have reviewed how mobile technologies can be used by the travel industry to support travelers while they are on the move. We have discussed how the broader impact of these technologies can be understood using a mobilities paradigm. We have reviewed some of the key aspects of the mobile technologies ecosystem, including mobile devices, signals and sensors, and operating

systems and apps. The final part of this chapter presents ten functions of mobile devices in tourism. Mobile devices are perfectly suited to the application of travel. Despite all of these developments and applications, mobile devices are still in their infancy. As these technologies mature a range of new applications and possibilities will emerge for travel organizations and destinations.

KEY TERMS

accelerometer, ambient intelligence, app store, apps, augmented reality, Bluetooth Low Energy (BLE), convergence, digital elasticity, fluidity, gamification, geocaching, geofencing, geographic information system (GIS), geotagging, global positioning system (GPS), graphene, gyroscope, hybridization, Internet of Things, liquidity, location-based services (LBS), magnetometer, micro-coordination, mobile recommender system, mobilities, navigation devices, Near Field Communication (NFC), operating systems (OS), optical head-mounted displays (OHMD), organic light-emitting diodes (OLEDs), pull communication, push communication, Quick Response (QR) code, radio-frequency identification (RFID), saturation, semantic search, smart devices, smartphone, spillover, subscriber identification module (SIM) card, tablet, telepresence, TILES model, touchscreen, ubiquity, virtual assistant, wearable smart devices, WiFi

DISCUSSION QUESTIONS

1. In the introduction we suggest that mobile technologies enable the fluidity and liquidity of experiences. Read some of the mobilities literature dealing with technology and write a paragraph to explain what this statement means.
2. In the past a holiday meant being away from home, both physiologically and psychologically. But it seems that mobile devices are making it more difficult to separate our everyday lives from our travel experiences. Do you think this is a problem? What does this suggest about future travel experiences?
3. In previous chapters we have discussed how the Internet has eroded the influence of traditional travel intermediaries. Arguably mobile devices go further by automating many of the functions performed by travel intermediaries by providing a management tool for the entire travel experience. Do you think that mobile devices will mean the end of traditional intermediaries?
4. We have identified that mobile devices can use a range of contextual data to customize and personalize travel experiences. But frameworks like the TILES model require access to a lot of data, some of which may raise privacy concerns. How might app designers overcome these challenges?
5. Many younger generations have grown up in a culture where games and rewards incentivize performance. How do you feel about the idea of gamification in travel? Would you participate in a virtual "Amazing Race" powered by your mobile phone if you could earn virtual or real prizes? Select a city you are familiar with and design a mobile app based on the concept of gamifying the travel experience.
6. This book was written in 2014. What advances have taken place in mobile technologies since this time? How can these technologies be used by travel organizations and destinations? What opportunities are created by advances in wearable and ubiquitous technologies?

USEFUL WEBSITES

QR code	Website	Description
	6th Sense Transport http://www.sixthsensetransport.com/	A major UK project investigating how context aware technology can be used to reduce fossil-fueled trips and improve quality of life.
	TravelByGPS.com http://www.travelbygps.com/	An online community for sharing GPS waypoints.
	GPS.gov http://www.gps.gov/	Official US Government information about the Global Positioning System (GPS).
	Bluetooth http://www.bluetooth.com/	Learn more about Bluetooth technology and its various applications.
	Near Field Communication http://www.nearfieldcommunication.com/	Information about NFC technologies and applications.

QR code	Website	Description
	EpicMix http://www.epicmix.com/	An example of the gamification of a ski resort.
	Ingress http://www.ingress.com/	Details about the augmented reality game Ingress by Google's Niantic Labs.

Case Study: Google Glass

Google Glass is a ubiquitous wearable computer with an optical head-mounted display (OHMD). The product was released with much hype in 2014 and was the first mass market OHMD. OHMDs are not new and are popular in science fiction, but previous efforts were bulky and required input devices and wiring that made them less portable. Like smartphones, the convergence and miniaturization of various technologies have made it possible to produce a standalone unit that is light enough to fit conformably on the face.

Google Glass displays information in a smartphone-like hands-free format and can communicate with the Internet using natural language voice commands. The device can also be controlled with a series of simple swipes using the touchpad located on the side of the device. Basic features include the ability to take photos, record short videos, interact with others on Google+, send emails, get directions, make phone calls and conduct simple searches. The device can be tethered to smartphone to access the Internet and other features.

Google has designed Glass to take advantage of its Android ecosystem, further tying people into various services such as Gmail, Google Calendar, Google+, Google Search, Google Now, Field Trip and a range of other services. This has many benefits for users. Unless you are completely off the grid Google knows a lot about you. In all likelihood Google knows where you live, where you work, what you like, who you know and what you search for. This is a little disconcerting but as we have discussed in this chapter, the benefits for contextualizing and personalizing information are immediately apparent. This ecosystem also supports the installation of third-party apps, resulting in a range of new travel applications, including virtual tour guides, marketing applications, navigation and augmented reality.

(*Continued*)

Case Study. Continued.

Despite these features, some users have been disappointed by the first generation of Google Glass. Some people viewed it as a replacement for their smartphone or computer. In reality, OHMDs are like tablets. They represent another form factor and product class for interacting with the increasing amounts of iniquitous information around us. As a result, these devices have strengths and weaknesses and people are likely to own multiple mobile devices and computers well into the future. The launch of Google Glass has also spurred the development of other wearable mobile devices with new features and capabilities.


http://glass.google.com/

Wearable devices like Google Glass present many opportunities for the travel industry, and extend and enhance many of the applications we have discussed in this chapter. In an era of ubiquitous technologies many organizations will find applications for devices that allow us to access and interact seamlessly with the digital information that is all around us. To learn more visit: http://glass.google.com/.

Study Questions

1. The use of Google Glass has created a range of privacy concerns and ethical issues. How can travel organizations and technology companies balance the need for contextualized information against basic human rights to privacy?

2. What new travel applications can you envisage for wearable devices like Google Glass?

3. How do content providers balance the presentations of information and push notifications to ensure that users are not overwhelmed?

4. Devices such as Google Glass bring us pretty close to the ability to communicate telepathically with anyone else using similar devices. What are the implications of this?

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6 A Social Media Approach to Evaluating Heritage Destination Perceptions: The Case of Istanbul

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6.1 Introduction

The purpose of the present phenomenological study is to determine visitors' interpretation of Istanbul's image so as to strengthen the city's destination branding. Destination branding, as part of place branding, includes a set of activities and methods working towards a desirable image (e.g. Kavaratzis and Ashworth, 2005; Zenker and Beckmann, 2013). Successful destination branding involves the bridging of three strategic gaps (Govers and Go, 2009). These are: first, the gap between the projected city image and the product offering as they are aligned with the actual place identity (identified as 'the strategy gap'); second, the gap between promises that can be delivered, market expectations and the cultural, social and individual background of the receiver (identified as 'the place brand satisfaction gap'); third, the gap between the promised place experience and the actual performance (identified as 'the place brand performance gap'). In order to bridge these gaps we constructed a strategic branding guide comprising three dimensions: perceived place identity analysis, place brand essence and place brand implementation (Govers and Go, 2009). This chapter revisits this model, focusing on the importance of social media and the perceived validity of electronic word-of-mouth. In particular, it draws on the largest online network of travel consumers, i.e. TripAdvisor (O'Connor, 2010), in order to elicit visitors' reviews for evaluation. Our study describes the case of Istanbul, seeking to shed light on the importance of its destination image dimensions from the actual visitors' perspective.

The strategic role of destination branding leads to a number of benefits, among which the attraction of visitors and investments is often emphasized (Kavaratzis and Ashworth, 2015). Heritage and culture, as one of the main dimensions of the place brand (Anholt, 2004), are frequently used in destination branding strategies. Yet, relevant efforts at heritage destinations are usually evaluated in terms of the numbers of visitors and the size of investment funds rather than the impact these strategies have on visitors' perceptions, experience and satisfaction. Still, destinations can further improve their branding efforts by employing relevant qualitative tools. Furthermore, tourists' perceptions, feelings and attitudes towards a destination can be assessed through the operationalization of the destination image concept. The destination image concept contains a cognitive and an affective component, while some researchers argue that there is also

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a third conative dimension that reflects the behavioural aspect (e.g. Gartner, 1993). Researchers often attempt to evaluate such image traits and offer valuable conceptualizations to tourism stakeholders. In order to achieve their objective, relevant studies may employ various methodological approaches.

To be specific, the method image studies usually incorporate bottom-up approaches, such as a questionnaire filled in by a representative sample. On the other hand, current consumer trends highlight the significance of online marketing and social media (Kasriel-Alexander, 2014), and heritage destinations also often invest in such tools: most destinations nowadays have their own website and Facebook page, while others have also invested in the development of augmented reality projects (e.g. Dublin). The evaluation tool which stakeholders may use for such efforts employs, once again, a quantitative (e.g. number of online visitors, 'likes', 'shares' or downloads) rather than a qualitative approach, thereby limiting the input social media reflections can offer on branding strategies. Building upon the aforementioned observations, a phenomenological study was embarked upon to determine visitors' interpretation of the destination's image, according to a destination image framework. Given that user-generated content influences the customers' decision-making process (Jalilvand *et al*., 2012), interest focuses on visitors' reviews on the largest online network of travel consumers, i.e. TripAdvisor (O'Connor, 2010), using the case of Istanbul to shed light on the importance of the destination image dimensions from the actual visitors' perspective. Furthermore, not overlooking the importance of the country brand dimensions (Anholt, 2004) and that destination image should be seen in a country image context (Kladou *et al*., 2014), the reviews included in the study have been posted on and right after June 2013 and the Gezi Park/Taksim Square incidents (Gökay and Xypolia, 2013). During this period, plans to replace a park located in the tourism and cultural 'triangular centre' of Istanbul with a shopping centre (Aksoy and Enlil, 2011) sparked nationwide protests. Timing of these protests coincides also with the peak of the tourism period and, therefore, they are likely to have had an impact on tourists' actual experience and destination image perceptions in a country context. Thus, choosing online reviews posted during this period offers the additional opportunity to record not only destination-focused but also, in general, country-related posts and perceptions.

The outcomes offer marketing scholars an overall insight into the destination image dimensions and their distinct significance when an online tool is employed. Assessing destination image components as perceived by tourists, not as part of a research project but as they are actually shared online, offers a double benefit: first of all, bias is eliminated, since online reviewers discuss their perceptions without thinking that their thoughts will be then processed by a research group. Second, online reviews are recognized as a significant source of word-of-mouth information. Thus, assessing online posts offers stakeholders an unbiased evaluation of their efforts as they are experienced and then presented to potential tourists from other tourists. Furthermore, findings contribute to the place branding literature by analysing tourists' evaluations during and right after a largely publicized period of 'unrest' at the destination. Implications for tourism practitioners stem from the dilemma of focusing on several key themes in their mass media marketing efforts, as is suggested for more mainstream markets (e.g. Chen and Uysal, 2002), or capturing the 'niche' image held by only a few tourists, as suggested by Pan and Li (2011) for the case of online marketing. Finally, the research provides guidelines to practitioners so that they develop a better understanding of what tourists consider as significant when evaluating a cultural and heritage destination.

6.2 Destination Image in a Country Context and the Role of Social Media

This study seeks to provide guidance on how to reach place brand objectives bridging the barriers dividing past and present, by combining knowledge embedded in tourism heritage and cultural systems with contemporary innovations including social media practices. As a result, the first step relates to perceived place identity analysis or place brand analysis (Govers and Go 2009: 256). Given that 'countries are tourism

"products" from the perspective of foreign and domestic travellers' (Heslop and Papadopoulos, 1993: 30), overlaps between destination and country image emerge. Anholt (2004) discusses tourism as one of the six dimensions of the place and country brand hexagon. As such, *tourism* and tourism practices are developed together and in interaction with the other five dimensions, namely *culture and heritage*, *people*, *governance*, *export brands*, and *investment and immigration* (Anholt, 2004). Tourism plays a crucial role in the field of country image since 'it allows personal interaction with locals and the host country culture' (Dinnie, 2011: 80). Additionally, destinations often strive to proliferate from a place branding strategy that builds a competitive advantage upon their cultural and heritage assets. To be specific, Ashworth (2009) discusses three techniques used in various combinations in such strategies: 'event hallmarking', 'personality association' and 'flagship building and signature district'. The first technique includes festivals and events of local or international scale (e.g. the European Capital of Culture). The second technique refers to the forging of an association between a place and a named individual in the expectation that the necessarily unique qualities of the individual are transferred to the place (e.g. Ashworth, 2010; Giovanardi, 2011). Finally, the third technique is seen when the local governments use the physical appearance and visual qualities of the local environment for place branding purposes. The success of stakeholders' efforts, however, lies upon the interaction of such strategies with all country branding dimensions (Anholt, 2004).

Nadeau *et al*. (2008) in particular elaborated on the conceptualization of destination image in a country image context, adopting a nested framework (i.e. the level of a destination conceived at the country level which encompasses all tourism characteristics available to visitors). Kladou *et al*. (2014) assessed destination in a country image context differentiating among the forms of tourism offered in the country (tourism types such as educational, business, leisure tourism, etc.). Furthermore, the favourable/unfavourable match/mismatch between country destination image and forms of tourism has been investigated with significant implications for practitioners. Incidents and events that have an impact on country image, for instance, are expected to influence destination image and willingness to visit. Specifically in the case of an unfavourable country image, destination marketing organizations (DMOs) and other stakeholders may consider focusing on tourism benefits rather than country image characteristics or, depending on the tourism type, focus on other factors (Kladou *et al*., 2014). The extant literature further suggests that consistency between the place brand dimensions, communicated identity, perceived image and experience are key to satisfaction and effective place brands (e.g. Govers and Go, 2009; Kavaratzis and Ashworth, 2015). Thus, the outcome of marketing efforts may not lie completely at the hands of tourism providers and decision makers, but the effectiveness of the place brand strategy largely depends on whether or not tourists evaluate the destination image in a favourable light. Recognizing the images that tourists have of a tourist destination is necessary to identify its strengths and weaknesses (Chen and Uysal, 2002), and to position it efficiently in the marketplace (Pike and Ryan, 2004). Hence, destination image is one of the most explored fields in tourism research (Gallarza *et al*., 2002). Nevertheless, more effort is required in order to explore the multidimensional nature of destination image and the importance of each image dimension as recognized by tourists in the digital era.

The various definitions of destination image and the frameworks developed for its assessment reveal the importance of the concept for both scholars and practitioners (Gallarza *et al*., 2002). Developments in the literature eventually led to the identification of three main components of image, namely cognitive, affective and conative (Gartner, 1993). The cognitive component is connected to awareness and refers to what people know or may think they know about a destination (Baloglu, 1999; Pike and Ryan, 2004). The affective component, on the other hand, goes further than beliefs and knowledge of the characteristics or attributes of a tourist destination, and evolves around people's feelings toward the destination (Chen and Uysal, 2002; Kim and Richardson, 2003). Finally, the conative component is the action step and refers to how people act on the

information. Konecnik and Gartner (2007: 403) argued that 'destinations … are evaluated not solely from real or imagined attributes but rather according to the "brand"'. The conative component and the significance of the 'brand' are further emphasized given the nature of tourism and the importance of experience for services such as tourism which are produced and consumed simultaneously.

The necessity that arises here is to unravel the design of the place brand essence, fundamentally to establish an understanding of Istanbul's brand identity as perceived by international travellers. Place brand essence: (i) 'incorporates the brand roots, values, visions, scope, name, visual identity, behaviour, and the narrative of place'; (ii) 'should be built on a value match between place identity and the target audience, also referred to as brand positioning', (iii) involves 'a reference to the quality and service characteristics of the economic offering' (Govers and Go, 2009: 125). Although Govers and Go (2009) have assessed place identity using seven components (namely location/geography, physical appearance, mentality, rituals/traditions/behaviour, heroes, symbols and artefacts) and then discussed essence in relation to customer experience, destination image studies with a cognitive, affective and conative component can be seen as another adequate alternative. For instance, according to San Martin and Rodriguez del Bosque (2008), factors such as 'natural environment', 'cultural heritage', 'tourist infrastructures' or 'atmosphere' underlie the cognitive structure of destination image.

As San Martin and Rodriguez del Bosque (2008) argue, the cognitive component of destination image derives from tourists' beliefs about the place and, as such, is related to the destination's attributes. The attributes of the place can be classified into three sub-categories and include functional/tangible attributes (e.g. landscape, cultural attractions, infrastructure), psychological/abstract attributes (e.g. hospitality, atmosphere) and intended behaviour. Furthermore, destination image, being a multidimensional phenomenon, goes beyond beliefs and knowledge of the destination (cognitive image) and includes feelings and emotions that the destination may evoke (e.g. pleasure, excitement). Tourists evaluate destinations based on the aforementioned dimensions and then decide on their behaviour towards the destination (e.g. whether they would visit the destination again or recommend it to others). As already mentioned, stakeholders usually focus on the quantitative form of tourism behaviour (e.g. in terms of return visits and recommendations) as an indicator of success for their branding efforts and tourism strategies. Yet, place brand implementation and performance as reflected in a narrative mode of thought (for instance, see also Padgett and Allen, 1997; Tapachai and Waryszak, 2000) may provide more detailed feedback. In particular, actual visitors' evaluations and perceptions in today's digital reality gain a new meaning.

The Internet has reshaped the way tourism-related information is distributed and the way people plan for and consume travel (Buhalis and Law, 2008). In line with technological advances, tourism scholars have gradually started focusing on online destination image (Choi *et al*., 2007) and the role of social media in online travel information search (Xiang and Gretzel, 2010). However, such recent studies tend to concentrate on website material, thus approach online destination image from the supplier's point of view. Alternatively, some relevant studies may focus on social media and visitors' blogs (e.g. Cakmak and Isaac, 2012), yet research on social media in tourism is still in its infancy (Zeng and Gerritsen, 2014). In fact, Zeng and Gerritsen (2014) particularly point out that 'social media sources must be strategically included for research data collection and analysis' (Zeng and Gerritsen, 2014: 33).

Social media includes a variety of websites and online platforms on which people share their experiences in different ways (Xiang and Gretzel, 2010). Consumers are free to use social media to post their stories, comments and evaluations, or even their pictures and movie clips. Social media appears on the first few search results pages in Google, hence social media sites are easily assessed by potential travellers. Social media are quite substantial in terms of the size of their sites, the up-to-date nature and relevance of their contents, and the level of connectivity with other sites on the Internet. Focusing specifically on destinations, travellers share their evaluations and perceptions on destination image using social media, and these evaluations are likely to influence the

destination choice not only of friends and family but also of other potential travellers around the globe as well. Social media is used before, during and after holidays for experience sharing and is a significant information source (Xiang and Gretzel, 2010). In fact, the validity of electronic word-of-mouth is particularly emphasized, since social media content is perceived very often as more trustworthy compared to official tourism websites or mass media advertising (Fotis *et al*., 2012).

The power of social media has repeatedly troubled stakeholders involved not only in the field of tourism but also in governance and other fields of the place brand hexagon (Anholt, 2004). Although Facebook is the leading social media icon (Zeng and Gerritsen, 2014), Xiang and Gretzel (2010) recognize TripAdvisor as the most 'popular' social media website that contains travel-related content. As a result, the image reflected on TripAdvisor by actual tourists may influence the image created in the perception of potential tourists. Particularly in the case of heritage destinations, actual visitors' image reflections offer significant input, given the challenges stakeholders have to successfully deal with in their effort to balance their past and sense of authenticity with the trends of the future and the challenges they are currently facing as 'living' cities. Hence, TripAdvisor reviews can be used to evaluate local and national stakeholders' efforts to support a specific destination image despite possible unfavourable country image traits. Analysing the comments posted on TripAdvisor will, finally, offer an insight into the weighted importance of each destination image component (i.e. cognitive, affective and conative) for those individuals choosing to share their experience and evaluation on an online platform.

6.3 The Case of Istanbul Perceived as a Heritage Destination through Electronic Eyes

Destinations attempt to build upon their heritage and culture for a number of reasons. For instance, Ashworth and Kavaratzis (2014), among others, mention the following: culture provides a consumable and saleable experience; it acts as a resource of economic activity; it attracts tourists; and, at the same time, it expresses the locality.

Turkey is argued to be one of the countries focusing particularly on the value of culture and heritage for the development of its place brands. In the Turkish Strategic Plan for 2023, building city brands in the tourism sector is a parameter explicitly stressed (Ministry of Culture and Tourism, 2007a). The Istanbul place brand, in particular, is recognized as a 'strong card' for tourism development in Turkey (Sahin and Baloglu, 2011). The value of Istanbul as a destination is also portrayed by international arrivals in 2012 (Istanbul Culture and Tourism Directorate, 2014), along with the fact that arrivals outscored those of traditionally popular destinations, such as Rome (Euromonitor International, 2014).

The importance of culture and heritage for the Istanbul brand becomes obvious through various examples which highlight the use of the aforementioned techniques (i.e. 'event hallmarking', and 'flagship building and signature district'): the city hosts large numbers of festivals and events (e.g. IKSV, 2015); Istanbul has recently served as the European Capital of Culture (in 2010) and bid for the 2020 Olympic Games (and may also be a candidate for the 2024 Olympics); the Golden Horn (i.e. the district of Sultanahmet and its surrounding area) serve as the most important signature district for the city's historical heritage; and various districts, such as Istiklal or Eyüp, also serve as signature districts for the city's more contemporary, multicultural personality and for its religious culture, respectively. In conclusion, quantitative measures and brand analysis suggest that the 'Istanbul city brand' is in a rather competitive position. Yet, it is important to recognize that there exists an interface between Istanbul's brand image and the stereotypical image linked to the national context, as the latter affects the former's tourist perception and performance. This becomes particularly evident when viewed from the legislative framework perspective.

From the legislative framework perspective, a distinctively top-down and established relationship appears between the national level of policy making in Ankara, the capital city, and the local level of Istanbul. Here the issue arises as to what extent – if any – political and natural events may impact the image not only

of Turkey but Istanbul as well. Turkish stakeholders explicitly emphasize projects and programmes that will minimize the effect of negative events and create a positive image (Ministry of Culture and Tourism, 2007b). The emphasis on image does not come as a surprise, considering the importance of repositioning for the country, as it derives from the reflection of negative news in the mass media concerning Turkey or her neighbours (Tasci *et al*., 2007). Such news includes: (i) the military coups of 1960, 1970 and 1980; (ii) the Turkish–Greek conflict in Cyprus in the 1970s; (iii) a hashish farming problem in the 1970s, which gave rise to the *Midnight Express* film in 1978; (iv) terrorist attacks of PKK, a Kurdish guerrilla movement; (v) the Gulf Crisis in 1991; (vi) earthquakes and safety of buildings; (vii) the NATO–Serb conflict in Serbia/Kosovo in 1999; and (viii) the US operation in Iraq in 2002 (Sezer and Harrison, 1994; Kotler and Gertner, 2002; Sonmez and Sirakaya, 2002). More recently, protests occasionally spread throughout the country. The first massive expression of public unease with some national developments was expressed in Turkey in June 2013, at the peak of the tourism season. As a result, Taksim Square in Istanbul was turned from a popular tourism hub into an arena for debate, drawing the attention of international media and highlighting the power of social media. Within these lines, narratives on social media appear to be of distinct importance in an effort to follow a bottom-up approach to assess the impact of largely publicized events on destination image in a country context.

Building upon the aforementioned analysis, we focus on the case of Istanbul as a heritage destination through electronic eyes. The study focuses specifically on Istanbul to weigh the importance of destination image components for actual visitors. Moreover, assessing tourists' evaluations of Istanbul during the protests will help the understanding of the extent to which marketing efforts geared at creating a positive image for a heritage destination may also be effective in changing the more general country image (Martínez and Alvarez, 2010).

6.4 Methodology

A phenomenological study was embarked upon to determine visitors' interpretation of the destination's image, according to a destination image framework. The study also sought to assess the importance that travellers attribute to each destination image component and, as a result, what they decide to share in their comments on social media. Given that user-generated content influences the customers' decision-making process (Jalilvand *et al*., 2012), interest focused on visitors' reviews on the largest online network of travel consumers, i.e. TripAdvisor (O'Connor, 2010).

The main objective of the study was to determine visitors' interpretation of the destination image components, according to a destination image framework, as recognized by visitors' comments on TripAdvisor. The selected framework has previously being tested by San Martin and Rodriguez del Bosque (2008) using a conventional quantitative method. The present study is built upon a qualitative approach. The study analyses the comments already posted, thus strategically includes a social media source for research data collection and analysis (Zeng and Gerritsen, 2014). Destination image-search keywords are of critical importance to destination image studies and online marketing (Pan and Li, 2011). Therefore, a content analysis of TripAdvisor posts on the 'Historic Areas of Istanbul', 'Taksim Square', 'Istiklal' and 'Beyoglu' pages was carried out using specific keywords. In June 2014, the 'Historic Areas of Istanbul' page, with more than 3,500 reviews, was ranked first among the 640 pages referring to attractions in Istanbul, and it received the 2014 Certificate of Excellence of the Historic Sites certificate type. Furthermore, the other three pages are the most popular TripAdvisor pages of those discussing Istanbul districts with significant tourism and cultural infrastructure (Aksoy and Enlil, 2011). Therefore, a study focusing on the destination image of Istanbul was developed based upon the content analysis of respective postings on four TripAdvisor pages: (i) the Historic Areas of Istanbul; (ii) Taksim; (iii) Istiklal; and (iv) Beyoglu.

In 2013, a high number of international arrivals in Istanbul occurred in the summer months (Istanbul Culture and Tourism Directorate, 2014). Consequently, analysis includes the 302 reviews posted between June and September 2013. The reviews were collected and content-analysed using thematic content analysis

(i.e. cognitive, affective and conative) and the San Martin and Rodriguez del Bosque framework (2008). In order to maintain consistency, the two authors conducted the coding process separately. Then, each author conducted an inter-rater reliability check. Distinguishing between negative and positive image traits is essential in order to provide significant input for the heritage destination brand, and particularly its strengths and weaknesses (Baloglu and McCleary, 1999; Jenkins, 1999).

In order to perform the content analysis in more detail, each review on the cognitive image was assessed separately and classified according to its interpretation. To be more specific, some words (e.g. 'busy', 'crowded') were categorized according to the meaning of the respective sentence. In some cases, for instance, such words refer to the urban area and in others to specific monuments/heritage sites. Thus, in the analysis the former is included as a review on the natural environment and the latter on the cultural environment. Given the current status of research, next to the content analysis a descriptive analysis is also considered necessary.

6.5 TripAdvisor Study Findings

People posting on TripAdvisor have the option to share or omit their personal details. The posted demographic characteristics usually refer to the nationality and the gender, while reviewers do not refer to other characteristics, such as age, occupational status or household income; in the 302 reviews considered, 137 of the reviewers do not state their gender. Out of the 54.63% of the reviewers who state their gender, 108 are men and 57 women. On the other hand, the vast majority of the reviewers (83.44%) share information on their country of origin. In sum, there are 252 reviewers who mention their country of origin. Almost one in three reviewers comes from North America, since 55 reviewers state being US and 25 Canadian nationals, while 34 reviewers come from European countries, with an additional 45 reviewers coming specifically from the UK. Finally, 55 reviewers come from Asian countries, 22 from Australia, 13 from Africa and three from South American countries.

Preliminary analysis of the 302 reviews reveals 684 references to destination image components. However, as depicted in Table 6.1, this does not mean that reviewers comment on all three components. In fact, 63.74% of the references focus on cognitive destination image, while no more than 13.74% of the references are about the conative component.

The next step includes an attempt to reveal whether reviewers tend to share their positive or negative experiences and beliefs about the destination. Analysis points out that 84.5% of the references (i.e. 578 out of 684 references in total) positively evaluate the destination. In more detail, 351 of the positive comments refer to cognitive, 146 to affective and 81 to conative destination image. The negative comments were 13 for the conative, eight for the affective and 85 for the cognitive components (Fig. 6.1). There were only 17 comments about the protests around Taksim Square, with 11 reviewers commenting positively about the riots and six negatively.

When focusing on those reviewers who have provided information about their gender, Table 6.2 indicates that 69.44% of the male reviewers (i.e. 75 out of 108) tend to post only positive reviews. On the other hand, the respective percentage for female reviewers is 63.16% (i.e. 36 out of 57). In fact, women are almost twice as likely to post both negative and positive comments as men, since 31.58% of the female reviewers recognized both negative and positive aspects of the destination in their comments, as opposed to 22.22% of the male reviewers (i.e. 18 out of 57 and 24 out of 108, respectively). Finally, only 12 tourists posted strictly negative comments. The negative comments, posted by both male and female reviewers, mostly refer to pickpockets and alert potential visitors to be aware and cautious.

Table 6.1. Summary of the number of references per destination image component.

Destination image component	Frequency (n = 684)	Percentage (%)
Cognitive	436	63.74
Affective	154	22.52
Conative	94	13.74

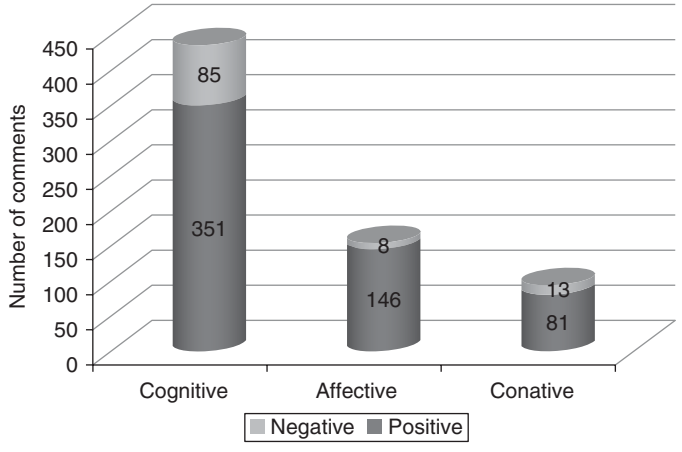

Fig. 6.1. Negative and positive comments about the three image components.

Table 6.2. Distribution of positive and negative comments.

	Male (n = 108)	Female (n = 57)
Only positive comments	69.44%	63.15%
Only negative comments	8.33%	5.26%
Positive and negative comments	22.22%	31.58%

At this point, a more in-depth approach to the comments is considered necessary. Particularly in the case of the cognitive destination image, the pattern seems in line with the framework developed by San Martin and Rodriguez del Bosque (2008), as portrayed in Fig. 6.2. Most reviewers post comments on cognitive image, leading to a total of 436 references to relevant aspects. In further detail, there are 106 positive references regarding infrastructure and the socio-economic environment. These references mention the *location*, the *safe* and *walkable* area, the *friendly people*, and the *good shopping* and *transportation* alternatives. On the other hand, 59 negative comments are recognized. Negative reviews mainly mention the *busy traffic*, the *long waiting queues* as well as street sellers ('pushy sellers') and *taxi drivers*.

Additionally, 85 positive comments refer to the atmosphere, and repeatedly use adjectives such as *cosmopolitan*, *restful*, *calming*, *peaceful* and *romantic*. Istanbul, in short, is identified as 'a beautiful city [where one can] walk and feel the authentic features'. There are six negative comments focusing on atmosphere; these refer to the fact that the area is *very noisy and crowded*. Additionally, 13 positive comments describe the natural environment (fauna/flora, landscapes and parks) and refer mostly to the *parks* of Istanbul (both on the European and Anatolian side of the city), the *tree-lined country yard* and the *sunsets*. Travellers also point out the importance of 'choosing the right season' to visit Istanbul, because of the hot weather in the summer months. There are only ten negative comments, which refer to the *crowded urban environment* and to the *busy* landscapes. Negative comments include suggestions to avoid the hot months as well.

As also depicted in Fig. 6.2, 140 comments refer to the cultural environment. To be exact, these comments include 136 positive references to the cultural environment (e.g. cultural attractions, cultural activities and customs), with 132 of them coming from the 'Historic Areas of Istanbul' page. Most references are about the cultural aspects of the Golden Horn area, such as Hagia Sofia, the mosques, other heritage sites and museums. For instance, visitors, among other things, mention: '[the] historic areas are fantastic' (Australia, female); 'history worth to see' (Belgium, male); 'a glimpse of two millennia [of] history!' (USA, male). In addition, nine positive comments referred to the *food* and five to the Turkish baths (*hammam*). On the other hand, there are only four negative

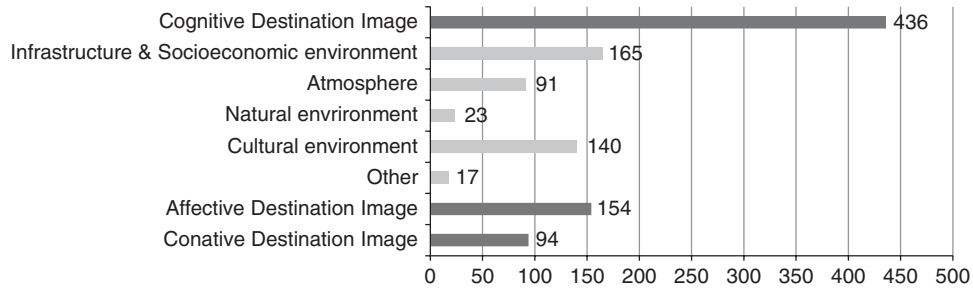

Fig. 6.2. An insight into destination image components.

comments. In detail, a male tourist from South Africa who does not share any positive comments but only posts: 'Terrible state of neglect'. Another two comments come from tourists who also share some positive attitudes, including a male tourist from Brazil who comments that 'women must be aware of [the] dress code' but underlines positive comments on the atmosphere, the cultural environment and the affective destination image and adds his impression that Istanbul is a 'fascinating city'. Finally, a male reviewer from the UK likes the *Blue Mosque* and the *Topkapi Palace*, yet refers to *Hagia Sophia* as an experience that provides 'poor value for money'. One comment relevant to the cultural environment is also included in the Taksim page, where a Romanian male reviewer points out that '[in this area], no historic objective' can be found. The same reviewer further stresses the need 'to be careful' and 'aware of [one's] pockets' (despite not having such a negative encounter himself), and mentions that there are 'many restaurants and shops'.

During June 2013 the Taksim Square/Gezi Park protests in the European centre of Istanbul were taking place, not very far from the historic areas of the Golden Horn. However, in total only 17 comments, categorized as unspecified cognitive comments ('Other' in Fig. 6.2), refer to the protests. Most of the comments mention that there is no problem with protests and riots ('We didn't notice the protests') and add positive comments regarding affective destination image ('amazing city'). There are six negative comments for the riots, especially for the Taksim area ('riots caused chaos in the city').

Seeking to analyse the affective component, 146 positive comments are identified. Comments include the use of adjectives such as *magnificent* or *nice*. Furthermore, eight reviewers mention the word *experience*, and seven refer to Istanbul as an *interesting* city. Moreover, 13 reviewers describe Istanbul as a *beautiful* city and 17 characterize it as *great*. There are comments including the verb *enjoy*, and the verb *like*. Some stronger affective image components (e.g. *heart touching*, *surprise*, *wonderful*, *outstanding*, *excellent*, *WOW*, *awesome*, *inspiring*, *astonished*, *unique*, *fun*, *breathtaking*) are recorded as well. The word *love* is used by 20 reviewers, while 11 more evaluate Istanbul as an *amazing* destination. Finally, a US female tourist writes: 'I fell in love'.

On the other hand, the affective component includes eight negative comments. In detail, a British female tourist negatively comments on the street sellers and states she 'disliked' the city. Furthermore, a male tourist writes: 'It will not be a transformative experience', but adds that 'the top three attractions are conveniently located and you must see them'. Additionally, a Canadian tourist characterizes the city as *clean* and *busy* and the people as *friendly*, yet adds that the city 'isn't anything of special interest'. Finally, an Australian female tourist posts mostly negative comments referring to the people and service and writes '[there were] people constantly wanting our money, bad taxi service and food'. In general, she comments that she felt 'quite disheartened', but is impressed by the rich *culture* and *history*.

Proceeding to the conative component, 81 positive references can be recognized. Different levels of excitement can be detected, as reflected with the intention to revisit or recommend in the following examples: '… and off

you go!', '[it is a destination] to experience and visit!', '[Istanbul is] not to be missed, recommended and … will return', '[Istanbul is] worth to see, must see', '[I will] definitely go back!', '[Istanbul is] worth seeing', '[I] can't wait to go back', '[one] must see [the city]', '[Istanbul is a city] to discover and observe …'. In particular, tourists in 17 comments say that '[one] must visit [Istanbul]' and 14 more times they comment that '[Istanbul is] worth to see'. Most of the 13 negative comments connected to conative destination image advise potential travellers to 'Be careful!'

6.6 Implementing Results to Strengthen the Istanbul Brand

Place brand identity analysis, essence and implementation are the baseline to bridge the strategic gaps often witnessed in place branding. Govers and Go (2009) discuss the identity components (Govers and Go , 2009: 125) and also classify the constructive elements of identity under structural, semi-static, colouring elements and changing signifiers (Govers and Go , 2009: 254–269). According to Anholt (2004), tourism is only one of the six dimensions of the place/country brand hexagon and, as such, it interacts with the other five dimensions (i.e. culture and heritage, people, governance, export brands, and investment and immigration). These dimensions are all obviously useful when attempting to analyse brand identity. At the same time, however, it is how the place brand is constructed and implemented that makes the efforts measurable and, thereby, promising. Culture and heritage are a dimension particularly popular among tourism stakeholders, in their effort to add richness to their destination brands (e.g. Anholt, 2002). As a result, the study builds upon previous research that investigate overlaps between destination and country image (e.g. Heslop and Papadopoulos, 1993; Nadeau *et al.*, 2008; Kladou *et al.*, 2014), as portrayed in the descriptions reviewing a particular heritage destination, Istanbul. In an attempt to evaluate the destination brand of Istanbul in a country context, the qualitative measures employed underline the success of the effort to create signature districts in Istanbul (e.g. popularity of the 'Historic Areas of Istanbul' TripAdvisor page; reviewers, especially men, tend to share their positive comments more than the negative ones). Yet, such an interpretation may underestimate a series of important factors. First of all, the focus on techniques such as the creation of signature districts is, on its own, related to a superficial understanding of culture and leads to a disconnection between place brands and local culture (Kavaratzis and Ashworth, 2015). Besides, monuments and heritage sites are not necessarily assets that, on their own, may enhance return visits and recommendations (e.g. Kladou and Kehagias, 2014). Additionally, other important dimensions of the place brand hexagon refer to people and governance; it is 'people who make a place' (Fouts, 2010: 117) and it is the harmony between top-down practices and actual experience that marks the essence of the place brand.

In more detail, the essence of the place brand is defined as the relationship between place identity, experiences and visitor (Gnoth, 2002). Particularly for the case of online marketing, previous studies have mentioned the significance of capturing the 'niche' image held by only a few tourists (Pan and Li, 2011). On the other hand, tourists' comments on TripAdvisor support the significance of more generic destination products and overall atmosphere. More specifically, tourists may comment more on cognitive aspects, yet in their comments they refer to aspects covering a large variety of characteristics (e.g. culture, people, atmosphere). Thus, destinations are evaluated according to the 'brand' (Konecnik and Gartner, 2007: 43), and a positive attitude towards a destination seems to be connected to more than one attribute.

Our study reveals that reviewers, even when sharing their experiences on a page explicitly related to culture and heritage, such as the 'Historic Areas of Istanbul' one, acknowledge the importance of other place brand dimensions as well. The majority of additional comments are, in fact, particularly connected to the dimensions of people and governance, which further highlights the significance of place branding and management. Such an observation is especially relevant in the face of declining trust and consumer confidence as a result of corporate and government scandals

or inconsistencies. Besides, *people* can be effectively involved in place branding once the top-down programmes and efforts efficiently reflect in the place brand – the culture *in*, culture *for* and culture *of* the place (Kavaratzis and Ashworth, 2015). To build a competitive and sustainable brand, the authorities should, therefore, also actively engage in a proactive way with social media users which, in turn, would give them an integrated frame for the effective *governance* of the Istanbul brand. Authorities should address comments, whether positive, negative or neutral in nature, as this approach bridges the strategic gap between brand identity and experience. The growing importance of social media and the perceived validity of electronic word-of-mouth further support the need for planned and coordinated conventional and digital branding efforts.

Govers and Go (2009: 267) suggest three prerequisites according to which the place marketers will be able to formulate a compelling and comprehensive brand story that will mobilize the elements included in the place brand identity. These prerequisites refer to: (i) facilitating the projection of the right place image through marketing communication; (ii) directing the creation of the right product offering, particularly the way it is delivered, by guiding the stories that hosts share with guests; and (iii) exploiting the value of positive word-of-mouth by providing cues that create common stories for consumers to share. Seeing these in the Istanbul case, we can proceed to the following remarks:

1. Narratives only limitedly engage with the burst of unplanned events if these do not have a significant impact on visitors' actual experience. Still, reviewers largely engage with discussion on what is expected and how the brand performs overall given the promise created. Our study reveals that especially negative comments are related to place brand dimensions other than the tourism and cultural offer (e.g. crowded spaces, people's behaviour). Previous studies on the role of social media in online travel information search have pointed out that certain keywords (e.g. nightlife and restaurants) are clearly more likely to enhance social media search results as compared to others (e.g. attractions) (Xiang and Gretzel, 2010). On the other hand, analysis of the TripAdvisor posts of Istanbul reveals that attractions, activities and other elements of the cognitive component are considered significant to be mentioned from a destination image point of view. In fact, characteristics of the cultural environment constitute the component that received the largest number of references. At the same time, visitor reviews disclose the role of people, governance and the importance of feelings in general. As a conclusion, Istanbul is, undoubtedly, a destination for culture and heritage, yet more effort is necessary in order to achieve consistency between the planned, communicated and delivered story.

2. Actively responsive businesses are viewed favourably by users, regardless of whether they are dealing with positive or negative feedback, as they appear to care about their customers' experiences (Travel Daily News, 2012). Then again, the case of Istanbul and negative reviews regarding basic tourism and urban management practices reveals a limited attempt or intention to address the reviews made, although the tourism strategic plan explicitly focuses on marketing tools. Thus, practitioners should reconsider the aforementioned gaps and particularly the role of social media and adjust their marketing approach by effectively addressing reviews and actively revealing their customer orientation. One of the most important challenges in the promotion of a tourist destination is to recognize one's strengths and weaknesses in the individual's mind (San Martin and Rodriguez del Bosque, 2008). Hence, DMOs should develop different actions to maintain the strengths of the tourist destination, elaborate on the positive comments, and improve the attributes where the main weaknesses are identified.

3. In corporate marketing literature, affective associations, as expressed with emotional evaluations, are referred to as attitudes toward products (Shimp, 1989). Moreover, the various attitudes which the consumer develops towards the product features are compensatory, meaning that a negative attitude on one attribute can offset positive feelings on others and vice versa (Gross and Peterson, 1987). Thus, a consumer forms an overall attitude toward a product by balancing their attitude combinations (Leisen, 2001). Similarly, a given tourism destination might consist of natural attractions, cultural attractions

and other features (e.g. San Martin and Rodriguez del Bosque, 2008). Given that the overall attitude toward a destination depends on the 'balanced' outcome of perceived experience with the perceived importance of the destination characteristics, one may conclude that online reviewers tend to be positively inclined toward their visiting experience in Istanbul. Still, only a limited number of reviewers actually proceed to conative image reflections, although many more share positive cognitive and affective image traits. Therefore, it can be argued that systematic effort is necessary in order to bridge expectations, experiences and satisfaction.

Despite the importance of recognizing the images tourists have of a destination (e.g. Chen and Uysal, 2002; Pike and Ryan, 2004) and the increasing significance of online information sources and social media (e.g. Buhalis and Law, 2008), there is a paucity of studies investigating destination image in an online context. The present study contributes to the literature by assessing the three image components as presented on TripAdvisor by tourists who chose to share their opinion with potential travellers and reveals the central importance of cognitive image. Despite the crucial significance of culture and heritage for a destination such as Istanbul, findings suggest that more coordinated efforts are necessary in order to successfully balance between the challenges and dimensions each living city faces. However, the data reflect only a snapshot of reviews on TripAdvisor. Therefore, assessing destination image in a more collective manner by including TripAdvisor reviews on other Istanbul pages could add to the complete reflection of Istanbul as a destination. Additionally, including tourist evaluations related to all country/place brand dimensions could further enrich the study.

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14 Events and Technology

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Introduction

This chapter considers the relationships between events and technology and the research implications of conceptualizing these within actor-network theory (ANT). As part of the act of problematizing themes in events research, this approach requires a reconsideration of what is to be considered to be knowledge about events that can be legitimately pursued as well as the process of this pursuit and the outcomes of these acts. The approach brings human and technology interactions to the fore in the delivery of an event, or a series, such as the Formula One championships, and focuses upon the isolation and description of the various elements and their relationships in a network. It recognizes that these are neither static, nor limited in either time or space. The chapter offers its case study, the Formula One championships, as an extension of the ontological and epistemological implications of the approach taken to events and technologies.

Research on the role, purpose and impact of various technologies on the events and festivities sector of local, national and international economies tends to envisage relationships that privilege the 'human' but simultaneously display technological determinism. In these accounts, technologies have often been said to drive, lead or cause changes to delivery, consumption and regulation of events. There is a tendency for people to be seen as either small in number, as active innovators and inventors of technologies, or a much larger mass of passive consumers who are relatively docile in their acceptance of their changing technological environment at events – and of the concomitant implications upon other aspects of their exposure. These, relatively functional, considerations of events and festivity have had significant impact upon analyses and understandings of 'events management', 'events policy' or 'events studies' within specific ontological and epistemological paradigms. Of course, such analyses are often presented as the dominant (and 'common sense') preoccupations of government and, unsurprisingly then, of academics and policy makers working to meet governments' information needs and investment decisions. Understandings of economic impacts, community developments or state intervention strategies are regularly the information outcomes of these types of studies.

While research and published work in these traditions do not ignore globalization and other international strategic considerations in their analysis, these are often 'peripheral' to the main preoccupations of the work. They can be extrinsic pressures bearing upon events and festivals (e.g. in the form of potential reductions in ideas and practices of community, or in user expectations of mediatisation, which sit uncomfortably alongside desires for authenticity), or pressures to increase throughputs of (usually non-local)

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 Research Themes for Events (eds R. Finkel *et al.*)

consumers towards broadly economic touristic 'benefits' for cities and regions (with further implications for community, authenticity or communications mechanisms). Yet the technologies that appear to have the most significant impacts upon the experience of contemporary events and festivity are: (i) global in their gestation and reach; (ii) unavoidable for many users and organizers; and (iii) increasingly central to the meanings and purposes of events. Further, technologies from outside the specific moments of event delivery can have implications for everything from the possibility of bringing an international audience to an event, to the actualities of what is to count as the event (and in the eyes of some, what it should be).

Thus, in addressing the task of preparing a chapter entitled 'Events and Technology' for a book entitled *Research Themes for Events*, we were conscious of the need to consider the relationships between events and technologies in a way that privileged neither element of the title (titles of, say, 'technology in events' or 'event technologies' could have produced a radically different chapter) and problematized the sets of relationships between, and among, each. Essentially, posing questions about the connections between events (perceived as predominantly social constructions) and technology (perceived as predominantly a by-product of scientific inquiry) raises more fundamental issues about the separation of 'science' and 'society'. This conceptual discontinuity, 'the idea that there is a special scientific method, a realm where truth prospers in the absence of power, is a myth' (Callon *et al*., 1986) is especially problematical in a book about research, some of which elevates the 'scientific' method. These authors continue by adding that, for too long, scholars have 'been content to simplify the heterogeneous links that tie the "scientific" and the "technological" to the rest of the social world.'

For us, this required a different way of theorizing about essentiality of events, about the research questions that might be asked, and about the kinds of outcomes that a research project might elicit – that is, there are ontological and epistemological considerations that often remain unexplored. We have attempted to resolve this by adapting ANT to the field, encouraging a re-conceptualization of events and technology as one in which these relationships are centred as the locus of inquiry and the focus of research questions and outcomes. This view was given added impetus by the requirement to produce a 'case study' as part of the chapter; the case study commonly being both an approach and an outcome, of ANT.

Re-conceptualizing Events and Technology

To a large extent, events comprise a series of habits and procedures that are self-sustaining and that involve clusters of human and non-human (including technological) actors (more correctly, *actants*) performing sets of relations. In turn, while they continue to be performed, these relations will create both actual and symbolic meaning. Both users and generators of events and festivities have long networked with technologies to create and recreate meanings that can be characterized as 'events' or 'festivity'. In describing the connections between the mediators of an event, the actants crucial to its performance, we seek to describe the social situations that can comprise individual events and locate those that appear to be the most prominent within the network.

In researching an object such as Formula One, we are conscious that it appears as a single entity, a 'black box', which embodies both unity and complexity. The first of these is apparent in the naming of a what comprises a network of motor races, circuits, drivers, cars, teams, sponsors, mediated spectacles, advertising, prizes and all of the relationships between them as a single element – Formula One. The second is apparent in the 'unpacking' of the box when opened into the elements cited in the previous sentence (and more) and exposing each individually as well as the networks between them. We have chosen to consider Formula One because of the evident role of technology in its formation and development as a sporting, a consumer and a media spectacle, characterized by 'events' called Grands Prix. Cars, circuits, drivers, communications and competition each

act as powerful transmitters of technologies and then interact with themselves and with other actants, such as spectators, television (TV) viewers, commentators and enhanced local communications from remote parts of the circuits to perform the events. The relationships between the elements isolated above and the further networks of Grands Prix deliver together the Drivers' and the Constructors' Championships that are the essential elements that become the focus of those networks throughout the Formula One season. Each race meeting, each racing team, each season and each championship are repeatedly performed and then dismantled on an apparently endless (and sometimes contradictory) continuation of shifting rules, attempts to improve safety, higher speed in lap times, handling and comfort enhancements and heightened experiences for all involved. There is a persistent and almost inevitable expectation of 'progress' in each of these elements, and in many other aspects of Formula One, which serves to sustain a viable market for continued investment, highly lucrative sponsorship, periodic selling of media rights and frenzied spectator and viewer expectations. So the networks of material items (largely technologies) integrate with the symbolic environment (meanings attributed by people to, for example, the events; the branding of the cars, the teams, the drivers; the keenness of competition) to simultaneously become the single 'black box' of 'Formula One'. The spectator, whether at the circuit or beyond it, may be easily marginalized from many of these elements of Formula One. The complex network, when seen as Formula One, becomes more than the sum of each of its (invisible) parts – it is punctualized and the 'visibility' of the network is reduced to a seemingly simple action. It is suggested that only when punctualization breaks down does the actor-network become obvious, visible or even relevant. A car, which is a complex actor network, is very little understood by the average driver until it ceases to function. At that point, the driver becomes only too well aware of the performance of the actor-network via its many separate components and their interactions – for example the engine, the maker's warranty, the promise of reliability embodied in the brand, etc. A Grand Prix event can be most easily punctualized (and turned into a case study) analytically when it is not performed precisely as it is expected that it will be by its 'fans' (who themselves are part of the actor-network, of course). But Grands Prix (like many events that repeat over space and time within a brand framework) are relatively easily punctualized and can be replicated across the globe as part of a wider network consisting of the Formula One franchise and its various championships.

Actors and Actants

Before turning to a consideration of Formula One as a case study, it may be useful to consider how a vocabulary of events and technology within the network of actors and actants may be proposed. How can an event or a festival be researched from the perspective of a series of connections? Knowledge production in the post-Enlightenment orthodoxy tends to view dichotomies between people and physical objects, to distinguish between the natural world and the realm of human-produced culture. In viewing the object of inquiry as 'merely' a series of associations that are constantly being re-engineered and in which none is privileged over another is to see it as a set of relationships between participants – some human, others not. A phenomenon such as Formula One comes into being in the various and continuous interplay between the actors and actants and that network is itself also an actor in the process. Human agency is seen as greater than that which can be ascribed to any individual entities (actor or actant) – the source of agency is the relationship between them.

Voicing meanings as defined by the actors (and the spokespeople for actants) through case study

In attempting to construct a case study based upon these theoretical positions, it becomes imperative to identify the actors (which will be used from now onwards to indicate both actors and actants). In our analysis, it is clear that there are a number of factors that lead to the

kind of apparent 'breakdown' that can enable punctualization, for example: (i) increasing interest, but simultaneous reductions, in local spectatorship; (ii) crises of legitimacy for some race circuits – whether 'traditional' but unable to meet financial demands, or 'recent' and unable to generate democratic local interest; (iii) continued questions about ownership of the franchise of Formula One itself; and (iv) races that are 'processional' with very few winning teams. That is not to say that Formula One is 'broken' – merely that current circumstances present opportunities for analysis and evaluation. It is acknowledged, of course, that the context of the circumstances will have a significant bearing upon the analysis.

Central to the meaning of Formula One are the *drivers* (for whom there is a championship based upon individual performance in races) and the *constructors* (i.e. the teams, for which there is also a championship) of the cars, who could be said to 'voice' the *cars*. The technological and cultural significance of the cars continues to preoccupy a number of commentators, with elements such as the aesthetics of the vehicles, their safety, comfort and performance features and their relationships with particular drivers through the *history of the sport* (e.g. from Lotus and Jim Clark in the 1960s through Ayrton Senna at McLaren in the 1980s to Ferrari and Michael Schumacher in the 2000s) playing greater or lesser significance at certain times. Features such as the onset of *sponsorship* of the teams (starting in the late 1960s with a cigarette manufacturer sponsoring the, then, successful Lotus team) and the regulation of that sponsorship in some nation states (the initial 'banning' of tobacco sponsorship by the UK). All of these operate within a highly regulated *network of governance* (the Fédération Internationale de l'Automobile, FIA), covering both *championships* and in which each of the above has a role, but for which there are key spokespeople and/or 'owners' of the franchise. Grands Prix races take place on *circuits*, the number, ownership and geographical spread of which has shifted over time, perhaps reflecting a combination of political and market forces and the growth of interest in the championships. That growth of interest has coincided with significant *media* coverage, which has, itself, grown in scale, scope and penetration – particularly with the advent of technologies and *devices* that close the gap between consumers/spectators/fans and the event itself. Global communications organizations bid for the TV rights to screen Formula One and there are several magazines, many with online content, devoted almost entirely to Formula One. *Spectatorship* has declined in some localities, sometimes associated with changes in circuits or the onset of newer, safer but, allegedly, less 'exciting' races. Nevertheless, local circuit owners and stakeholders have an obvious, vested interest in managing and delivering a live experience that ranks with other national sporting occasions. Enhancing technologies available at (and beyond) circuits can help them achieve this. Developers and manufacturers of games (from Waddington's board game 'Formula One' offering cardboard dashboards and circuits in the 1960s to current offerings on several platforms giving extremely life-like visual experiences via TV) have long seen the attraction of Formula One and have exploited opportunities to replicate the Formula One experience in the homes of their consumers across various technologies. Finally, each Grand Prix has a '*heritage*' of varying *provenance*. Some stretch unbroken into a distant past in the early to mid-20th century, others have disappeared and re-appeared, while yet more are of very recent vintage. Sometimes, but not always, this has to do with particular circuits (e.g. Silverstone in Britain, Spa in Belgium, Monza in Italy, Nürburgring in Germany, the streets of Monaco) and the attachment of spectator-fans to the heritage of these places – largely a matter of authenticity. Clearly, some circuits built more recently, and in nation states where the heritage of Grand Prix racing is less of a factor in national consciousness, have less of a fan base upon which to build local loyalties or touristic experiences for spectators. However, the totality of the network of 'heritage' and recently designed circuits of city streets (Singapore now offers a 'night' Grand Prix through its city streets, almost echoing some films and video games) presents a series of challenges that test

the relationships and distances between fans, technologies, the drivers and those presenting coverage of the events.

Thus, a viable case study would need to validate the elements and demonstrate the relationships of, at least, the following: (i) the drivers; (ii) the constructors; (iii) the cars; (iv) governance and regulation; (v) the championships; (vi) the sponsors; (vii) the circuits; (viii) 'live' spectators and their changing experiences; (ix) media and games interests and representations of the sport; (x) 'fans' of the sport who connect via a plurality of live and media opportunities and devices; (xi) the heritage of all of the above; and (xii) the known history of the sport in the context of the geopolitics of nation states in the mid- to late 20th century onwards. The influence and actions within these networks of key individuals and institutions would also be an important element to consider. Critical is the demonstration that these are not a simply a series of individual, structural factors but that they are networked as a consequence of their actions and interactions into an inescapable 'black box' that can be characterized as the contemporary phenomenon that is Formula One. When that box is opened and the elements and networks exposed, what ensues, what predominates?

Case Study – Formula One

The Formula One World Championship began in 1950. The initial championship consisted of seven races compared with the 20 scheduled races of the 2012 championship. In the early years races were predominantly in Europe with a single race in North America. In the 21st century races are held worldwide with a growing emphasis on emerging economies and the Middle East, although the fan base remains predominantly European. The immense financial demands involved in building a circuit and paying the fees for holding the race have favoured countries with significant government funding available or where finance is available from emerging business sectors even when these countries tend to have a limited local fan base.

Perhaps more so than other sports, the Formula One fan base in Britain tends to separate into two main groups: (i) long-term fans with an interest in all aspects of the sport; and (ii) fans attracted by the success of a particular driver. Thus, in the UK, the popularity of the sport has increased in phases, often related to the success of British drivers, in particular James Hunt's victory in the 1976 championship, the 'Mansell mania' of the early 1990s culminating in his 1992 championship victory and the subsequent career of Damon Hill who was champion in 1996. A further surge of interest was heralded by Lewis Hamilton's entry into the sport in 2007, followed by his 2008 championship victory. Long-term fans divide into groups more interested in the technical engineering aspects of the sport and those more interested in the racing itself, although these groups overlap. In essence fans combine an appreciation for the technical innovation of the cars and the skill of the drivers with a visceral pleasure in the speed and spectacle of the races themselves. The 'fan experience' of Formula One has changed radically in the last decade as a result of technological developments. This falls into two main areas: (i) the experience at the event; and (ii) the experiencing of the event through the media.

Event structure

A Formula One event takes place across a 3-day period, comprising a day of 'practice', a day of 'qualifying' and the day of the race itself. Fans may attend for all 3 days or, more commonly, for the qualifying and race days which take place on a Saturday and Sunday, respectively. Fans may pay for grandstand tickets or 'general admission', which is considerably cheaper but involves finding a suitable vantage point around the circuit. In addition to the Formula One activity a range of 'support races' are staged. Some of these are local to the circuit and some travel with the Formula One package to some or all of the events in a season. In recent years it has become common at some races to hold associated events such as rock concerts on the evening after the race, either at the circuit itself or at a nearby venue.

The live experience

From the early years of Formula One to relatively recent times the sole source of information for a spectator at the track was the public address (PA) system, through which the circuit's own commentator would provide a description of the race. For some parts of the circuit this commentary would be drowned out by the noise of the cars. Experienced spectators would also keep their own 'lap charts' noting the position of the cars on each lap, and a lap chart template was usually provided in the printed race programme. The advent of large-scale video screens allowed the TV feed to be broadcast around the circuit and many of the grandstands would have a screen within sight of them to augment the PA system.

In 2003 a Canadian company created Kangaroo TV (Autosport, 2006), renamed FanVision in 2010. This provided a handset for spectators containing live timing screens, video feed, in-car video footage and the BBC's radio commentary feed, allowing spectators to be fully informed throughout the event with real-time information wherever they were on the circuit. These handsets could be hired for the event or bought outright by regular attenders. They were also used by the teams and their sponsors as 'extras' for their guests (Autosport, 2007). The information feed for these devices was restricted to the circuit area and they could not be used remotely. In an interesting external issue, FanVision ceased to be available at Formula One events at the end of 2012 after the company failed to agree new licensing terms with the commercial rights holder (Bernie Ecclestone) (Autosport, 2013).

All of these technologies were provided by the race organizers or their supporting companies. However, the advent of smartphones and social media channels (see below) also enables spectators to monitor other information flows during an event, assuming appropriate access to network or wireless coverage.

The live experience of Formula One is primarily based on the impact of the speed, smell and noise of the cars and the skill of the drivers. The ability of spectators to view the action on the circuit varies according to the circuit layout and the position of the grandstands and other spectator areas. In many cases spectators will choose to watch at a position overlooking a corner, chicane or other challenging part of the circuit where the speed and driver skill will be most on display and action such as overtaking is likely. At many circuits this may be combined with a wider view of part of the circuit allowing a range of action to be viewed. While viewing at the start/finish line area may seem a logical choice, in practice action at this point of the circuit is likely to be limited although this is often compensated by a view of the pits area where there is considerable activity at various points in the race. The key point in relation to live spectating is that the choice has to be made of which area of the circuit upon which the spectator will focus. This contrasts with sports such as football and rugby where a spectator will reasonably expect to have at least some view of the whole playing area. A Formula One spectator is at a single point on the circuit and their experience of action elsewhere will be dependent on access to a large screen, the circuit commentary via the PA system, a radio commentary or a FanVision device. In this sense they are in the same position as a TV viewer in relation to all the action taking place away from their specific point on the circuit, which will need to be delivered to them through some form of media or they will be unlikely to be able to interpret the action they are seeing in terms of the whole race. It also means that TV has the potential to add considerably to the apparent competitiveness of the race through judicious editing, statistical information and commentator skills.

A Formula One circuit may have a limited relationship to its geographical location. Where earlier 20th century circuits, some of which are still in use, are a product of their surroundings, many more recent circuits represent a 'new build' approach on a cleared site rather than an adaptation of existing features. The Spa Francorchamps circuit in Belgium (which remained on the Formula One calendar in 2011 but was under threat for financial reasons) was created in 1921 using public roads, which were closed for the race. The original circuit was 14 miles in length and was used in this form until 1970 when the permanent circuit was

established. The permanent circuit is only 4.5 miles in length but is still based on the shape and contours of the public road network. For this reason the circuit is rooted in its landscape and its challenges are determined by that landscape in terms of gradients, corners and weather conditions (it is located in a forested area notorious for its wet weather). In contrast the recent Yeongam circuit in South Korea (Autosport Plus, 2010) has been laid out on a cleared site. Many of the newer circuits feature corners copied from other famous circuits. While this may lead to a challenging circuit it is decontextualized from the geography or history of the area. There is an inevitable distinction between historic circuits that are rooted in the culture of their areas and used by generations of Formula One participants and the newer circuits that have been created purely as commercial facilities. The growth of Formula One as a global business has, however, meant that more and more of the historic circuits are being dropped, and while fans may value the history of the sport, it is clear that the commercial rights holders will not maintain any race that cannot meet their financial demands, regardless of its cultural significance. For the purposes of this case study the main impact of this development will be that, for a spectator, the live experience will lack context and they may be less likely to spend significant amounts on travelling long distance to a circuit that is no different to one closer to home. This is being reflected in spectator numbers at some of the new circuits and, therefore, in their ability to maintain their financial commitments. As a result of this fans may continue to visit Spa Francorchamps or Silverstone for the British Grand Prix but consider the TV experience to be preferable for other races. For the live experience to continue to be meaningful it may need to incorporate elements of the TV and social media experience while maintaining the visceral thrill of the live action and the sense of being in a meaningful location.

A related element in the development of the live experience has been the reduction in direct access to the participants (drivers, constructors, cars) for the general spectator. In the early days of Formula One the paddock (the area where the teams are based) and pit lane (the area containing the garages and the access to the track) were generally open to spectators except during the race itself. From the 1980s onwards this access has steadily declined until the present day when only the rich are able to buy access to the Paddock Club, while a small number of spectators are able to undertake a 'pit walk' at specific times and under close supervision while the teams attempt to hide their cars and technologies from the cameras to protect their technological advantage. In part this is an inevitable response to modern security issues, but in reality it is related to maximizing the earning potential of the sport and maintaining its elitist feel. It has resulted in a sense of separation between the teams and drivers and the spectators, who rely on the media coverage to provide them with insight into what is happening within the paddock. This is another example of the inability of the live experience to provide the same depth of engagement with the event as the media experience in the modern sport. As noted below, recent TV coverage has aimed to recreate a sense of the spectator being inside rather than outside the action and the advent of Internet and social media channels have the potential to develop this even further. While the visceral experience of live Formula One will undoubtedly remain a thrill for many spectators, the total immersion experience is increasingly not about being at the circuit but being immersed in the media channels that are available to communicate the complete event to the fan wherever they are.

TV coverage

Early TV coverage of Formula One consisted of short highlights programmes of prominent events such as the Monaco and British races. Systematic live coverage began in the mid-1980s and has developed into almost blanket coverage of race weekends. Up to 2002 each event had a 'host broadcaster', usually one of the main networks of that country, and the race feed from this broadcaster was used by all other broadcasters. From 1996 to 2002 a pay-per-view feed from F1 Digital (nicknamed 'BernieVision') was available to supplement the

standard coverage under the aegis of Formula One Management, the company that ran the commercial side of the sport. Although this service ended in 2002, it resulted in Formula One Management gradually taking control of broadcasting from each circuit through the use of a permanent production team generating the 'world feed' taken by all broadcasters. This feed includes the availability of 'in car' footage and team radio broadcasts (released on a time-shift basis a few minutes after they are sent), both innovations pioneered by F1 Digital. All of this has a tendency to increase the sense of similarity between Grands Prix, as the aesthetics of coverage from different localities converge.

The structure of the event and the range of participants also create a challenge for broadcasters. In 2012 Formula One comprised 12 teams each fielding two cars. The teams have differing levels of resources, drivers of varying levels of skill and experience and differing technical approaches within the fixed set of regulations. In practical terms this means that in any given season a small number of teams will finish in the top places at each race, the bulk of teams will find themselves running in the middle of the field and a small number of teams will be at the rear of the field. The emphasis is, naturally, on the teams and, more importantly for fans, the drivers at the front of the field. Coverage of other teams on TV will in general take place either when the race is uneventful at the front of the field, when the lead drivers are lapping the other cars in the field or when a specific incident occurs which affects the race as a whole (an accident, a car failure or an incident involving a lead car and a 'back marker'). Each team, however, has its dedicated fans who wish to be informed about its progress and, while not of direct concern to the fans, each team has sponsors who invest in a team in return for publicity and wish to see their brand exposed to the TV audience. Broadcasters attempt to ensure that some coverage is given to all teams. This often takes the form of dedicated features on specific teams which may highlight a particular aspect of the technical or sporting regulations common to all teams, providing general background as well as highlighting the particular team. Beyond the TV audience, the wider social media environment has allowed teams to expand their engagement with fans and this is covered in the following sections.

The advent of digital TV has allowed for a greater degree of flexibility in catering to the different requirements of Formula One viewers. For example, the BBC has made extensive use of its 'red button' service to provide extended analysis after a race. Sky has extended this concept with its dedicated Formula One channel, which allows for uninterrupted coverage. This has generally taken the form of interviews and discussions with a wide range of team personnel as well as race organizers and other officials. The relaxed style of this approach (the presenters are usually based in one of the team hospitality units or roam the pit lane area acquiring people to interview in an apparently ad hoc fashion) results in the ability to reveal a deeper level of information about the events of the race and any underlying issues, adding to the viewer's understanding. It is this ability of technology to bring the spectator inside the event that is a primary feature of the modern Formula One fan experience.

Web-based coverage: official information flows

Formula One is a technical sport, where the ability to view and analyse a data flow can add significantly to the spectator's appreciation of the action. For the casual spectator this means principally access to timing and positional information including: (i) lap times; (ii) time gaps between cars; (iii) car positions on the track; and (iv) the placing and timing of pit stops.

While on-track action is the core of Formula One, significant portions of a race can be what Formula One journalists call 'processional', where the cars are sufficiently spaced on the track that they are not attempting to overtake or defend from another car. In these circumstances the ability to view and analyse the timing data becomes important in allowing the spectator to see which car may be catching another or where the faster cars are on the track. In recent years the governing body

of the sport has made basic timing information freely available to fans via its website (Formula 1, 2012; www.formula1.com). With the advent of smartphones and tablets it has added to this with the provision of a timing app that provides real-time lap-timing information and a driver tracker giving positions on the circuit and allowing fans to follow a favourite driver. While this is only a small subset of the data available to the teams themselves and the media at the track, it significantly enhances the spectator experience. The availability of the data flow allows the spectator to immerse themselves in the event in a manner not possible simply from visual information. The real potential for developing this relationship between the spectator and the event, however, comes from the development of Web 2.0 technologies as part of the immersive technology environment in which the spectator exists.

Web-based coverage: the potential of Web 2.0

The explosion of activity on the Internet made possible by Web 2.0 technologies and platforms has had a significant impact for Formula One. The ability of anyone with an Internet connection or a smartphone to post and interact with content about Formula One has transformed the fan experience and increased the options for fans. This sense of active engagement is the key to the potential of Web 2.0, and in particular social media, to transform the fan experience. Essential to this development is the ready availability of devices on which the services can be accessed. Laptop and desktop computers allow access but are limited in portability and in ease of use. The combination of greater information availability, social media channels that allow interaction and flexible handheld devices has the potential to significantly increase the immersive experience for Formula One spectators.

A key feature of the Web 2.0 environment has been the removal of the need for technical expertise in the creation of web content. While early web forums allowed fans to discuss the sport, engagement was restricted largely to moderated discussion groups from central providers in the mainstream media. Actual content still came from the main media outlets. As Web 2.0 made it easier to create web content and data became more readily available, the potential for individuals to re-package and enhance that content increased. The essential democratization of the Web 2.0 environment has created the potential for individuals to contribute to the interpretation of and engagement with the sport and the potential for fans to access the content in ways that best suit them.

Sidepodcast.com was founded in 2006 with the mission 'to create, maintain, and further conversation about Formula 1' (Sidepodcast.com, 2012). This initially took the form of regular podcasts about Formula One events and has expanded to include a range of podcasts on Formula One-related topics and live online commentary on the races via the website's 'dashboard' page. The site also uses social media feeds such as Twitter to push content to fans, including the 'factbyte factbox' feed, which replicates the 'dashboard' content during races. The Sidepodcast Twitter feed mentioned above has just under 7000 followers at the time of writing. While this is a relatively modest number in terms of the web as a whole, for a private individual to reach that number of people on a regular basis with their views on a sport would not be possible in any other environment.

More formal media outlets also use social media to provide commentary on races. The magazine *Autosport* has been in existence for over 60 years and is a journal of record for Formula One. In addition to Twitter feeds for its journalists and an official magazine feed it uses the 'autosportlive' feed to provide play-by-play commentary on the races. At the time of writing 'autosportlive' has 30,000 followers. While this commentary essentially replicates what can be obtained from the TV feed or from other outlets, it provides a choice for fans on how they wish to engage with the event. It also creates a more dynamic relationship with the magazine, which would have been limited in the past to the weekly publication. The news feeds from the magazine website (Twitter is used to provide publication alerts) allow it to stay current in comparison with the days when a

significant event occurring after a publication deadline would result in a week's delay before reporting and often inaccurate information in the current issue. The use of the live commentary service also maintains the relationship between magazine and reader during the event itself, so that the reader does not simply experience the magazine as a commentary after the event but as an integral part of the event itself, providing both instant reaction and more considered reaction later.

A further facet of the social media environment is the use by the Formula One teams themselves of services such as Twitter. Most teams have long-standing fan clubs and websites that carry team information and post-race reports and comments. Some have even hosted discussion groups in the past. Social media channels have enabled them to develop this into a more dynamic relationship with fans. Most teams have an official Twitter feed that will post before, during and after a race with information about the progress of the drivers and comments on events in the race. Some teams also allow individual team members to tweet, although the top teams do not appear to have allowed this to the same degree as the less successful teams, presumably to avoid giving away what they consider to be sensitive information. Many drivers have their own personal Twitter feeds although the demands of sponsors and their teams tend to result in their comments being relatively bland. This is not always the case, however, as demonstrated by Lewis Hamilton's tweeting of confidential data from his and his team mate Jenson Button's cars at the 2012 Belgian Grand Prix (Autosport, 2012). The developing expectation that teams will be more open to using these channels is likely to transform the sport in the coming decade. An example of the potential of this is the Twitter account of former Lotus Racing technical director Mike Gascoigne who made extensive use of his Twitter feed to comment on the progress of his drivers during a race and report on issues such as track conditions (Mike Gascoyne, 2012). The owner of Caterham (formerly Lotus) Racing, Tony Fernandes, is also an extensive Twitter user (Tony Fernandes, 2012). Caterham Racing is an example of one of the new Formula One teams using the social media environment to build a fan base and project a particular team image (MyCaterhamF1, 2012).

Conclusion

One of the key issues facing Formula One in the 21st century is the danger that many races can be seen as boring by casual spectators. In part, this is because of the advances in aerodynamics that have made cars very difficult to overtake, leading to so-called 'processional' races. This has been compounded by the fact that, in any era, only two or three teams produce a car capable of winning consistently and at times a single team has gained such superiority that few other teams are able to challenge them (for example, Ferrari's domination with Michael Schumacher between 2000 and 2004). Formula One has always been a multi-faceted sport that operates on a number of levels and, even in eras of domination, there are technical, tactical and political issues that interest fans, though the fact remains that close racing is the desire of most fans. Max Mosley's famous 1999 assertion that fans should view the race as a chess match with a number of complex strategic elements produced widespread derision but does contain a fundamental issue about the complexity of the sport and the need to understand it in its totality. Even in competitive periods races are not composed of non-stop activity and the nature of a 90-min event of this kind allows the fan time to explore the different layers of the action.

The selling of terrestrial TV rights in the UK to Sky for 2012 raises a further question for the fan experience. Non-Sky customers are able to see half of the season's events live on the BBC. It is possible to use the other media described in this study to follow the live event without the benefit of the video feed and while this is clearly far from ideal a combination of radio commentary and other resources still provide a rich fan experience. Waiting for the BBC's later repeat of the action allows a fan to watch the visual action but not to access the real-time delivery of data and information from other sources described here. The question is whether fans will choose to experience the live

action through the resources available to them even without a video feed rather than forgo them in favour of a delayed visual experience where the result is not already known. The nature of fan choices made in this area will tell us much about the ultimate value of the additional elements in the experience of the Formula One fan. (This will of course apply only to fans who choose not to pay for access to Sky, but it is anticipated that there will be a significant minority of fans for whom this is a financial or technical decision and the live audience in the UK is likely to reduce as a result.)

The technical developments described above that have enhanced and developed the fan experience are beginning to enable spectators to make the most of these different layers to create and personalize an immersive experience of the sport. During a race a Formula One fan with the appropriate access to TV, mobile devices and networks can follow the action through the TV coverage while monitoring official timing feeds and viewing comments from teams and Formula One commentators as the race happens. They can find details on specific events in the race interpreted almost as they happen and post their own comments in real time as well as responding to requests for comments from others. Many of these options are also available to fans at the circuit, again given access to appropriate devices and network connectivity. Their experience of the race is shaped by all these inputs and by their ability to make their own contribution to the conversation. This experience extends beyond the boundaries of the race itself to pre- and post-race comment and analysis, allowing fans to consider events in a deeper way. There is clearly the potential for a more meaningful fan experience using these technologies as the event expands not only beyond the venue itself but beyond its limited time frame. A Formula One race takes place in a physical circuit in a particular place at a specific time, but this now bears little relation to the manner in which fans will engage with it. While the live experience will continue to be a major element, the changing nature of circuits and their locations must lead us to question how important the physical fan experience of this sport will be in a social media environment.

In the context of this book, the case study presented above demonstrates the indivisibility of the technologies from the event itself. In a technology redolent environment such as Formula One where the technologies of the races are crucial to the outcomes, it is not difficult to see that fans may become alienated from the experience of viewing or spectatorship where their access is limited by physical space, secrecy of the teams, personal technical knowledge or the editorial judgements of media organizations. Emerging themes in Formula One suggest that the availability of some data upon performance and context and the networking of these data before, during and after the Grands Prix are being combined at the level of the individual consumer to construct their own actor-network tailored to meet personal needs while serving to deepen, elongate and intensify the Formula One phenomenon. Further research upon the provenance, use and outcomes of these usages will surely be a by-product of the technologies themselves – essentially the research, and the researchers, will become part of the actor-network.

Research Directions

As noted earlier in this chapter, the main tendencies in the researching of events have been towards estimating the volume and value of festivity, partly as a means of understanding the 'benefits' of bidding for, mounting and continuing to deliver them. Of comparable interest have been studies of the impacts of festivity upon environments, local communities and economic activity, including the 'regeneration' of place as a viable economic entity. All of these types of research represent a fairly well-trodden path of work that fits largely within paradigms associated with 'policy' or 'management' or 'marketing' and have a strong association with leisure and tourism studies/management. These studies are often, but not always, associated with a positivist research paradigm.

Consideration of technology as a significant part of the events experience has often been a mechanism whereby it is at the forefront of research activity. A common way in

which to problematize technology in an events and festivals environment is to see it as an opportunity to 'enhance' the experience of an event or the reach of its 'audience'. In this kind of research, technology is often a silent and deterministic element of the events experience, 'designed-in' as a means of heightening some aspect of the event. Such research is often, but not always, associated with humanistic approaches and paradigms of research practice. Using case study analysis as part of a research study where ANT is at the fore is a relatively unusual way to pursue understandings of events, their dynamics and their key constituent elements, although ANT is relatively common in other research contexts.

Questions for Students

1. Develop an ANT case study by punctualizing a local event with which you are familiar.
2. Critically review the ways in which technology is represented in research about events and festivities published for, or by, your government tourism agency.

Further Reading

For those interested in gaining a better understanding of the range of research conducted within this field, we recommend the coverage and analyses of Don Getz (2007) *Event Studies: Theory, Research and Policy for Planned Events* and Foley *et al.*'s (2012) *Event Policy: From Theory to Strategy*. Those wishing to explore the possibilities of ANT are directed towards the excellent resource provided by Lancaster University's Department of Sociology (Lancaster University, 2004; available at: http://www.lancs.ac.uk/fass/centres/css/ant/ant-a.htm), which provides an annotated list of significant publications devoted to ANT. In exploring perspectives on technology and its social and cultural significance, readers are directed towards the field of sociology of science and sociology of technology if they wish to further explore the origins of relationships and networks covered in this chapter.

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28 Rural Tourism and Small Business Networks in Mountain Areas: Integrating Information Communication Technologies (ICT) and Community in Western Southland, New Zealand

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Introduction

Tourism offerings in mountain destinations are often diverse, fragmented and uncoordinated in terms of management, due to the wide variety of stakeholders involved (Strobl and Peters, 2013). This is compounded for small tourism enterprise (STE) owners/operators in rural areas where geographical isolation, distance from markets, and often limited transport and infrastructure impact on their ability to be competitive at a national and global level.

Western Southland is a rural destination located at the very south of New Zealand's South Island (see Fig. 28.1). Tucked between the towering peaks of Fiordland to the west, the Takitimu mountain range to the north, and the wild Southern Ocean, Western Southland boasts spectacular unspoilt scenery and coastline, lush rolling farmland, and is an area that is rich in Maori culture and early settler history. It is a lesser-known rural destination that, in terms of touristic activity, is considered 'well off the beaten track'.

Rural tourism in mountainous regions is often based in areas with very low population density, and this is particularly true in New Zealand (Albrecht, 2009; Bensemann and Hall, 2010). Main towns and settlements of Western Southland are: Riverton, Orepuki, Colac Bay, Tuatapere, Otautau, Ohai, Monowai/Lake Hauroko, Lorneville/Wallacetown, Nightcaps, Thornbury and Drummond with a combined population of approximately 3300 (Statistics New Zealand, 2013), spread over one of New Zealand's most sparsely populated land areas. Despite local attempts to engage with the visitor economy, these small communities do not feature to any significant extent in the plans of local government or the regional tourism organization (RTO) in terms of tourism development, management or marketing.

In this chapter we explore the drivers for local residents, community groups and tourism business operators/owners to engage with a community informatics project, designed to enhance collaboration between stakeholders and raise the profile of the small rural communities of Western Southland as a mountain tourism destination. We argue that information and communication technologies (ICT) offer

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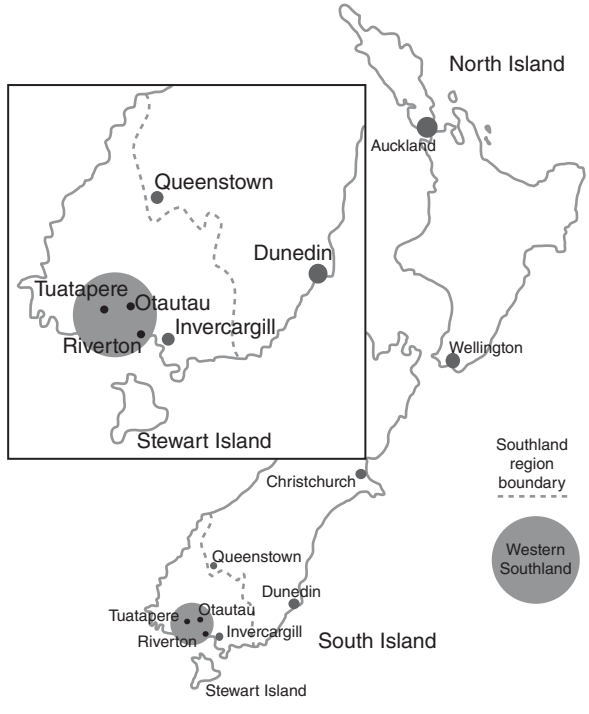

Fig. 28.1. Western Southland, New Zealand (from Clark, 2007).

significant opportunities to galvanize rural communities in mountain areas and so enhance community and STE cohesion and connectedness for destination development. Theoretically, this chapter draws on the bodies of knowledge associated with the use of ICT in tourism STE network development and adds to the literature via the use of a community informatics approach.

Tourism Networks, ICT and Community

Trends in tourism planning and management reflect the development of 'dense' networks of tourism enterprises as a contributing factor that propels the growth of tourism worldwide (Tzortzaki *et al*., 2006; Romeiro and Costa, 2010; Farsani *et al*., 2013). The opportunity to improve competitiveness, profitability and economic efficiencies are cited as key motivating factors for individual engagement in the majority of the literature concerning tourism SME alliances, business partnerships and networks. Tourism planners commonly promote tourism enterprise collaboration as a way to develop high-end tourism products and experiences that appeal to high-spending, low-impact travellers (e.g. adventure or ecotourism products; Johnston, 2004). While the assumptions behind this approach to tourism planning may be sound, in practice regional coordination of tourism activities and network development among small tourism firms is largely at a nascent stage (Nordin, 2003; Braun, 2005).

Networking and inter-organizational learning are pivotal linkages for sustainable tourism development (STD), though relatively few studies discuss small business networks in the tourism sector (Pavlovich, 2001; Nordin, 2003; Braun, 2005), and even fewer are specifically related to tourism in peripheral areas (Hall, 2005; Aylward and Kelliher, 2009; Albrecht, 2010). This makes it difficult to judge the efficacy of regional initiatives to enhance the tourism experience through tourism STE collaboration and networks. Much of the extant

literature associated with tourism networks and small firm collaboration in rural destinations also fails to embrace the important element of community.

STE often relies on personal connections embedded in geographic communities to share knowledge and experiences (Aylward and Kelliher, 2009; Beritelli, 2011). The concept of small firm embededdness is common in tourism network literature (Uzzi, 1996; Uzzi, 1997; Pavlovich and Kearins, 2004) where it is asserted that social factors affect business success. STE develops social relations and systems of connections in order to access knowledge, information and resources.

Murphy (1985) suggests community as a focal point for decision making, and presents an ecological model of tourism planning for local involvement in destination development. By adopting this approach, host communities guide processes for tourism development such as market segmentation and destination promotion, according to the types of tourism they wish to attract. Jamal and Getz (1995) similarly offer a set of theoretical constructs to strengthen the links between community and tourism planning with a focus on local collaboration and decision making. Milne *et al*. (2008, 662) highlight 'the role of locality and embedded cultural dimensions that need to be factored into government and/or community initiatives' to create sustainable collaborative outcomes and improved economic opportunity through rural tourism. The authors contend that a key factor in fostering 'dynamic and flexible STE, and communities that can effectively interact with the tourism sector', is collaboration and networking between enterprises and also between tourism businesses and the broader community.

The art of welcoming visitors as part of the 'community show' is reflected in Murphy's approach (1985, 169) to integrate the wishes, aspirations and traditions of local people into future tourism development. Several authors suggest that it is desirable to find ways and means to ensure that all sectors of community participate in tourism development (Butler and Hall, 1998; Murphy and Murphy, 2004; Hall, 2005; Ateljevic, 2009; Hamilton and Alexander, 2013). While this emphasis on community involvement appears sound in terms of STD, there are often few opportunities for community to participate in tourism processes.

Globally, lesser-known rural destinations tend not to feature highly in central or local government tourism planning (Rosenfeld, 2002). In New Zealand, interest groups such as promotions associations and tourism groups often provide a grassroots collective effort to promote their 'place' as a great place to work, visit and live. However, other than the passion and energy of volunteers who may have a deep sense of community attachment, these groups and associations often have limited support and resources to develop and market their destination (Albrecht, 2009).

The 'adhesive' that bonds these associations is usually a deep sense of trust, reciprocity, loyalty and shared values and connections (social capital) which are usually familial and/or very locally based, perhaps limited to the geographical confines of a particular town or even neighbourhood (Albrecht, 2009). Social networks and the strong ties found in and between STE and community are useful in grassroots rural tourism development, but there is a risk of the associated social capital found in these networks not being optimized fully should they remain closed to 'others' (Braun, 2004; Novelli *et al*., 2006). Closed social networks often lack the weak (external) ties that 'link networks within one community to the diverse resources that may be available in others' (Woolcock, 2001, 13).

In order to increase these ties, there is a need to find ways to tap into the social and economic aspirations of local communities and link STE and community interactions at a variety of scales – national, regional and local. It is vital to take into account the specificity (or uniqueness) of place, or the social, cultural, institutional, political and environmental dimensions of different places that add a level of complexity and richness to the context in which STE is embedded (George, 2010; Deuchar, 2012).

Lifestyle choices, aspirations and non-economic motivations are important stimuli to rural tourism business formation (Hall, 2005; Ateljevic, 2009). These choices primarily relate to quality of life attributes such as the desire to live at a slower pace and focus on personal relationships and personal development, as well as an opportunity to showcase the local

environment to those who visit (Goulding, *et al*., 2005).

Similarly, tourism in mountain and rural areas offers the visitor an opportunity to escape from busy urban lifestyles, slow down and enjoy a different pace of life. Nature-based activities and the experience of 'rurality' are increasingly attractive to travellers (George, 2010; Sharpley and Jepson, 2011) and the spiritual and emotional dimensions of the rural tourism experience offer the visitor an opportunity to establish a strong place attachment to those localities that resonate with their own past lived experiences, childhood memories, and culture and heritage (Sharpley and Jepson, 2011).

It could be said that this creates a 'match made in heaven' between the new 'moral' tourist (Butcher, 2003) who seeks a personally enriching encounter with the destination, and the lifestyle entrepreneur who has values-laden motivations for being in business that are not solely related to the accumulation of personal wealth (Shaw and Williams, 1994; Bensemann, 2009).

ICT can facilitate network development (Poon, 1993; Braun, 2004; Johnston, 2004; Braun, 2005). Tourism and technology go hand in hand as ICT enhances both the dissemination of information and the channels of communication between tourism consumers and suppliers. ICT, networks and relationships are critical factors that affect the visitor experience at the destination and have a 'significant influence on the regional distribution of economic advantage' (Braun, 2005, 3). The capacity of ICT to affect relationships, establish and build networks and communities (both virtual and real), and drive visionary business strategy development is the focus of considerable debate and discussion (Surman and Wershler-Henry 2001; Milne *et al*., 2004; Ali and Frew, 2010; Fotis, *et al*., 2011). ICT is the backbone of the tourism industry and a vital enabler of competitive improvements (Buhalis and Laws, 2001; Buhalis and O'Connor, 2006). These technologies offer STE the opportunity to get closer to the customer over a wider geographical area, improve operational effectiveness, provide the prospective tourist with quality of service and access to information, and assist with channels of communication and coordination (Braun, 2004; Ndou and Petti, 2007).

Community Informatics (CI) brings together the concepts of information technologies and information systems with the concept of community development (Wellman, 2001; 2002). CI offers a valuable avenue for community members to participate in tourism planning and development as it opens up technology-enabled channels of communication, enables digital storytelling, and facilitates information sharing (Gretzel *et al*., 2009). CI is the study of 'how ICT can help achieve a community's social, economic or cultural goals' (Gurstein, 2003, 3). CI is a relatively new area of research and practice that is concerned with the 'use of ICT for the personal, economic, cultural and social development of human communities' (Gretzel *et al*., 2009, 2). It is an approach that involves both grassroots movements and action research, and 'links economic and social development at the community level with emerging opportunities in such areas as electronic commerce, community and civic networks, electronic democracy, self-help, advocacy, and cultural enhancement' (Gurstein, 2007, 14). CI privileges people, information and communication ahead of the technology because it 'emphasises a grassroots perspective whereby community members are centrally involved in the application of ICT for community development' (Loader and Keeble, 2004, 4; Williamson, 2008; Gurstein, 2010).

Web-raising in Western Southland

The Western Southland web-raising programme is a rural tourism, small business and community development initiative that incorporates CI concepts. Milne *et al*. (2004, p. 185), draw on core themes of CI research and contend that they 'match closely with the linkage creation, stakeholder communication, and small business/community marketing that underpin the ability to enhance tourism's role in the development process'. Presenting a CI approach known as 'web-raising' (Milne and Mason, 2001), Mason and Milne (2002) contend that the process of bringing people together to 'talk tourism' and establish how they would like to be portrayed to the outside world has the potential to strengthen these relationships. Web-raising is thus defined as:

> The digital equivalent to a barn-raising – a community that works together to create a

> collective asset. While it may take several forms, web-raising generally brings residents and local businesses together to share experience and skills and empower one another in the creation of web documents. While an effective and unique web-site is developed, the building process itself allows different groups to learn more about each other, in the same way that barn-raising helped to forge important notions of communal trust and reciprocity in the American West during the last century.
>
> (Milne *et al*., 2004, 186)

The first phase of this initiative was to develop the community-built website www.westernsouthland.co.nz. One of several aims of the site is to enhance the visitor experience and help visitors with planning a trip around the region. To do this, the site supports the visitor to gather more information both before they arrive and while they are there. This gives visitors more reason to stay longer and spend more money, thus raising the profile of the region as a visitor destination and building yield. It is also a community site for use by community members and diaspora. Phase 1 was the initial development of the website built using open source content management software that today houses 163 separate listings created and uploaded by STE owners/operators, other business owners/operators, community organizations and individuals. The second phase was the Western Southland: Podzone Country project which equipped the community with the skills and equipment to create podcasts.

Tourism experiences in the region are highly diverse, with products ranging from trekking the Hump Ridge Track, time spent in a mountain holiday park, helicopter tours of mountain terrain, farm stays to boating and other outdoor adventures. The community-built website www.westernsouthland.co.nz creates a unique sense of place and communicates the passion of the locals for 'our place'. STE owners/operators can create a page to advertise their business, free of charge. They can upload text and photos, and 'affiliate' with other businesses that they are happy to recommend or support. They can also link to a business or personal website, or other sites that they may have an association with.

The podcast project introduced, promoted and fostered skills in digital voice-recording, editing and publishing. It also acted as an incentive for broadband uptake. The web-raised site www.westernsouthland.co.nz houses a series of 24 podcasts that were scripted, recorded, edited and uploaded by STE and locals who learnt the skills to do this through workshops, demonstrations and one-on-one training sessions. Podcast content ranges from local stories and history, through to family recipes, tips for visitors and commentary on native bird watching.

To present the main motivations for engaging with the web-raising programme, we draw on the findings of 25 semi-structured interviews with local STE owners/operators (many of whom would be classified as 'life stylers' – see Clark, 2007), key individuals and community leaders, members of community and residents, and representatives of local government and public agencies; as well as a project-evaluation focus group – all placed within a case study and informed by the literature.

Data collection follows a 4-year period of engagement with key individuals, research participants and others associated with the project. This enabled a comprehensive understanding of the tourism 'milieu' that surrounds STE owners/operators of this small mountainous sub-region. Open-ended interviewing techniques were used to explore and understand the attitudes, opinions, feelings and behaviour of individuals or groups of individuals towards 'working together' to promote the place where they lived. Interview questions were used to understand: the factors that motivated them to become involved, what value they found in doing so, and how they would describe the outcomes of the web-raising initiative. Each participant was interviewed in his or her own home or place of business, or at a location that suited them in one of the small towns of Western Southland. Each interview lasted between 1 and 3 hours.

Motivations for engaging with the web-raising programme

When asked what motivated them to engage with the web-raising and podcast project, informants expressed two common motivating

factors. The first was to promote Western Southland as a great place to live, work and visit – and to provide better information for visitors. This was mostly driven by a desire to retain and regenerate population, and to craft a legacy for future generations (jobs for youth, retention of local knowledge, etc.). STE and community groups alike appreciated the ability to have a web presence that was free and part of a portal for the region. Informants also appreciated that the content was written totally by locals.

The second motivating factor was to capture the rich heritage information of the region. Informants were particularly interested in capturing the stories and history of the towns and settlements in Western Southland. This they did by working together to generate digital content for their website (podcasts, text, images). The schools and the school children were also active in offering support, strengthening the links between generations and between schools, community and business.

Research participants felt that there was a sense of urgency to do this as long-term residents (first and second generation of early pioneers) were getting older and passing away. There is a growing recognition that as long-term residents 'pass on', many of the local stories – especially those about early settler history – are dying out and need to be preserved. A local historian from Riverton comments:

> I think that history is our way forward in this region. Riverton is the oldest town – definitely in the South Island, perhaps the oldest town in all of NZ. So that history has to be recorded and put out there. It doesn't exist … it's crazy not to have it, people are getting older … they're dying.

Informants also considered the web-raising programme enabled them to engage with the visitor industry and be self-sufficient in doing so. An accommodation provider from Tuatapere comments:

> The podcast project is bringing the 'local feeling' out with the words and stories that belong to the area. Not just the picture or the text, but the spoken word. Western Southland has been neglected because of the high profile of Te Anau and Milford sound. We have to promote ourselves because there are people up there who consider we're not worth it … so we have to use what we've got … our stories, our history, our way of doing things. I met people who I knew are in the same game [in this instance, backpacker accommodation] over in [another town] and this allowed us to get together and think about the place we live and not just what business we were in … Podcasting is another spanner in the toolkit to help us do this.

Due to the influx of new settlers, there was a desire to represent the community to newcomers, and to stay in touch with the diaspora. The web-raising programme provided a reason for various tourism stakeholders to get together, share ideas and work together on the logistical aspects of the projects. Therefore, these exchanges offered an opportunity to strengthen relationships among and between long-term residents of Western Southland as well as newcomers to the area, many of whom are tourism operators. The chair of a local promotions group was emphatic about the need to find a common interest to bring people together: 'We need to get people together, to find a way that they can work on something – where they have a common interest.'

Several informants commented that the web-raising programme brought much-needed energy, passion and direction to the promotions groups. These groups are made up of busy local farmers, STE owners/operators, residents, and interest groups who work both in tourism and elsewhere or who are heavily committed to a variety of community organizations. Informants also commented that through the workshops (where they were taught to create their own page for the site), they met people they didn't know before or caught up with acquaintances. For STE owners/operators, the workshops allowed them an opportunity to get together and discuss operational aspects of owning a tourism business or formally acknowledge their appreciation of another business by affiliating with them on their web page.

The 55 participants in the podcast workshops ranged from those who own and/or operate tourism businesses (18) or other businesses (8), and teachers and support staff from local schools (10), through to school children, members of community organizations and residents (19). Only four STE owners/operators created and uploaded podcasts to advertise

their business. There was no parameter on the type of podcasts that could be developed. In fact, STE and other business owners were actively encouraged to advertise their own organizations in whatever way they wished. While uptake was high to create a listing on the website, few STE used the podcast training to create podcast advertisements to load on their web page. They were more interested in digitizing historical and heritage information for future generations or drawing attention to local landmarks, and this was their motivation to learn the ICT skills.

When community leaders put out a call in their communities to attend workshops or create a listing or podcast for the site, many people responded willingly. They gathered at schools, libraries, church halls, pubs and cafes and worked on podcast projects or shared tips on how to upload pictures to a page. Working together was simply considered the 'community spirited' thing to do and this was primarily because of what emerged as the main goal of the project in the eyes of research participants: to build a community resource of heritage information that was also useful to promote Western Southland as a destination. STE and residents were aware of the challenges they faced due to geographic isolation and there was an air of 'we're all in this together'. The workshops were also seen as a social activity. An interview participant (the leader of a community-based environmental group) comments:

> I think it becomes a living thing, a living active thing where locals have become involved in their own website. Being able to get together, have a meal or a drink and make podcast brings out the living 'funness' of it … recording podcasts at the Santa Parade, for example. Make sure you keep it fun and light. People have enough to do.

Informants were happy to be involved in project activities that related to logistics (booking venues, printing flyers, etc.). This reflected a desire to be able to participate in something that was good for their community but that was also short-term with a clear set of tasks and expectations attached to it. As long as the task was simple, clearly defined and achievable, then it was done. Logistics were in the comfort zone of many.

The community-built website www.westernsouthland.co.nz continues to offer a useful online resource for visitors and residents. The most recent request (August 2014) to be added to the site came from the new owner of a cafe in the very small settlement of Orepuki (population 92), and a new heritage trail was uploaded to the site in 2013. Attending workshops to learn how to create a page or a podcast for the site, or the opportunity to add a local business as an affiliate, meant that the website became not only an online presence for STE but also a useful point of collaboration; an opportunity to begin working together on a common interest, and a point of entry to the local tourism network.

Conclusions

STE owners/operators who engaged with the web-raising programme in Western Southland were not primarily motivated to do so because of the opportunity to promote their own businesses. Rather, they were driven by the desire to support community aspirations, i.e. economic and social development, at a very local level. The enterprise level benefits of forming networks and collaboration that are outlined in the literature (e.g. reduced costs and operational efficiencies, creating new services or experiences, knowledge transfer, marketing and distribution, and better access to resources) remain important, but they pale in comparison to the benefits that intensified STE relationships and linkages with community can offer both the firm and the destination.

This research highlights the need to change the way collaboration in rural/mountain areas is viewed by tourism planners and academic researchers. Collaboration works best when an enabling environment is created to encourage activities that are organic and originate from the grassroots level. Applied in this context, 'web-raising' offers an opportunity for residents and business owners/operators to work together as locals and engage in tourism processes. Using ICT to tap into the community interest and retain important cultural and heritage information through podcasting, offered a social activity that brought residents and businesses

together in workshops and community meetings to learn about tourism and the internet, thus creating valuable human and social capital.

In simple terms, STE and community networks in rural/mountain destinations are best thought of in terms of systems of connection – or even local social movements as agents of social and economic change through community-led tourism development (Deuchar, 2012; McGehee *et al*., 2014). This study shows that ICT can be used to foster collaboration among the 'lifestyle STE' and community found in mountain regions by simply tapping into what they – as locals – love about 'our place'.

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