

Future research issues in IT and tourism

A manifesto as a result of the JITT workshop in June 2014, Vienna

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Abstract The objective of this manifesto (as a result of the JITT workshop in June 2014) is to identify a list of pivotal research topics and issues in e-tourism. E-tourism can be seen as everything that happens electronically in the travel and tourism industry/experience; more formally it is defined as the design, implementation and application of IT and ecommerce solutions in the travel and tourism industry as well as the analysis of the impact of the respective technical and economic processes and market structures on all the involved actors and especially on the traveller's experience. In tourism as an "information

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business”, Information Technology has always played an important role since the 1960s with the computerized reservation systems/global distribution systems; these were one of the first world-wide electronic networks. And since the beginning of the Web in the early 1990s, travel and tourism was and is a major application domain for Web-based services. As such, the domain is also a major driver of technological innovation. This manifesto provides guidelines on strategic research issues for the research community, but as such it is also conceived as a basis document for industry and policy makers.

Keywords Research challenges · Information technology and tourism · Strategic issues

1 Introduction

The objective of this manifesto, which was initiated during the JITT workshop, held in Vienna in June 2014, is to identify a list of pivotal research topics and issues in e-tourism. E-tourism can be seen as everything that happens electronically related to the travel and tourism industry/experience; more formally it is defined as the design, implementation and application of IT and e-commerce solutions in the travel and tourism industry as well as the analysis of the impact of the respective technical and economic processes and market structures on all the involved actors and especially on the traveller’s experience.

With tourism being an “information business”, Information Technology has always played an important role since the ‘1960s; computerized reservation

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systems/global distribution systems (CRS/GDS) were some of the first world-wide electronic networks. And since the beginning of the Web in the early '1990s, travel and tourism was and is a major application domain for Web-based services. As such, the domain is also a major driver of technological innovation.

This manifesto is aimed at providing guidelines on strategic research issues for the research community, but as such it is also conceived as a basis document for industry and policy makers. We believe that the need for such a strategic view is further motivated by the following observations:

- The field is mature, the industry has been radically changed and users have adopted an ever growing range of new information and communication technologies.
- On the other hand, the field of ICT and Tourism is continuously opening new technical and business possibilities and challenges, leading to a rather complex situation where some guidance and consensus might be needed.
- Finally, specific problems arise since the issues are, very often, at the interface between scientific research and development, and require inputs from multiple disciplines, such as computer science, management science, economics, communication, cognitive technologies or tourism research. Consequently, this interdisciplinary nature of research leads to a mix of different approaches and methods such as quantitative as well as qualitative behavioral research, constructive research or formal methods.

In this first workshop we concentrated on research topics and their relationships. This manifesto will therefore describe these topics according to a layered view, shown later. Future workshops will, based on these first results, discuss how these issues could be approached—and also identify the needed “multidimensional cube” of disciplines.

As a starting point we would like to denote current and future technical developments that appear to be very influential and will probably become reality in the near future¹:

- Mobile applications running on many different devices, not only one;
- Internet of things with permanent connectivity;
- Novel paradigms of the interaction between humans and computers such as new search and recommendation approaches (emotional, implicit, sensor based, proactive);
- Data analytics (not using the buzzword “big data”) on all different levels—person, group, enterprise, sector specific—with applications building on the application of advanced machine learning techniques;
- Collective intelligence, or the intelligence of the crowds, resulting from crowdsourcing processes;
- Light weight software engineering and tools, enabling ubiquitous applications of new system engineering paradigms and leading to more prototype and “try and error” based approaches.

¹ In the following, and also in order to keep the document short, we use bullet points for listing topics and for “summarising” issues.

Moreover, at the market and service level, we attribute high importance to the following issues:

- Strong network effects (in multi-sided markets) and further market concentration;
- Introduction of new services and ongoing commoditization of existing services;
- Further segmentation of consumers—will also lead to more personalized offerings;
- Interesting dialectic of bundling vs. unbundling (see airlines vs. other tourist sectors);
- New Peer-to-Peer (P2P) markets, where we can also expect that strong intermediaries will appear as well as the entrance of established players with product offerings and sharing (probably similar to information sharing);
- Total Customer Care services (across transactions and different customer life cycles).
- Competition between different electronic players will lead to blurring boundaries and to:
 - greater breadth of offerings (coverage of the market, choice);
 - improved quality of search (for customers with complex queries) and recommendations;
 - more and “better” content (for orientation, assurance and trust);
 - enriched contextual information (e.g. destination, local info, weather);
 - and, strong booking engines may replace destination management systems.
 - Sophisticated, adaptive advertisements.
- In general, we assume that platforms and platform approaches will prevail.

Finally, we foresee that the complexity gap, which is supposed to narrow with new solutions, will in fact remain or even increase, since all new types of applications and available data necessarily increase complexity. The gap will be shifted to a next higher level. In essence, this never ending development underlines the importance of R&D.

2 Research issues

There are several possibilities to structure research topics in the field. However, since the issues discussed refer to innovation and change, or more radically, to digital disruption,² we based our approach on this particular view. Digital disruptions are closely related to issues concerning digital infrastructure, where one can identify the following five layers, based on Stefan Klein’s presentation at ENTER 2014 in Dublin, Ireland: (1) individual, (2) group/social, (3) corporate/

² Defined as changes enabled by digital technologies that occur at a pace and magnitude that disrupt established ways of value creation, social interactions, doing business and even more generally our thinking.

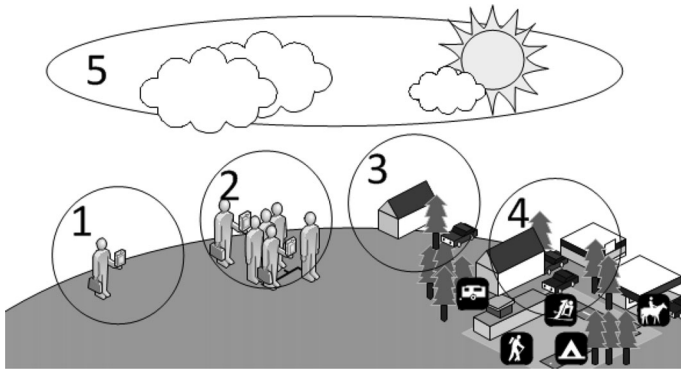


Fig. 1 Sketch of layered tourism ecosystem

enterprise, (4) network/industry, and (5) government/policy. Figure 1 sketches the layers, and they will serve as the basis to classify the discussed research topics.

The description of the five layers tries to follow a common structure: definition of the layer, a further description and context information, and, finally, open issues.

2.1 Layer 1: individual

In this document individuals are defined as any person or human being from the demand or supply side; furthermore, residents but also any other stakeholder may be taken into account. Another categorization of individuals would be producers, consumers and “by-standers”. One can differentiate between, e.g., producers and consumers of information, producers and consumers of experiences/products/services. One should keep in mind that most of the users are “passive” consumers and “by-standers”, thus, non-frequent users.

Obviously, here the focus is on the interaction between a user (in her/his different roles and identities) and any ICT device or service, using different forms of interaction (human computer interaction, HCI). Furthermore, new types of ICT services are nowadays accessible through a range of different devices and a variety of screens; everyday objects have network connectivity and become “smart” devices (Internet of Things).

With regard to the interaction (being explicit or implicit; lean forward or laid back/enjoying) between users and any of these devices one needs to take into account the heterogeneity of users, their different expectations as well as their cognitive capacities. Furthermore, the new type of customer wants to be engaged and s/he wants to contribute—it is all about the perception of experiences in the various travel stages. There is quite a lot of potential when it comes to surprising users as well as providing features that support exploration.

There is a need for tailored applications and more sophisticated user models that account for differences between users and let the service better adapt to the user’s needs and wants. Applications should reduce the cognitive load of users, make sense and, ultimately, increase individual well-being.

Issues are:

- Different level types of user models and their coverage;
- Understanding user needs by relying on explicit and implicit preference elicitation techniques;
- Mobility, context awareness and service proactivity;
- Synchronization of data and functions through multiple devices and platforms;
- Adaptation and personalization (with its many dimensions);
- Attention and sentiment;
- Technology adoption and diffusion issues—on the individual and group level;
- Phases of experience—interaction part of the travel experience;
- Optimization of decision making (for different users) vs. enjoyment of the human computer interaction;
- Counseling, search, recommendation, argumentation and persuasion approaches, not only of products but also of user-generated content (e.g., an appropriate review);
- Switch-off button—letting users control the technology;
- Privacy management;
- Evaluation methodologies for a reliable assessment of the benefits of the new technologies.

2.2 Layer 2: group/social

Groups are defined as two or more humans being in some relation to one another. Groups can be identified along shared similar characteristics, shared purpose or co-presence (on a trip together or at the same location). Groups can have many characteristics—size (small, large), established vs. ad hoc, reflecting traditional social structures (e.g. family with 2 adults and children) or new forms of social groupings (“patchwork families”); and group members may or may not directly interact. Furthermore, groups have a structure and roles within: e.g., opinion leaders can emerge. Moreover, the distinction between influencers and followers can play a role in the design as well as in the adoption of technology. Overall, groups are not static, they are dynamic (in structure and/or in size) and can also reach a critical mass with quite an impact on overall decision making. This is especially important when recognizing that groups operate within a context (e.g., local, tourists, and suppliers). Groups engage in joint decision making, collaborative shopping, etc. and have joint experiences.

Technology can actually support interaction, push a non-interactive group to one that interacts or help them to come to agreements; and technology can provide opportunities for virtual extensions of groups (e.g. family skyped in while on trip). Thus, group characteristics determine technology needs (e.g. different size groups have different problems).

Issues:

- Technology to support ad hoc groups throughout formation, travel and sharing phases (a seamless plug and play mechanism);

- Full-fledged support for group bookings and decision making;
- Devices for sharing group experience (e.g., for cultural heritage);
- Modeling and analyzing large groups, their dynamics and internal/external relationships;
- Crowd decision making;
- Common-based peer production or social production;
- Collaborative markets or P2P markets;
- Forecasting/simulating group behavior;
- Reputation and social influence (and related issues such as credibility perceptions of the group and within the group or social space; or self-expression on social platforms).

2.3 Layer 3: corporation/enterprise

This layer refers to any organization in the tourism/travel domain such as a private or public enterprise, for profit or for non-profit organization. This covers entities such as primary suppliers as well as intermediaries, tour operators or travel agents, and also Destination Management Organizations (DMOs). These organizations have different objectives and structures, and they act on- and/or offline.

One can observe that they function in a networked environment, both with users and other companies; and company boundaries are blurring. They are confronted with permanent (“new speed”) innovation (on a technical as well as service level) coming from different stakeholders, leading also to disruptive innovation and new business models, such as “peer-to-peer travel” (e.g. home/apartment sharing), supported by adequate platforms. They are permanently forced to define and prove their business value to the market, and need a permanent feedback loop, observing their performance, that of competitors and the market in general as well as that of users and technology (technology screening).

In a networked environment one can foresee cross-company (inter-organizational) processes and ongoing network engineering (in an organizational sense). Thus, it is not primarily an issue of process optimization but of networking with the right partners using the proper channels and means. In doing so corporations increasingly have to take into account needs of various stakeholders and immerse themselves into the environment more than ever (e.g., embracing the culture, customs and traditions, cooperate with other organizations) to be able to provide more unique and more authentic experiences.

Issues:

- Cross platform issues (in a technical sense—referring to development and interoperability; but also when managing different platforms) enabling seamless access and control;
- Innovation management and open innovation/adoption models;
- Knowledge management;
- Data/services storage and data quality control: data and services could be stored only once and used/invoked by the providers (open data/services);

- ROI considerations in marketing where companies invest a lot in web marketing;
- Understanding customers and markets;
- Online reputation management and management of user generated content;
- Multi-channel communication and advertisement on Social Web platforms and integration with CRM systems;
- Performance analysis, process mining (process and business performance);
- Business model innovation, disruptive innovation, open innovation;
- ROI calculation, planning and decision support;
- Value of information (quality, how to add value to information, costs);
- Software/tool development, implementation and use.

2.4 Layer 4: network/industry

This layer refers to the overall (market) structure of the sector. One can distinguish internal relationships, subsectors of the industry, type of layers and finally the relationships to other industrial sectors. Obviously, not only relationships are important, but also the respective strength and economic “power”. Also on this layer one can see the disruptive nature of ICT which has deconstructed classic business models in various sectors of the economy. It finally led to a radical transformation of the industry.

Lessons learnt from other sectors such as media and telecommunications—as well as from the tourism sector—show that Internet-based newcomers capture the most profitable part of the business by destroying the former monopoly and value chains and by reducing the product to simple commodities.

When discussing impacts of Internet technologies on the value chain in the tourism sector, the rise of Online Travel Agencies (OTA) is a crucial element to consider. Online distribution is progressively shifting away revenue streams from traditional direct and indirect (i.e. DMO, or Tourist Organization) sales channels and actors to the new network-based online intermediaries. Cybermediation or Internet-based new entrants in the travel value chain can play intermediation roles in several ways such as between traditional suppliers and customer (“vertically”) or also horizontally between peers (P2P)—up to the point where “every consumer is a potential supplier”. Especially this case blurs the boundaries between supply and demand.

Leveraging network effects where the winners take it all as well as economies of scope and scale, these newcomers are taking the lead as distribution channels, allowing them to increasingly control the value chain in the travel industry, mainly in SME-dominated sectors (e.g.: the role of OTAs in the accommodation sector). The transparency of prices, products and user evaluations pushed by these newcomers through Internet technologies has resulted in a customer- and price-driven economic system. As a result, the commoditization of the tourism product is increasing.

Issues:

- Technology/innovation diffusion models—also in different sectors with different speed;

- Features that facilitate network effects or specific structures;
- Features that facilitate mediation vs. intermediation;
- Network dynamics;
- Influence analysis;
- Cross sectoral input/output analysis;
- National and international benchmarks (or their design);
- Sector wide data analytics;
- Design, policy and business issues of sector wide systems;
- Cross platform approaches—seamless interoperability and common service layers, on different levels (e.g. geographical or sectoral).

2.5 Layer 5: government/policy

This layer is—at least for scientific research—the most delicate one. From a definitional point of view this layer refers to outlining the rules and regulations of the ICT and tourism “game” on a regional, national as well as on an international context, as well as on laying the cornerstones for a sustainable development from an economic, political, socio-cultural and environmental perspective. However, this layer also has to deal with innovating institutional structures and mechanisms for participation in governance processes.

Consequently, the following points refer to general policy or regulatory issues:

Sustainability of the tourism ecosystem needs to be seen from several perspectives:

- Environmental sustainability with respect to resource consumption for building and maintaining the tourism infrastructure and transportation;
- Economic sustainability (including regulation to avoid oligopolistic and monopolistic structures).
- Democratic, participatory development;
- Social sustainability, also with respect to the wealth gap between tourists and employees in tourism and the involvement of local business actors in tourism destinations;
- Cultural sustainability, i.e. to preserve and respect different cultures.

Data privacy, i.e. sensitive and trustworthy treatment and avoidance of misuse of the data collected about individuals:

Data collected by business mediators such as OTAs, National Tourism Organizations (NTOs) and DMOs, by service providers as part of their business activity, by other providers such as telecommunication companies as part of their roaming business, and by public entities due to taxation of tourism services, flight-data exchange agreements, usage of transport infrastructure (e.g. motorways, tolling stations) or visa regulations.

Freedom of movement and personal safety for travelers and tourists: Management of authorization processes (visa- and custom-related issues), and of

public safety in the host country, as well as management of safety for own citizens in foreign countries.

Self-governance and participation/public bodies: Public tourism bodies such as NTO and DMO platforms have a long tradition in facilitating a self-governing process of the industry. However, they become continuously obsolete as they are not allowed to facilitate bookings, although e-commerce inherently requires one-stop-shops.

Fairness: Traditional players encounter new players that act under more favorable regulations and rules. For instance, large business entities, e.g. in the OTA sector, do business with tourism service providers that cannot be taxed by national authorities. Furthermore, new private sharing platforms offer tourism services that compete with traditional service providers without having to follow comparable regulation and taxation rules.

Perspectives for future development: Research is a main driver for developing and advancing a field. For research on the interface between tourism and technology innovative funding models will be required (for instance, new forms such as crowd-sourcing platforms) that help to integrate the different disciplines and cultures involved as well as academia and industry. Such novel approaches will also require new models for intellectual property rights. When discussing development, valid mechanisms for measurement are necessary: measurement mechanisms such as proper statistics for benchmarking on different levels; these include exchange of data to develop benchmark standards or the development of industry Key Performance Indicators (KPIs) to assess the efficiency of different sectors in specific regions of the industry.

This manifesto as a result of the workshop was reported and edited by (in alphabetic order):

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- Vienna, September 2014

3 Invited commentaries

The objective of this manifesto is to identify future research issues in IT and tourism from a high-level perspective and to activate a broad discussion on these topics. The

final aim is that Industry and Academia set up a work in process aimed at increasing the awareness of the most important issues and defining R&D goals; it is about producing substantial results. In this perspective, no document will be ever complete (or without any flaws), and a broad discussion is required; not only for the diffusion of the content, but also aiming at its improvement. In order to achieve this we invited three renowned colleagues to provide their comments and critiques. These are published in the following (in alphabetic order of the authors). In addition, we did not change the manifesto based on these comments so that the interesting reader will be able to follow the discussion from the early beginning (and may also provide his/her comment).

Vienna, December 2014

Hannes Werthner and Francesco Ricci

3.1 Commentary of Rodolfo Baggio (Bocconi University, Milan, Italy)

The JITT manifesto is a much welcome initiative. The basic motivations are well expressed and I fully agree that the endeavor of giving some sort of guidance to researchers in this field by the board of the oldest and most important journal dedicated to that intricate set of relationships between ICTs and tourism we call eTourism is the best service that can be provided to the community.

I do not discuss here the themes and the topics identified in the manifesto; all of them are surely worth mentioning and I am well in tune with the selection done. What I would like to raise here are a couple of issues that permeate the manifesto but are not, in my opinion, expressed clearly enough. A second aim of my comment is to provide some suggestions for those future workshops envisaged in the introductory observations of the manifesto. What follows is, obviously, a personal opinion (but probably shared by many), and reflects my view of what science is and what is the role of a scientist.

The first point concerns the need, I feel strong, of a more resolute emphasis on basic research. Most (but would say practically all) of the works conducted so far in the field is of applied nature, and has given, or tried to give, answers to “practical” questions. This is natural, given the characteristics of the actors, the environment and the objects studied. However, if we want to advance knowledge, and not be confined into a sort of high-level consultancy, a wider set of theoretical and conceptual reflections is in order. It looks difficult to conceive a good program of applied research without founding it on well-grounded and far-reaching models and frameworks.

This consideration leads to my second point: the necessity of a higher methodological creativity, a crucial element in a world that changes so rapidly and so rapidly introduces new issues or tears down old beliefs and principles. A much stronger real influx of new ideas can be fostered by the recognized necessity of a wider and better organized interdisciplinary effort, but this will also require a change in the attitudes of authors and reviewers that will a higher openness to external contributions than, in my opinion, they have today.

One basis for this is also an overcoming of the old distinctions between qualitative and quantitative approaches. We need to finally understand that in many

cases a qualitative study risks missing or misinterpreting features that turn out important when “measured”, and, at the same time, that a pure quantitative analysis cannot provide many answers if not well covered with a sound qualitative layer. And in the case of quantitative investigations we should also recall that insisting on employing unnecessary sophisticated techniques when simpler ones can give the same outcomes. Not to cite again the old Occam’s razor, the consideration here is that we are looking for answers not to show the world that we are good at statistics or mathematics.

Finally, I think we should strive for a much more critical stance with respect to many contemporary topics that are, often, overinflated for obvious reasons by the many interested parties, but turn out to be either old ideas revisited or issues that are not really within everyone’s reach or show aspects that might hinder the presumed (overpraised) advantages. In these cases a good series of reviews of worst practices (or failed attempts) would have a much higher usefulness than the usual set of good and successful examples, and give a more realistic and undistorted view of this world.

I close this comment by sincerely thanking the authors of the manifesto and wishing that this initiative will continue providing this type of guidance to the eTourism research community.

3.2 Commentary of Dimitrios Buhalis (Bournemouth University, UK)

The manifesto resulted from the JITT workshop identifies a list of pivotal research topics and issues in e-tourism. The manifesto defines eTourism as the design, implementation and application of IT and e-commerce solutions in the travel and tourism industry as well as the analysis of the impact of the respective technical and economic processes and market structures on all the involved actors and especially on the traveller’s experience.

The manifesto illustrates that a digital infrastructure is formulated on five layers, namely: (1) individual, (2) group/social, (3) corporate/enterprise, (4) network/industry, and (5) government/policy. These layers provide the ecosystem for the development of the tourism processes and systems with the ultimate aim to develop tourism solutions that address the needs of the consumers. With this in mind this response aims to crystallise what is required from the customers point of view towards exploring how these layers can integrate their interoperability and synergies towards achieving these aims. To advance the field research need to understand in depth the needs of consumers and develop dynamic interfaces between tourism and technology to help integrate all approaches towards maximising the value generated for all stakeholders involved.

ICTs gradually evolve as everyday life integral tools for contemporary consumers allowing tourists to connect, interact, and actively share and create experiences with both tourism organisations, local entities as well as with other consumers. Consumers increasingly engage in an active role in the consumption and creation of more personal richer experiences.

Tourists require services anywhere and anytime through customisation and personalisation. Instead of receiving pre-designed experiences, the consumer

demands experiences that allow for active participation, involvement and control. Technology can be used instrumentally in encouraging consumer participation, collecting information with the main goal of treating different consumers differently.

Technology is an integral part of the overall experience creation process, involving the design, creation and delivery of the experience. Personalised experiences require a constant evaluation of consumer preferences while interacting in real time with their service context.

Emerging technologies will therefore enable them to connect with all organisations and service providers as well as other consumers in order to create unique experiences. Personalisation and customer centricity, empowered by Interoperability and the Internet of Things will support Context Based Services cocreation.

Web 2.0 and social media also propel dramatic changes for tourism by turning the Internet into an immense space of empowered consumers, social networking and collaboration. Tourists are becoming prosumers, consuming and producing information on tourism for others, consuming and exploring location and context-aware information and individualizing information and services to reflect special interests. The growing usage of augmented reality applications will increasingly lead to blended reality where digital and physical mixes in combinations that suit us as people.

Mobility and ubiquitous connectedness is a key requirement for personalised experience creation, as to allow employees to anticipate guest needs throughout multiple touch points and encounters as well as address their needs at any location. Cocreation of personalised experience through technology can only occur when consumers are involved and willing to share information while the company and its employees are interconnected and utilising the information to facilitate meaningful experiences. The key to success for businesses hence lies in using a range of technologies to identify consumer needs and in the effective usage of contextual information for the creation of personalised products and services for meeting these instantly. Consumer profiling leads to improved interactions between consumers and tourism providers, better personalisation and customisation of the tourist experience. Hence technologies will increasingly empower real time cocreated dynamic and personalised experiences.

3.3 Commentary of Daniel Fesenmaier (University of Florida, Gainesville, USA)

I have been asked to provide review comments of the article: “Future of research issues in IT and tourism: A manifesto as a result of the IFITT workshop in June, 2014, Vienna.” The results of the IFITT Workshop discussed some very interesting and important issues and challenges facing tourism within the area of IT and tourism. Indeed, as indicated in the brief article, IT will continue to be a leading force of change in the tourism industry. The results of the Workshop are organized in an interesting and easily accessible manner wherein it considers the scale or ‘layers’ within which technology is interwoven into travel, ranging from the individual and group-related behaviors to enterprise and industry-related systems

and finally to the role(s) of government plays in supporting “the digital infrastructure.” For each of these layers, the contributors to the Workshop shared their collective vision regarding key research issues that will (or should) guide IT related research in tourism.

With this said, I am not certain about the nature of the ‘insights’ provided in that many are very ‘general’ statements which, in-of-themselves, are interesting but are so broad that they are not so ‘useful’ in guiding a research agenda; that is, creating a Manifesto for future research in IT and tourism. I understand that for many such workshops, the framework used to guide discussion inherently produces these kinds of general statements. However as a “manifesto,” I would hope that there would have been a greater degree of ‘granularity’ in the statements, examples were provided to better illustrate the issues at hand and the central goal of the research is better articulated. Additionally and perhaps more importantly, the insights should start with the central issues requiring radical change in how we understand and therefore research the world.

Beyond the inherent limitations of any article reporting the results of a workshop I might suggest that my colleagues missed some very important issues that will have (is having) a huge impact on IT and tourism, and therefore, should lead to a ‘call to action’. First, it appears that the Workshop did not consider the impact of big data and the ‘sensorizing’ of the world on the nature of science and scientific enquiry. Central to this literature is the notion of ‘People as sensors’ and is evinced by the plethora of medical—fitness tools that can be used to tracks one’s health. Building upon this and other work, many articles have been written somehow arguing that science itself is changing radically because of the amount and nature of the data that is now available as well as the progress being made in the design of new tools and new theory. Indeed, the emergence of Data Science and Design Science within IT-related fields appears not to have been discussed as well as the new focus on the development of dynamic systems. Further, this work has resulted in a number of impressive insights and offer the opportunity to essentially transcend what might be referred to as traditional science. Clearly, the incredible explosion in the number and capability of tools related to data collection and analysis have huge implications for how we conduct research within IT and tourism.

Also, it appears that the members of the Workshop did not consider the impact of IT tourism education; specifically how education—both elementary and higher education—is changing radically and its role in how education will interact within/ across the respective five layers identified in the article to shape the nature of the emerging educational environment. Again, there has been much written in this area, most conferences now include sessions discussing this topic and, indeed, a new organization (Tourism Education Futures Initiative) has been created to discuss these issues and more. The interesting thing to me is that this research-discussion has not led to a consensus regarding best practices, but have identified a number of key (and very important) avenues for research. It is argued that any ‘manifesto’ focusing on IT and tourism should include statements recognizing the potential contributions that online tools can make to (re)shaping education.

A third topic that might be considered part of this Manifesto relates the degree to which various forms of IT used in everyday life now shapes how IT is used for

travel. Recent studies focusing on the use of smartphones, for example, clearly show that the IT-related skills and experiences obtained during everyday life spillover to travel but are, somehow translated into new terms and new ways to help shape the traveler's experience. Indeed, the traditional notion of travel focuses on escaping daily life; however, recent articles clearly demonstrate the travelers often interject many aspects of daily life by, for example, sharing experiences with friends and family. Further, the impacts of IT within everyday life discussed by Sherry Turkle (*Alone Together: Why we expect more from technology and less from each other*), among others, are quite relevant (and important) for tourism research. Further, one might suggest that this research can (and should) be used to support an agenda encouraging the development of new methods/tools for sustainable tourism development.

Certainly, there are many other issues/challenges that will guide future research in IT and tourism. Importantly, the Workshop—Manifesto begins the discussion regarding IT and tourism and provides a useful framework to guide this discussion. This is vital as IT continues to evolve and significantly affect our daily lives, and therefore offers the opportunity for society at large to have a significant impact on the nature of travel and all aspects within what might be called “the tourism ecosystem.” As such, I am looking forward to the next workshop that should result in insights that challenge us to rethink the world and asks us to do better.