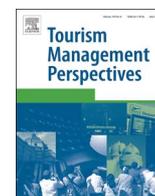




Contents lists available at ScienceDirect

Tourism Management Perspectives

journal homepage: www.elsevier.com/locate/tmp

From digitization to the age of acceleration: On information technology and tourism

Zheng Xiang

Department of Hospitality and Tourism Management, Pamplin College of Business, Virginia Tech, Blacksburg, VA 24061, USA

ARTICLE INFO

Keywords:

Information technology
Tourism
Tourism management
Research development
Knowledge management
Big data

ABSTRACT

This essay presents an overview of the research development over the last twenty years on information technology and tourism. It argues that knowledge created in the last two decades can be characterized as consisting of two distinct eras, i.e., Digitization (1997–2006) and Age of Acceleration (2007–2016), which reflected the general understanding of how technology has transformed our society and economy. Knowledge development within each of these eras is examined in terms of the technological conditions, dominant paradigms, main research questions, and influential discipline and research approaches. Particularly, it recognizes the shift of our view of information technology in tourism research from a primarily a marketing-driven tool to a knowledge creation tool due to new technological conditions such as the smartphone, drone, wearables, new connectivity and big data. Finally, this essay discusses possible future research problems and challenges our existing views of the relationship between information technology and tourism.

1. Introduction

Information technology continues to move our society. While many commentators have characterized the transformative power of technology in various ways, perhaps few has done more eloquently than Nicholas Negroponte and Thomas Friedman. In his book *Being Digital*, Negroponte (1995) made a compelling argument about the fundamental differences between atoms, which make up tangible stuff, and bits, which constitute digital information. With this, he offered a visionary insight on what being digital means for our future at the dawn of the Internet. Approximately two decades later, with a book titled *Thank You for Being Late: An Optimist's Guide to Thriving in the Age of Acceleration*, Friedman (2016) presented his view on how we should understand the 21st century. He argued that there were three largest forces, i.e., technology, the market, and Mother Nature, all accelerating at once, creating transformative impact on many important facets of our society. He noted year 2007 was a major turning point in that the release of the iPhone, together with advances in hardware, software, storage, sensors, and networking, created a new reality. These ideas reflect the broad impact of information technology, as well as speed of change, at the global, societal level.

The importance of technology as a strategic tool to tourism has been long recognized (Poon, 1993). With the emergence of the Internet as a commercial tool, Pauline Sheldon (1997) published her pioneer book *Tourism Information Technology*, wherein she emphasized tourism as an “information intensive” industry and illustrated various IT applications

in a number of sectors related to tourism. This book, along with Werthner and Klein's (1999) *Information Technology and Tourism: A Challenging Relationship* published shortly afterwards, represented the new thinking about the nature of change brought about by IT in general and the Internet in particular, and offered fresh conceptual frameworks to understand structural change. Since then, there has been substantial development of research on IT and tourism spanning over roughly twenty years.

Reflecting upon the past two decades, it is obvious that we cannot separate our understanding of the relationship between IT and tourism from the global, societal view of technology. Borrowing the ideas from Negroponte and Friedman, we can view knowledge development on IT and tourism as consisting of two distinct eras: the first decade can be characterized as “digitization” (1997–2006) and the second represents the “age of acceleration” (2007–2016). While there was continuity in IT development and diffusion of technological innovations, these two eras had their unique technological conditions, research problems, dominant paradigms and research approaches. Importantly, our view of technology in relation to tourism management seems to have shifted through these years. Therefore, looking back at IT and tourism as a field of study could be a useful exercise to highlight our knowledge development and, hopefully, to help us identify clues for future inquiries.

2. Digitization (1997–2006)

This era was known for the development and maturity of the

E-mail address: philxz@vt.edu.

<https://doi.org/10.1016/j.tmp.2017.11.023>

Received 30 September 2017; Received in revised form 24 November 2017; Accepted 27 November 2017
2211-9736/ © 2017 Published by Elsevier Ltd.

Internet as a commercial tool. During this era, technical terms such as the World Wide Web, LAN, Netscape Navigator, IE, Web page, email, desktop, laptop, mobile phone and eCommerce became household names. This era can be characterized as digitization because much of online information, especially in the early days, could be considered the digital version of its existing offline content. The business domain on the Internet went through the early development and then the burst of the eCommerce bubble followed by a period of reflection and recovery. At the individual level, adoption and use of the Internet was a huge transition from the conventional media to the hypertext-based media, resulting in cognitive dissonance and behavioral challenges. Although tools such as search engines were becoming increasingly important, the dominant mode of interaction with the Internet was reflected in metaphors such as “surfing the Web” and “navigation”, which implied that how we looked for and processed information on the Internet was fundamentally different from the past (e.g., reading a book or watching TV).

As such, the primary research problem can be seen as the representation of tourism on the Internet. On the one hand, we celebrated and marveled at this new form of interactive media, which seemed to have unlimited capacity to store, display and connect information in a variety of modes, 24/7, and on a global scale. On the other hand, we struggled and strived at finding sensible approaches to bridging the tourism supply, whose product is intangible, heterogeneous and experiential, with travelers and tourists alike. This very nature of the tourism experience, when facing the new digital media, required fresh conceptual and technical tools to articulate and tackle the problem. Unsurprisingly, one of the dominant paradigms adopted by tourism scholars and marketers was the notion of the experience economy (Pine & Gilmore, 1999), which suggests that technology could play an indispensable role in the creation, staging and communication of meaningful experiences. Another important paradigm was the “long tail” (Anderson, 2006), which argues that technology has changed the way we view the impact of digitization on value creation. It suggests that businesses should not only pay attention to products that are popular but also those that tend to be ignored by our conventional wisdom. Our key literature on IT and tourism was inspired by these general ideas about value creation in the era of digitization. For example, the notion of tourism as experience provided the conceptual foundation for building new logic and new language into tourism information systems (e.g., Gretzel & Fesenmaier, 2002). Web design features and strategies to incorporate multimedia contents, personal stories, and virtual communities, which presumably are essential in communicating experiential aspects of the product, were extensively examined.

As such, literature on travelers' information search behavior such as needs, sources, structures and processes served as a conceptual basis for studying many problems resulting from online representation of tourism. Seeing travel and tourism as a domain of applications, research was also informed by several disciplines including notably communications, human-computer interaction (HCI), and management information systems (MIS). A clear lineage of literature was the applications of the Technology Acceptance Model (TAM) (Davis, 1989) and its derivatives to examine travelers' adoption and acceptance of tourism websites or other decision-making tools. The HCI approach served as the basis for understanding behavioral patterns when travelers interact with the Internet and tourism websites for important tasks such as information search and trip planning (e.g., Pan & Fesenmaier, 2006). There was also the design and development or engineering perspective represented by many of the papers presented at the ENTER eTourism conferences (celebrating its 25th anniversary in early 2018), whose goal was primarily to provide technical solutions for travel decision making.

During this era, technology was largely seen as a medium, a tool and an object. The main purpose of research was then to understand and improve its utilities for consumer communication and engagement and, thus, it was driven by the needs of tourism marketing and business

opportunities. The research vocabulary was adapted from several disciplines outside tourism. Like in the general consumer behavior literature, many of the published studies concerned with users' attitude towards adoption and intention to use a specific technology in a context-free setting. The role of technology evolved from the focus on functionality and usability in the early days, to a means for online communication and persuasion, and finally to an intelligent entity that presumably understands travelers' personal needs, wants and desires. Importantly, we saw the development of knowledge from the applications of single theoretical or methodological approach to the culmination of a multidisciplinary approach, which included CS, HCI, MIS and marketing, to frame our core research problems in online tourism marketing (Fesenmaier, Wöber, & Werthner, 2006). IT and tourism aka “eTourism” as a field of study was manifest in the growing number of publications in leading tourism journals as well as the development of specialized outlets such as the *Journal of Information Technology & Tourism* dedicated to the development and theoretical understanding of information technology primarily in consumer settings.

3. Age of acceleration (2007–2016)

This era was marked by technologies such as Wi-Fi, search engines, Web 2.0, tablet, the smartphone, wearable computers, sensors, Internet of Things, crowdsourcing, open source, drones, and the emergence of machine learning and artificial intelligence, etc. This era can be characterized as the age of acceleration largely due to the tremendous growth of user-generated contents on the Internet, as well as the widespread diffusion of technologies and devices not only in our homes and offices but also in many other physical environments. This led to the accumulation of data and information at an exponential rate. While digital divides existed in many ways, the adoption of the Internet in advanced economies had reached saturation across different demographics. In contrast to the previous era, users' access to information on the Internet had transitioned from navigation to searching and subscription-based modes. Social media such as Facebook, Twitter, and Instagram and many other collaborative tools helped redefine the role of the Internet from a publishing platform to a platform for participation and social networking. By creating novel ways to connect supply with demand, new business innovations such as the sharing economy emerged to disrupt many industries. Information technology, material or immaterial, seemed to have been built into every fabric of our socio-economic life including travel and tourism.

While there might not be a dominant paradigm, research on IT and tourism appeared to echo with a number of ideas developed elsewhere. For example, the notion of “life on the screen” by Sherry Turkle (2011) captured how our identities and communications could have been redefined by technology. There were several ideas contributing to the burgeoning paradigm of the so-called “big data” approach. For example, “life in the network”, as suggested by Lazer et al. (2009), signified the growing importance of data and computational methods to process, analyze and interpret data generated in various social science fields in large quantities. Someone like Chris Anderson even went as far as to say “theory is dead” to suggest that it is data that will help define research problems and give us new scientific insights. Notions such as “people as sensors” (Laituri & Kodrich, 2008) and the “quantified self” (Swan, 2013) reflected how technology has been woven into our everyday life, rendering social beings into data generating devices.

These ideas were of high relevance to tourism research because today's consumers produce a variety of data in mobility and in their social networks via the use of technology. Within this context, the dominant research problem can be characterized as the search for new measurement in order to understand this fast-changing world due to technological innovations. We saw significant growth of research to exploit new data to understand problems in tourism management, old or new (Xiang, Schwartz, Gerdes, & Uysal, 2015). These data, such as search engine queries and rankings, user-generated contents (e.g.,

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات