Tourism Management 50 (2015) 238–252

Contents lists available at ScienceDirect

Tourism Management

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

Case Study

Estimating value in Baltimore, Maryland: An attractions network analysis

Jason L. Stienmetz*, Daniel R. Fesenmaier

National Laboratory of Tourism & eCommerce, Eric Friedheim Tourism Institute, Department of Tourism, Recreation and Sport Management, University of Florida, Gainesville, FL, USA

HIGHLIGHTS

- The B2B and C2B structures of Baltimore's attractions network were quantified.
- The marginal value of traveler activity paths were estimated.
- An attraction's weighted degree centrality is a good predictor of that attraction's marginal impact on total trip spending.

ARTICLE INFO

Article history:
Received 21 July 2014
Accepted 26 January 2015
Available online 27 February 2015

Keywords:
Destination management
Traveler activated networks
Value creation
Network analysis

ABSTRACT

Research has long established that destination management organizations need to have a deep understanding of visitor behavior and, in turn, how this behavior leads to the creation of value within the destination system. This study builds upon recent studies indicating that the destination value creation process can be conceptualized as a network formed through the interactions of visitors and destination touch points. This case study discusses how to quantify this network using data collected for Baltimore, Maryland, and then deconstructs it to determine the value of network elements (i.e. attractions and the paths connecting attractions) within the city. The implications of this study are then discussed within the context of strategic destination network management.

1. Introduction

Internet technologies are now a fundamental part of how travelers plan, experience, and share all phases of travel; consequently, there have been significant changes in how destination value is created, the competitiveness of destinations, and how destinations are managed (Fesenmaier & Xiang, 2014; Gnoth & Jaeger, 2007; Xiang, Wang, O'Leary, & Fesenmaier, 2014). Importantly, tourist behavior within a destination is comprised of 'touch points' (both virtual and physical) that are experienced by the traveler (Gretzel, 2010; Xiang, Choe, & Fesenmaier, 2014; Zach & Gretzel, 2011). Examples of these touch points include the web sites and mobile apps used to plan a visit, the online booking engines used to pay for hotel stays, the places visited including hotels, restaurants and attractions, and the sharing of vacation photos over social media (Stienmetz & Fesenmaier, 2013). However, as each visitor 'travels-the-network' (i.e. defined by the sequence of destination touch points they experience) it becomes increasingly difficult to understand how (i.e. when and where) value is created within the destination.

Internet technologies continue to empower travelers by affording them access to information and services that give them the independence to customize their destination experiences. As a result, increasingly complex patterns of tourism product disintermediation and reintermediation have emerged (Kracht & Wang, 2010) which potentially threaten the competiveness of destinations due to a diminished leadership role of the destination management organization (DMO), lower cohesion between destination firms, fewer partnerships among firms, a decreased knowledge of the visitor profile, and a reduced capacity to understand and satisfy visitors' needs (Chathoth, 2007; Ndou & Petti, 2007). In response to these potential threats, tourism researchers have proposed that DMOs consider a network management approach that emphasizes

* Corresponding author.
E-mail addresses: jason.stienmetz@ufl.edu (J.L. Stienmetz), drfez@ufl.edu (D.R. Fesenmaier).

http://dx.doi.org/10.1016/j.tourman.2015.01.031
0261-5177/

designing and fostering cooperation among the destination's stakeholders (Meriläinen & Lemmetyinen, 2011; Wang & Fesenmaier, 2007; Wang & Xiang, 2007; Zach & Gretzel, 2011). This approach to strategic destination network management requires that the structure of the destination network system (i.e. the relationships and interactions among destination stakeholders) is understood because "if you can't measure it, you can't manage it" (Kaplan & Norton, 1996). In particular, it is crucial for destination managers to recognize the patterns of traveler activities within a destination and how those activity patterns create value (Shih, 2006; Woodside & Dubelaar, 2002; Zach & Gretzel, 2011). Further, if the objectives of the DMO include coordinating the relationships and interactions among destination stakeholders, destination marketers must understand the interrelationships among the various stakeholders within the destination, especially as seen from the perspective of the visitor (Chakravorti, 2009; Tax, McCutcheon, & Wilkinson, 2013).

Recently, Stienmetz and Fesenmaier (2013) introduced the Destination Value System (DVS), which builds upon these studies and conceptualizes a tourism destination as a constellation of networks representing the aggregation of visitors' behavior as they travel-the-network. Stienmetz and Fesenmaier (2013), in building upon Gnoth and Jaeger (2007) and Zach and Gretzel (2011), posit that metrics related to this networked value system can be applied to assess the economic value of individual stakeholders and stakeholder relationships within a tourism destination. Importantly, Stienmetz and Fesenmaier (2013) argue that this network approach has advantages over traditional destination metrics as it shifts from a "value added" paradigm (i.e. the return on investment from marketing and sales activities) to a "value creation" paradigm which highlights relationships between stakeholders that can enhance differentiation or reduce costs (Porter, 1985). Furthermore, Stienmetz and Fesenmaier (2013) conclude that a network approach moves beyond the view of a destination being static and fixed, which is consistent with the recent destination models put forth by Beritelli, Bieger, and Laesser (2013) and Sfandla and Björk (2013), while also providing valuable information about the interconnectedness of a tourism destination system in terms of value creation. Following from this work, this study conducts a series of network analyses for Baltimore, Maryland with the goal of understanding how patterns of traveler behavior can be deconstructed to assess the economic value of destination attractions. It is posited in this paper that a network paradigm is very useful for assessing the economic value of destination touch points in that it provides a framework for which both policy makers and practitioners can develop strategies to increase destination competitiveness.

2. Theory

2.1. The destination value system

The tourism destination has been traditionally understood as being comprised of a series of stakeholders (i.e., transportation, accommodation, and attraction firms) and is often modeled as a value chain where value is added as visitors prepare for, and then experience and move through the destination before eventually returning home (Poon, 1993; UNWTO, 2007). This conceptualization of the tourism value chain is based upon Porter's (1985) deconstruction of a firm into its strategically relevant processes such as designing, producing, marketing, delivering, and supporting its products. Within the tourism destination, there are numerous processes which create value and, therefore, no single stakeholder controls all the elements of the destination value chain. Consistent with Porter (1985), Poon (1993, p. 209), among others, wrote that the primary processes of the travel and tourism industries which comprise the destination value chain are transportation, on-site services, wholesale/packaging, marketing and sales, retail distribution, and the customer experience. A more recent report by the UNWTO (2007, p. 21) describes the destination value chain as consisting of eight core processes: product development, destination and product packaging, promotion, distribution and sales, in and outbound logistics, destination operations and services, and aftercare.

While the destination value chain has been a useful model for conceptualizing the tourism system, the value chain paradigm may no longer serve as an appropriate foundation on which to plan and manage a tourism destination. Indeed, the concept 'traveling-the-network' challenges the traditional destination value chain model (Fesenmaier & Xiang, 2014; Gretzel, 2010). In response, Stienmetz and Fesenmaier (2013) conceptualize the tourism destination as a constellation of four interrelated, visitor-centric value creation *networks* representing the core destination processes of marketing and promotion, sales and distribution, traveler activities, and partnership coordination (See Fig. 1). As such, they argue that DVS networks exist in both physical and virtual space, are focused on capacity, are constantly evolving, and are occurring simultaneously as part of an integrated system (Stienmetz & Fesenmaier, 2013).

Although some notable studies have been published (e.g. Shih, 2006; Tax et al., 2013; Zach & Gretzel, 2011), little work has been done to understand the DVS network as it is experienced by visitors, though it should be acknowledged that as co-creators of value (Pine & Gilmore, 1999; Sfandla & Björk, 2013; Vargo & Lusch, 2007) travelers represent a key group of stakeholders within the destination. Accordingly, destination management metrics must reflect visitors' paths through the system of destination touch points (Gnoth & Jaeger, 2007; Zach & Gretzel, 2011). Further, similar to the destination value chain model, it is recognized that performance evaluation of a DVS network with regard to each separate value creation process is needed in order to maximize traveler value. Benchmarks and performance measurements are crucial tools used to develop marketing and development strategies that can make the destination more competitive (Ritchie & Crouch, 2003; Ritchie & Ritchie, 2002; Wöber, 2002), and DVS metrics would facilitate the shift from a value added approach toward a value creation approach to destination management. The implication of this new perspective is clear: DMOs should evaluate the marketing and promotion, sales and distribution, traveler activities, and partnership coordination networks as part of an interrelated and dynamic destination ecosystem.

2.2. Metrics for DVS networks

A network consists of nodes and ties where nodes represent distinct actors within a system and ties represent some type of relationship that connects actors (Borgatti & Halgin, 2011). Within the context of a DVS network, nodes represent the unique touch points (i.e. the actual activities and attractions experienced by the traveler) within a destination and ties connecting these nodes represent the interchange of travelers between activities, such as when a traveler goes from one attraction to another. Additionally, network ties can be assigned a weight value, which in the case of a DVS network can be used to represent two distinct types of relationships: firm to firm exchanges (B2B) which reveal the volume of visitor movement between the value creating activities within the destination, and traveler to firm exchanges (C2B) which reveal the frequency of traveler interactions with destination touch