Research Paper

A qualitative system dynamics approach to understanding destination image

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ABSTRACT

Destination image formation is a complex, multifaceted process that has been examined extensively by tourism scholars. However, previous studies often used a predetermined list of tourism-specific attributes to measure destination image, leading to a lack of empirical research on destination image as a holistic concept. Consequently, this paper employed a qualitative system dynamics approach to investigate the destination image of Ethiopia in Japan. Results indicated that the Japanese had a positive image of Ethiopia focused primarily on diverse products, friendly people and culture, coffee and great marathoners. In contrast, the results also indicated negative image due to concerns over poverty, peace and security, as well as poor service and infrastructure. Based on this study, a qualitative system dynamics conceptual model of destination image was designed for system analysis, problem identification and system intervention towards a desired outcome in market positioning. Future research should focus on testing and validating components of the qualitative system dynamics model, specifically to explore the relative utility of the technique in other tourism contexts.

1. Introduction

Destination image comprises the beliefs, attitudes, impressions and ideas of individuals about tourist destinations (Beerli & Martin, 2004; Cakmak & Isaac, 2012; Choi, Chan, & Wu, 1991; Frochot & Kreziak, 2008), including 'its location, leadership, and kind of regime, economic situation, government stability' (Kotler & Gerner, 2010, p. 40). Beliefs and impressions towards destinations could be real, imagined or even false: however they have been demonstrated in previous literature to play an important role in destination selection and individual travel behavior (Cakmak & Isaac, 2012; Huang, Chen, & Lin, 2013; Kotler & Gerner, 2010). A positive destination image has been found to influence and improve the image of a country for tourism, business and investment opportunities and international relations, in addition to attracting skilled migration of additional residents (Martinez & Alvarez, 2010).

Previous research on destination image has argued that the construct of destination image comprises several dimensions (Abodeeb, Wilson, & Moyle, 2015), including cognitive, affective and conative components (Tasci, Gartner & Cavusgil, 2007). Further, destination attributes can be tangible (functional) and intangible (psychological) (Echtner & Ritchie, 1993). Attributes used to assess destination image often measure natural resources, infrastructure, amenities and leisure activities, culture, political and economic factors

(Beerli & Martin, 2004). Destination image research has employed various approaches, including quantitative scales of destination attributes; multi-dimensional grids, e.g. pleasant-unpleasant and arousing-sleepy (Russell, Ward, & Pratt, 1981); and qualitative interviews, often referred to as top-of-mind associations (Echtner & Ritchie, 1991; Stepchenkova & Li, 2014).

Previous research on image arguably does not portray a holistic image of a destination relevant to travellers (Pike, 2016). A holistic image of a destination refers to interrelationships (Sterman, 2000), which enhances understanding of the structure of a system, rather than individual components (Meadows, 2008). Consequently, previous studies have focused on predetermined destination variables such as between market and destination which neglects the interdependent nature of the tourism system (McKercher, 1999) and complex nature of destination image concept (Gallarza, Saura, & García, 2002). Destination image formation is a complex process, in which visitors develop a mental construct based on selected impressions from a variety of sources including non-tourist and non-commercial sources (Matos, Mendes, & Pinto, 2015).

Largely, due to the complexity of destination image Echtner and Ritchie (1993, 2003) advocate it is imperative to use a mix of structured and non-structured methodologies to capture all potential components. Subsequently, structured scaled items have been frequently utilized to rate attribute components of destination image

(Byon & Zhang, 2010; Echtner & Ritchie, 1991; Stepchenkova & Li, 2014). In addition, open-ended questions have been identified as useful in capturing unique or distinctive destination image traits (Abodeeb et al., 2015). While understanding the complex nature of destination image is a valid area of inquiry existing studies have a tendency to focus on effect, requiring conceptual clarity surrounding the techniques used to understand the cause of destination image.

To help fill this void in scholarly inquiry, Kislali, Kavaratzis, and Saren (2016) recently focused on the conceptualization, core components, and measurement techniques applied in previous studies on destination image. An important finding was that the study of destination image is dynamic and complex, with advances in technology shaping the destination image formation process (Kislali et al., 2016). As a result, approaches used to measure destination image as a holistic concept require further development and refinement. Consequently, this paper applies a qualitative system dynamics approach to attempt to understand the complexity of the potential external factors that shape destination image. Qualitative system dynamics presents a useful approach to examining a complex system, such as tourism system (Baggio & Sainaghi, 2011; Carlsen, 1999; Mai & Smith, 2015), including destination image as a component of the tourism system. By adopting a systems approach it is possible to identify and catalogue the core components of destination image formation, rather than specifically assessing the importance of a predetermined, and often narrowly defined, list of tourism-relevant attributes. Consequently, the explicit aim of this paper is to illustrate how qualitative system dynamics can be used to explore destination image. To achieve this aim, a case study of the destination image of Ethiopia in the Japanese outbound market was undertaken. The paper commences with a review of existing literature on destination image, and continues with an overview of the method on qualitative systems dynamics and a description of the feedback loops contained in the model. This is followed by a discussion of connections back to existing literature and suggestions for avenues for future research. A core contribution of this paper is to add to the suite of techniques used to assess destination image in the tourism field.

2. Literature review

Destination image came into focus as an area of scholarly inquiry in the late 1990s (Croy, 2010). It has been studied from a variety of different perspectives, including breaking it down into its individual, functional and psychological components, as well as being composed of the common and unique attributes of destination image (Kislali et al., 2016). Importantly, destination image is shaped in many different ways, including through personal experience, marketing, travel agents, media, and word of mouth from friends and relatives (Baloglu & Mangaloglu, 2001; Baloglu & McClrary, 1999). The organic image of a destination relates to information portrayed through media and other country-specific accounts (e.g. books), while induced image is largely shaped by promotion and marketing campaigns (Echtner & Ritchie, 2003). Real image stems from actual prior visitation to a particular destination (Moyle & Croy, 2009). Image has also been found to be influenced by the characteristics of visitors, including, though not limited to, cultural background, travel experience, age, and gender (Lee & Lee, 2009), which has implications for tourist satisfaction.

Destination image has been identified as a complex concept, as it is made up of multiple components or variables (Gallarza et al., 2002). Image has been identified to influence tourist behavior before, during, and after visit (Tasci & Gartner, 2007). Consequently, the concept of destination image complexity comes from the modification over time and the messages 'they convey may be contradictory [to] one another' (Garrod & Kosowska, 2012, p. 168). For example, some developing countries may be perceived as undeveloped paradises, but poor and insecure (Echtner & Ritchie, 2003). The dynamic nature of destination image is also amount to the formation of image (King, Chen, & Funk,

2015). Destination image formation is a continuously changing process due to the availability of new information through various ways, such as the experience of visiting the destination (Chen, Ji, & Funk, 2014), the introduction of alternative impressions, and the decaying of the image of a destination over time (King et al., 2015). The multiple nature of the destination image adds to the complexity of the concept where image is an output emerging from several holistic or attribute-based variables (Gallarza et al., 2002).

The development of tourism, both as an economic activity and as a field of study, has led to the emergence of various models and theories to conceptualize its evolution and process of change (Mai & Smith, 2015). Systems theory is one of the theories that can be used to investigate tourism development, planning, tourism impacts, and sustainability (Baggio & Sainaghi, 2011; Carlsen, 1999; Mai & Smith, 2015). System dynamics modeling is way to understand the structure of a system, the interconnection between components, and how the resulting changes affect the whole system (Maani & Cavana, 2007). A system is a sum of integrated elements (variables) and interconnections (the way the elements relate and feedback into each other) (Meadows, 2008; Sterman, 2000). A tourism system responds to internal and external factors, such as social, environmental, and economic change (Baggio, 2008; Baggio & Sainaghi, 2011; Carlsen, 1999). As such, tourism has been described as a complex and dynamic system, with high level of uncertainty and unpredictability (Mai & Smith, 2015). System dynamics takes a holistic approach: thus it is useful to understand and manage complex issues (Bosch, Manni & Smith, 2007) such as destination image. Essentially this is because the systems approach embraces dynamic complexity and takes a non-linear approach. The complexity of system comes from diverse and multiple interconnected system elements (Nguyen & Bosch, 2013). A nonlinear relationship is a relationship between two elements in a system where the cause does not produce a proportional effect or effects (Meadows, 2008). System dynamics modeling provides a comprehensive approach to model complex, dynamic, and interdependent variables (Sahin, Stewart, Giurco, & Porter, 2016b). Meadows (2008) stresses that system approach provides a more complete view of knowledge about the world.

Although destination image is an important area of scholarly inquiry, rarely has previous research integrated non-tourism aspects into the conceptualization of attributes or context-specific factors that play a key role in the formation of image. System dynamics presents a unique opportunity to examine destination image as a more inclusive and holistic concept. System dynamics methodology provides a robust platform to demonstrate the cause-and-effect relationships between elements or variables in an integrated and holistic approach (Scarborough, Sahin, Porter, & Stewart, 2015). Such relationships between variables form feedback loops (Sahin, Siems, Stewart, & Porter, 2016a). Feedback is a chain of causation and interdependence among variables Sahin et al., 2016b). A variable can be a condition, situation, action, or decision that can influence and can be influenced by one or more other variables that could be qualitative or quantitative (Bosch et al., 2007; Mai & Smith, 2015).

In addition, systems are path dependent and changes may not always be linear or instant between the cause and effects: effects may exhibit delays, which are time lags between the cause(s) and effect(s) (Maani & Cavana, 2007; Sterman, 2000). Most dynamic systems models involve quantitative models, but due to high uncertainties often associated with data required for key variables included in traditional models, qualitative approaches are attracting increasing attention (Mai & Smith, 2015), and have been found to be quite useful since the 1980s in other fields (Coyle, 2000). Variables identified in previous studies using this approach include, for example, morale, surprise, shock, satisfaction, planning, history, and customer service (Coyle, 2000). System dynamics has been used to investigate a diverse range of subject areas, including national development planning (Wolstenholme, 1983), water management (Stave, 2003; Zarghami