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**The Core-Periphery Structure of Destination Image:  
An Exploration via Social Network Analysis**

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**INTRODUCTION**

Destination image can be regarded as associations (e.g., beliefs, feelings, evaluations) of a destination in tourists' minds. Current destination image studies in the tourism field predominately use the "cognitive-affective-conative model" proposed by Gartner (1994) and the three-dimensional continuums of destination image proposed by Echtner and Ritchie (1993). Although these two conceptualizations of destination image have benefited destination image research tremendously in terms of disassembling destinations into different dimensions/components, they appear to reveal little about how destination image is organized in tourists' minds. Lai and Li (2012) proposed an alternative model to conceptualize destination image, namely the core-periphery structure of destination image, which was believed to uncover the deep structure of destination image in tourists' minds. The core-periphery structure of destination image is defined as "*a mental structure of a destination [characterized by possessing core and peripheral components] collectively constructed by its actual and potential tourists*" (Lai and Li 2012, 1363). Although no clear line can be drawn between the core and the periphery, the core is believed to be the center of the structure and the periphery is the remaining parts. Destination image may have a single core-periphery structure and/or a multiple core-periphery structure. However, as a new conceptual model of destination image, the core-periphery structure of destination image has rarely been examined in empirical studies yet. Understanding the structure of destination image is essential to demonstrate how tourists recall destination image from their memory, which is another important but neglected topic in destination studies (Li and Stepchenkova 2012, Stepchenkova and Li 2012).

Social network analysis argues that structure matters. A key task of social network analysis is to characterize structures, positions and dyadic properties (Borgatti et al. 2009). It provides a toolkit for examining the characteristics of destination image structure, which echoes the objectives of this study. This paper suggests the use of social network analysis as a new approach to test the

core-periphery structure of destination image, and identify the paths of retrieving destination associations adopted by tourists.

## **METHODOLOGY**

An online survey was developed targeting residents who had lived in Shanghai for more than two years about their perceptions about Shanghai Disney Resort (SHDR), which is currently under construction. The final sample is demographically representative of the urban population of Shanghai residents. Respondents were asked to use three words to describe SHDR and indicate the valence of each image description. A professional survey company was hired to deliver the survey. The data consisted of responses describing the image of SHDR, generated by a total of 1,000 respondents. After coding for the unique image descriptions, this study identified a total of 120 unique image descriptions for further analysis.

The authors used social network analysis to study the relationships between image descriptions. The analysis of the network was implemented using R 3.2.2. Two social network techniques were adopted in this study: centrality measurement and community detection. Centrality measures how important an image description is in the mental picture of SHDR.

## **RESULTS**

The most recognized images of SHDR are highly associated with the image of Disney. Respondents mentioned the psychological, unique, and attribute-related characteristics of the Disney image, more frequently than the functional, common and holistic characteristics. That is, respondents seem to recall the image of SHDR in the order from unique, concrete characteristics to more abstract and holistic characteristics. The sequence of three image descriptions given by each respondent reveals how respondents retrieve mental associations of SHDR from memory. The centrality level of every image description used by each respondent was identified. It appears that recalling image associations seems to follow an efficiency principle; for any given image in the retrieving path, the next image retrieved is most likely to be an image of the same or adjacent core/periphery category.

Descending centrality values of image descriptions indicate a single core-periphery structure of destination image. Subgroups are detected based on the connections between each pair of image descriptions. The existence of subgroups within the mental picture of SHDR's image and the various levels of centrality of image descriptions support the multiple core-periphery structure of destination image.

## **CONCLUSION AND DISCUSSION**

This paper used social network techniques to test the single and multiple core-periphery structure of destination image and the pattern of image. The centrality of image descriptions and subgroups within the mental picture of SHDR confirmed the existence of single and multiple core-periphery structure of destination image. Image retrieving mainly either follows a core-to-periphery path or fluctuates between neighboring levels of core/periphery. One explanation could be that respondents tend to use retrieving paths consuming less energy/cognitive efforts, and this may happen even without self-consciousness.

This research has two limitations. First, the respondents were asked to provide three image descriptions, which may not be a comprehensive reflection of their image about SHDR. Second, the activated image nodes of SHDR are subject to retrieval cues. Images mentioned by respondents may change due to different cues used in research.

Despite these limitations, this study supported the existence of single and multiple core-periphery structure of destination image, and revealed the underlying pattern of image retrieval by tourists, which may help advance conceptualization of destination image. More theory testing efforts should be encouraged to test the core-periphery structure of destination image, especially the stability of the multiple core-periphery structure in different contexts. Other creative approaches to test the retrieving paths identified in this study also warrant more attention from academia. Associations of a destination in tourists' mind can influence tourists' attitudes and decision making. Practitioners should understand the structure of destination image in tourists' mind and the retrieval of destination image from tourists' memory, and apply this knowledge to destination marketing practice.

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