Transactions of the Association of European Schools of Planning • 2 (2018)
doi: 10.24306/TrAESOP.2018.01.005

TOURISM IDENTITY IN SOCIAL MEDIA: THE CASE OF SUZHOU, A CHINESE HISTORIC CITY

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(Received 15 September 2017; revised version received 11 April 2018; final version accepted 28 June 2018)

Abstract

In the context of tourism planning and promotion, there is wide acknowledgement that conceptualisations of tourism identity cannot be grounded merely in physical place, but should also encompass a wide range of factors including, for instance, cultural relations, tourist activities, and social networking. There are opportunities in late modern society for relating the identity of a city's tourism with digitally-presented tourists' perceptions and activities through social media studies. This research explores multiple research approaches to delineate the digital identity of Suzhou's tourist destinations, as presented in online user-generated contents. It is hoped that this social media study can provide supplementary information for tourism bureaus and agencies to make informed judgements on effecting pertinent improvements to optimise existing tourism resources and create more enticing environments for tourists. The research follows a case study approach and conducts an empirical study on Suzhou, a Chinese historic city. The analysis of the results show that the social media study is potentially useful in identifying the key characteristics of particular tourist destinations from visitors' perspectives that may also be helpful for the evaluation of tourists' experiences.

Keywords

Tourism, social media, place identity

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1. Introduction

The importance of the tourism identities of cities has been emphasised in contemporary tourism planning practice. Many studies on tourism planning and promotion have concluded that local identities and tourism potentials in the development of cities' tourism strategies must go beyond aspects of geographical space. With emerging social media communication and increasing crowd-sourced data, there is a great potential for engaging social media studies with tourism planning practice in order to reflect visitors' experiences and subjective views of a city's prime tourist attractions. This research explores a new approach to extending existing studies on senses of 'spatial' place to 'digitally-presented' senses of place.

1.1. Research Background

Tourism development and marketing has become increasingly globalised and extremely competitive. Forging a strong global tourism identity and international reputation has been noticeably high on the agenda of many city governments across the world. Recent studies have shown that tourism in small and medium cities in China is often driven by standardised solutions for mass tourism with emphasis being placed on the given city's major tourist attractions (China Tourism, 2016). In the context of Chinese tourism planning and promotion, cities' local tourism identities have been studied primarily based on geographical space and tangible tourist destinations (Li, 2000; Mao and Liang, 2013). Concurrently, there is a wider acknowledgement that tourism identity studies must be based on tourists' experiences such as interpersonal relations, activities, and social networks (Inskeep, 1991; Hall and Page, 2014). Policy and decision-making processes surrounding tourism development and management are complex and impossible to separate from a city's economic, social, environmental and political contexts (Hall, 1994; Mason, 2015; Edgell, 2016). These studies indicate that uniform tourist information and standardised tourism strategy can no longer closely connect to the multitude of diverse interests that tourists (collectively and individually) possess. Many tourism planners have faced challenges in accommodating the various expectations of culturally-minded visitors as well as the need to attract domestic and/or international travellers to pay repeated visits to a given locality. In addition, the number of communication channels has grown exponentially in recent years, (at least for those who have access to the relevant technologies), and these can be used as tourism planning tools by which to understand tourists' real experiences. As a passive data collection method, acquiring user-generated data voluntarily posted online may enable the researcher to collate more honest responses from visitors and to better capture their experiences as tourists.

1.2. Research Aim and Objectives

The primary aim of this research is to demonstrate how data from social media can be used to examine the digital identity of tourist destinations in a city. The challenging task here is how user-generated online contents with wide-open subjects and free-text can be systematically structured and analysed to capture tourists' perceptions. It is also hoped that the outcomes noted in this research can help in the development and planning of the tourism sector. The overall objectives of the research are twofold:

- to develop an evaluation framework for analysing the contents of social media;
- to explore possible research methods to analyse a unique tourism identity perceived from social media data that may improve the tourism planning practice.

This research employs a case study methodology and conducted an empirical study on Suzhou, which was designated as a national historic city by the State Council of China in 1982. It possesses a wealth of tangible and intangible heritage assets. It has already been established that investigation into contemporary phenomenon in a real-life context can only be satisfied through the adoption of case study methodology (Yin, 2003). To achieve the above-mentioned research objectives, the data collected included details upon: where visitors go; and, what relevant content they post on social media. The city's tourism identity was then evaluated in order to relate the tourists' perceptions to tourism planning practice. This researcher used four different analytical methods: spatial analysis, temporal analysis, popularity analysis, and text analysis. The research framework is illustrated in Figure 1.

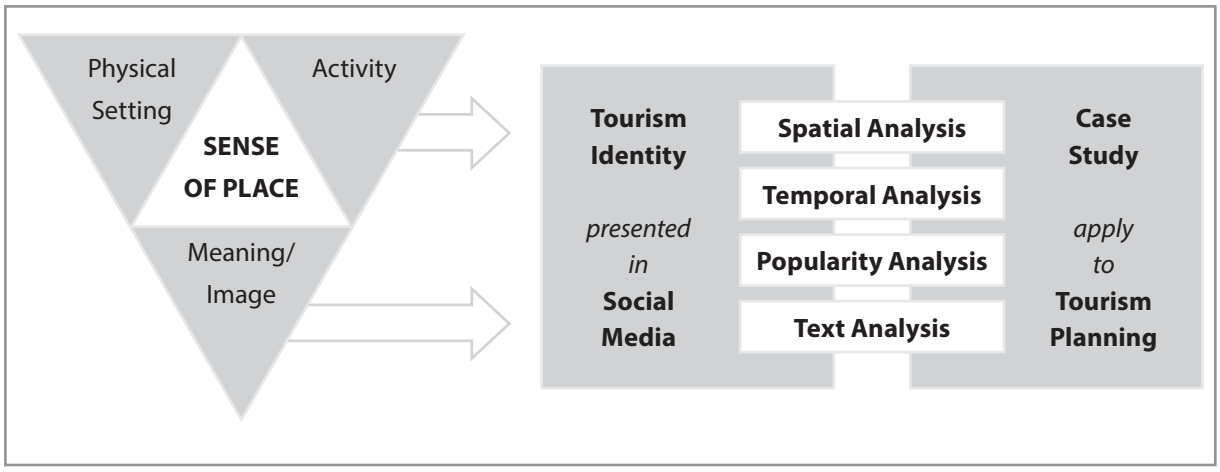

Figure 1 – Research Framework

2. Conceptualising Digital Tourism Identity

General concerns over the disadvantages of social media study have centred on the lack of a theoretical framework that provides a sound basis for systematic evaluation. This section explores how tourism development has engaged with social media research, and how digital tourism identities can be evaluated in the framework of place identity.

2.1. Tourism Development and Social Media

In modern society, new communication technologies have encouraged tourists to share their experiences, as well as information digitally (Buhalis and Law, 2008). Many tourist destinations have employed the concept of smart tourism (Gretzel, et al., 2015). It has become popular to develop smart tourism solutions in order to provide innovative information platforms for tourists and to enable the further growth in both tourist numbers and revenue. Smart tourism enables self-organised tours to be more feasible and manageable and also enables individual tourists to collect comprehensive tourism information, services, and experiences from diverse online resources (Fu and Zheng, 2013).

China is a case in point. According to the Chinese government report, Advice on Accelerating Development of Tourism Industry (General Office of the State Council of China, 2009), emerging smart tourism has greatly promoted socio-economic and cultural development. Over the last few years, tourism-related mobile apps have exponentially proliferated in China. Many cities including Jinan, Wuhan, Chun'an, Tianjin and Nanjing have launched smart tourism projects in order to provide integrated resources for tourists. Other terms such as 'professional tourism' and 'digital tourism' have often been used interchangeably with 'smart tourism' in Chinese tourism industries (Huang, 2014). Prior studies focused upon China suggest that governments have played the primary role in building and regulating smart tourism instruments in the Chinese context (Lin, 2013; Huang, 2014; Wang and Liao, 2014). Many smart tourism projects in China provide similar functions and services, such as information on scenic spots, ticketing, accommodation, public transport, cultural facilities and events. However, there have also been key failures of smart tourism including, for instance, listing fragments of tourist information without considering the diverse needs and interests of users. Smart tourism apps can be used as a tool to collect place-based tourists' experiences. However, a major drawback of this data collection method is that there is restricted data accessibility due to issues of data confidentiality and the limited numbers of survey participants who used the aforementioned apps.

Another significant influence of smart technology on tourism is social media. According to a recent research on social media penetration (We Are Social, 2017), the number of social media users has grown 21 percent in 2017 compared with the previous year's record, and about 134 million new users were registered in China in 2016. It is also reported that, in the United States, members of the over 65-year-old demographic have driven the

growth of social media in recent years, as the use of such media among younger age groups may have reached saturation (Chaffey, 2017). Social media, as a new type of online communication tool, creates interactive relations between users, as well as personal and business networks. Social media communication in tourism includes not only information on the physical environments of tourist destinations, but also personal experiences and comments upon levels of satisfaction reached (Sigala et al., 2012). It is discernible that online user-generated content has caused tourism markets and industries to be more interactive. This new media has also provided an opportunity for tourism industries to understand and respond to the needs and demands of tourists more quickly and systematically. User-generated content can be seen as factual data that is readily available, and analysing such content can improve our understanding on tourists' perceptions and experiences as well as their movements and behaviour patterns in the real world (Krumm et al., 2008). It is evident that the study of social media can contribute to our understanding of the relative popularity of tourist attractions as defined and constructed by tourist experiences.

2.2. Components of Place Identity

The concept of place identity is vague, and resists a simple definition. Various efforts have been made to conceptualise this concept since the 1970s, including seminal works on place identity (Proshansky, 1978), sense of place (Relph, 1976; Tuan, 1977; Buttimer, 1980), sense of community (Sarason, 1974), and place attachment (Gerson et al., 1977). In many previous studies, the concept of place identity has been defined as the contribution of place attributes to one's self-identity (Proshansky, 1978; Sarbin, 1983; Proshansky et al., 1983; Rivlin, 1987). Place identity can be defined as a sense of dependence and belonging that individuals have to a certain place, psychologically. Individuals experiencing a particular place can generate a certain symbolic meaning or emotional attachment. Place identity is not steady and permanent but changeable and fluid. A definition of place, therefore, goes beyond a simple geographic location, as it is also attached to human activities that occur in the place; these may include people's lifestyle, perception, diet, transport, events, and habits, to name but a few. This human-centric approach to place identity is also closely associated with historical and cultural dimensions of place. Different geographies, climates and environments influence inhabitants' lives, habits, traditions and customs. The unique climate, historic stories and legacies of the past enrich the cultural attribute of a place (Bernardo and Palma-Oliveira, 1977). While cultural and social aspects of place identity are emphasised in much literature, there is no doubt that the physical asset of a place is the fundamental element of place identity. Notably, the geomorphic features, landscapes, architecture styles, and materials. In a systematic approach to explaining the concept of place identity, Montgomery (1998) applied the notions of physical setting, activities and meaning to the conceptual framework to define sense of place (Figure 2).

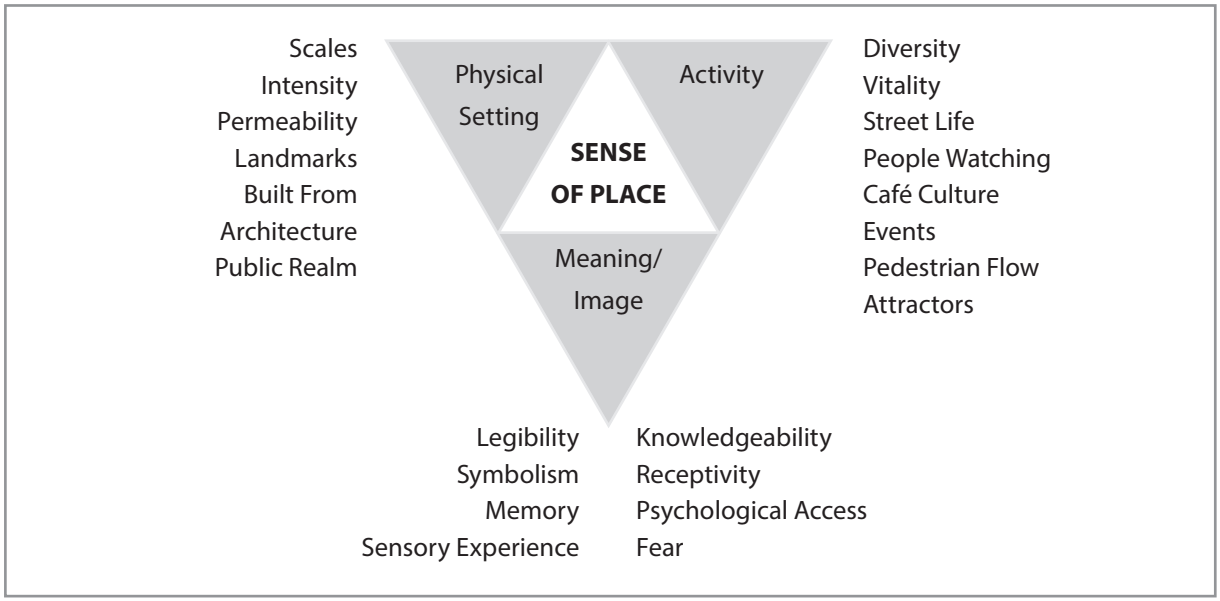

Figure 2 – Three Components of Place Identity (modified from Montgomery, 1998)

2.3 Evaluation Framework of Place Identity

In the increasingly interconnected and globalised world, place identity has gained growing prominence in a city's tourism development. Tourism development has consequently capitalised on various material and immaterial attributes of a locality, such as culture, lifestyle, festivals, local specialties and customs, along with tangible and intangible heritage assets. Although it is critical to understand the image of a city when developing tourism strategies, there are operational difficulties in examining place identities. This is because the analysis of place identity, which can be seen as phenomenological perspectives of the self, is almost impossible to communicate with others fully (Proshansky et al., 1983; Hernández et al., 2007). Similarly, Relph (1976) addresses the idea that the psychological meaning is more important than the physical environment or human activities and debunks the claim of human geographers (Tuan, 1977; Sack, 1997) that place, as 'space', can be presented accurately in aspects of geographic location and physical form.

The above-mentioned three components – physical setting, activities, and meaning – provide this research with a frame of reference to explain the conceptual formation of place identity. However, challenges remain as to how they can be applied as an analytical framework for evaluating place identity in a scientific or quantitative manner. The major challenges lie in, on the one hand, reducing the considerable overlap between the three components; and on the other hand, in differentiating the indistinguishable geographical scales of place. Place identity can be formed at micro, meso, and macro level of geospatial aggregation. As they are interrelated with each other, difficulties arise when an attempt is made to separate each quality as a dependent variable in the evaluation framework. Therefore, it is necessary to connect the definitions of physical setting, activity, and meaning with more tangible descriptions in developing an evaluation framework of place identity. Given the considerations above, the research has developed an evaluation framework of place identity that can be applied to social media research (Table 1).

Table 1: Evaluation Framework of Place Identity

Main Category	Sub-category	Descriptions
Physical Setting	Scenery	natural landscape, panoramic view, building skyline
	Topography	canal, streams, hills,
	Landscape	artificial landscape (i.e. gardens)
	Landmark	recognisable natural or artificial feature
	Architecture	one or two building(s), but not landmarks
	Public Space	public realm (street, square, park, etc.)
	Object	detailed elements of physical features
	Public Arts	arts objects in public space (graffiti, cultural items, etc.)
Activity	Transport	transportation and route finding
	Water Transport	water transport, boat riding
	Shopping	shopping and commercial activities
	People	local culture, social activities, street life
	Food	food and drinks (food and café culture)
	Event	specific events organised
	Paid Activity	paid tourist/leisure activities
	Attractor	items attracting attentions (animals, unusual items, etc.)
Meaning	Memory	memory of place, evidence of visit, selfie, self-portrait photo
	Emotion	feelings and psychological meaning
	Knowledge	knowledgeable explanations, craftsmanship
	Sensorial	sight, hearing, taste, smell, touch
	Seasonal	seasonal changes, city lightings (night view)

The framework is derived from the work of Montgomery (1998) and has further divided his three components into 21 sub-categories. It has been adapted to be aligned with social media contents and data analysis as well as to reflect the character of the selected case study city, Suzhou. For example, as a consequence of Suzhou possessing, as a key feature of its tourism offerings, an extensive canal network, the sub-categories of the activity criteria have been further divided to include 'transport' and 'water transport'.

3. Case study: Suzhou, Chinese Historic City

The research conducted an empirical study on Suzhou, a historic city in China, located in Jiangsu Province (Figure 3). As an important commercial centre since the 10th-century Song Dynasty, it has a wealth of heritage resources and is well known for being a water town featuring canals, stone bridges, vernacular architecture and classical gardens. These were placed upon the UNESCO World Heritage List in 1997 and again in 2000. To date, there are 863 statutorily protected heritage properties in Suzhou City; 45 percent are located within the area of the Historic City. A total of 39 properties are designated as national heritage; 24 of these are in the Historic Centre (Suzhou Planning Bureau and Suzhou Planning and Design Institute, 2013).

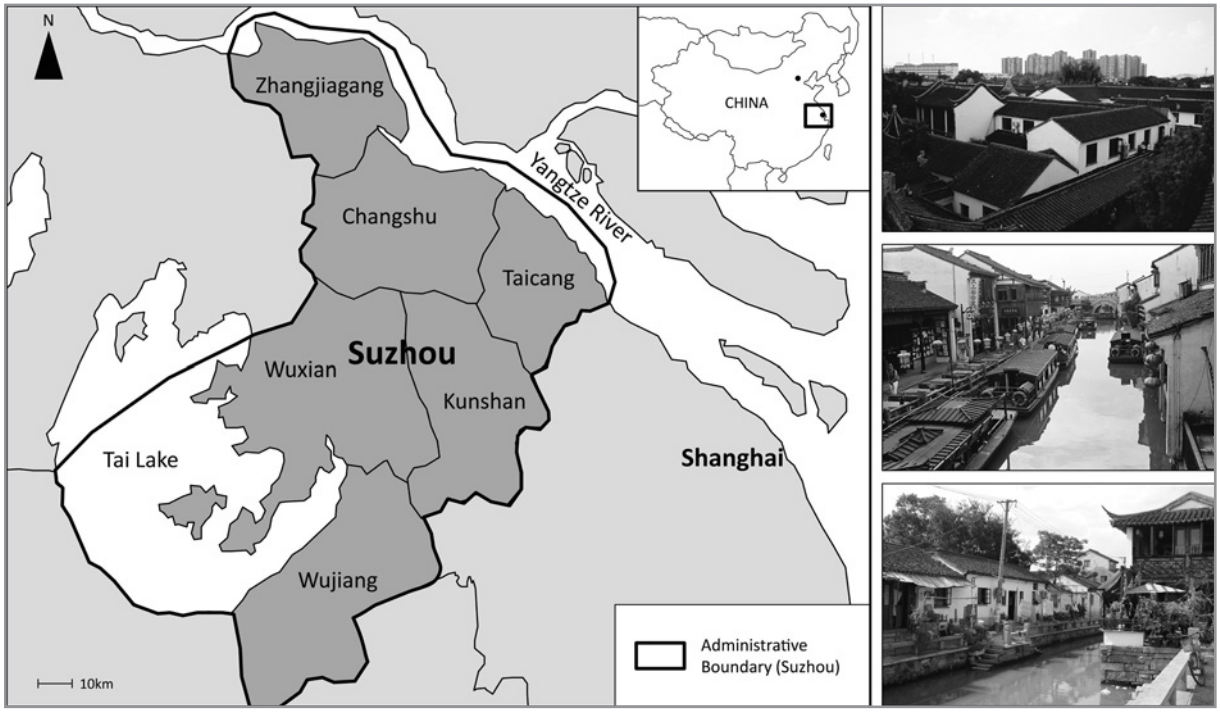

Figure 3 – Location of Suzhou

The walled city of Suzhou was built on the region's interlocking network of waterways, with an inner-city canal network connecting to the Grand Canal and major waterworks in the region. The city is characterised by a system of canals, bridges and traditional dwellings that resemble the characteristics of the water towns in the Yangtze River Delta. Suzhou has been dubbed the 'Venice of the East' or 'Venice of China' (Pereira, 2004). Suzhou's government sees tourism as a catalyst for the city's socio-economic growth, as stated in the 13th Plenary Session of the Eighth Communist Party of the City. A strategic plan was drawn up and prioritised six aspects for tourism development (Suzhou Municipal Office, 2017):

- Internationalisation Strategy: promoting Suzhou's tourism globally to make Suzhou an 'international first-class travel destination';
- Branding Strategy: encouraging revisits to Suzhou and improving the city's tourism reputation by enhancing the three brand images of the city, 'cultural tourism in the old town', 'romantic and fashionable holidays in new districts', and 'ecological leisure on the shore of Tai Lake';
- Integration Strategy: integrating tourism development with urban regeneration to improve the quality of life and revitalise the city's economy;

- Information Strategy: facilitating tourism using ICT technologies, and promoting 'Smart Tourism' to develop a comprehensive tourism information platform;
- Low-carbon Strategy: promoting the concept of green GDP through the development of low-carbon tourism and eco-tourism; and,
- Marketing Strategy: structuring the market development mechanism with collaboration between government and enterprises.

Best known for its World Heritage classical gardens and its parallel layouts of streets and canals (Wu, 2011), Suzhou has attracted a significant number of domestic tourists to visit the city year after year. However, the overemphasis and increasing reliance on the world heritage brand and a few historic places has also resulted in there being an increased disregard for other places that are also representative of local cultures and customs and hold potential for diversification within cultural tourism. Criticisms of the city's tourism practice have centred on the monotony; visitors have not really been encouraged to explore Suzhou beyond the gardens or the historic centre. Accordingly, Suzhou needs to rethink its approaches to tourism development in order to increase its competiveness in the global tourism market.

4. Research Methods

This research evaluates the city's tourism performance and characterises its digital tourism identity by employing a bottom-up form of data collection and the mapping of existing tourist activities. This research method using crowd-sourced social media data harnesses the involvement of tourists in: mapping their own interests and resources; and, raising the visibility of existing place-based tourist activities. An integrated research method was required in order to fully utilise the knowledge potential embedded in social media data. This includes not only conventional spatial analysis but also temporal, multimedia and user-behavioural analysis methods (Campagna, 2016). However, as Sui and Goodchild (2011) argue, it is also important to consider the possible bias in the quality and credibility of social media data for both scientific analysis and the interpretation. The social media analysis in this research is divided into three distinct parts: survey, analysis, and evaluation.

First, this research conducted a survey of social media postings to categorise the diverse comments of tourists as to what they saw and did, and what they felt and liked. The data collection began with the selection of online platforms where users submit their comments as to their travelling experiences. Then, the 20 most popular tourist destinations in Suzhou were selected as case studies. In total, 640 social media postings, which contained 3,960 samples of text comments and images were analysed.

Secondly, with social media data collected, tourism identity was analysed with an emphasis on four aspects:

(1) spatial analysis to investigate the spatial relations between tourism destinations;

(2) temporal analysis to examine the temporal change of digital tourism identities;

(3) popularity analysis to review digital tourism identities in 20 tourist attractions; and,

(4) text analysis to explore the linguistic landscape of users' comments posted upon social media.

Finally, the research findings were analysed to investigate how social media research can be applied to the practice of tourism planning and management. This aspect of the research also used participant observation research methods to reflect the insights gained from the authors' own experiences of living in Suzhou and visiting the city's tourism destinations.

4.1. Selecting Social Media Platforms for Data Collection

There are a vast number of online platforms that provide interactive travel forums. Drawn from a number of interviews with social media users in China, the researchers initially identified 24 candidate platforms including Weibo, Dianping, Ctrip, Qunar, Tongcheng, Tuniu, Lvmama, 58 City, and Mafengwo. Out of the

platforms mentioned above three were chosen for data collection: Weibo (similar to Facebook, one of most popular social media platforms in China); Ctrip (similar to TripAdvisor, well-established enterprise-led online tourism platform); and, Dianping (restaurant/place review site, one of the largest user-generated review sites in China). The selection was based on the number of users, reputation, popularity, the amount of user-generated contents, and the fact that each platform had existed for a period of at least five years. It was expected that these three social media platforms would enable the collection of diverse opinions and experiences of tourists in various data formats, including photo-oriented and text-oriented postings.

In terms of defining the geographical scope of the research, 20 tourist destinations in Suzhou were selected by paying systematic attention to their rankings in the three selected platforms – Weibo, Ctrip, and Dianping. As the Baidu online map service (similar to Google Map) provides real-time locations of service users in the form of a density heat map, this spatially-presented density was taken into account in the selection process. This density data was collected from 6–24 June, 2016 and compared with the location of tourism destinations. The selected 20 tourism destinations of Suzhou are categorised as follows:

- Classical Gardens (five destinations): Humble Administrator's Garden, Master of the Nets Garden, Lingering Garden, Lion Grove Garden, Pavilion of Surging Waves
- Old Towns (four destinations): Feng Bridge, Mudu Ancient Town, Tongli Ancient Town, Zhouzhuang Ancient Town
- Streets (three destinations): Guanqian Street, Pingjiang Road, Shantang Street
- Historical Heritages (three destinations): Hanshan Temple, Panmen Gate, Tiger Hill
- Natural Landscapes (two destinations): Qionglong Mountain, Tianping Mountain
- Artificial Landscapes (three destinations): Suzhou Amusement Land, Jinji Lake, Suzhou Museum

4.2. Collecting Social Media Data

The research employed a pilot approach to demonstrate how social media can be used in the analysis and planning of tourism. The analysis results in this research are based on 640 postings from the three selected online platforms. A single posting in social media usually includes multiple images and/or text comments, hence this dataset contained 3,960 valid samples in text and/or image formats. Due to resource constraints, the research was focused on social media data posted between January and June 2016 (six calendar months including two out of three national holiday periods). Considering there are many casual postings in social media that are not closely related to the topic of this research, a purposive sampling method was adopted in order to obtain meaningful data. Manual inspection and selection was deemed essential in the sampling process due to the prevailing use of Internet slang and shorthand. The research dealt with different types of social media platform, and the data collection methods were adjusted to meet the particular format of each platform. In order to evaluate the temporal change, the data was collected evenly throughout the six months of the data collection period. The collected social media posting data was classified using 21 sub-categories of place identity (Table 1). In this process, a single social media posting could be tagged with multiple sub-categories (a maximum of five within the 21 sub-categories). This was important because it allowed for the diverse interpretations that could arise from a single posted image or comment. For example, an image of a wall painting spotted in a tourism destination can be seen as 'public arts' (the Physical Setting category) and, at the same time, 'attractor' (the Activity category). In order to assess the visitor's satisfaction expressed in the text-format postings, trained surveyors evaluated each comment using ten likelihood classifications from -5 to +5 (-5 means strongly negative comments, 0 means neutral, +5 means strongly positive comments) to conduct a quality measurement for the text-format comments. While there are many automated analysis tools available, this research employed a manual technique as it involved a small sample size. For text analysis, 45 words were selected as the most frequently used words in the collected text-format data and used for further analysis. For greater consistency in categorising and assessing satisfaction in the data collection process, a one-day training session for surveyors was organised.

4.3. Data Verification

While the research used 640 postings, the sample size for each tourism destination per calendar month was relatively small. Since there might be concerns pertaining to the small sample size, the researchers selected

a particular tourist destination for an in-depth study to compare the analysis results between different data sampling sizes. For this purpose, Humble Administrator's Garden was selected for the comparison, because: (1) it was ranked as the best known tourist destination of Suzhou in the three social media platforms used in this research; and, (2) it scored the highest number of social media postings among the 20 tourist destinations. The tourism identity data was collected in two different sample groups containing: 142 samples and 603 samples (Figure 4). The analysis results suggest that there was no significant difference (less than 3.6%) between the two sample groups. This supports our assumption that the analysis outputs from a smaller sample can provide a snapshot that is illustrative of a city's tourism identity.

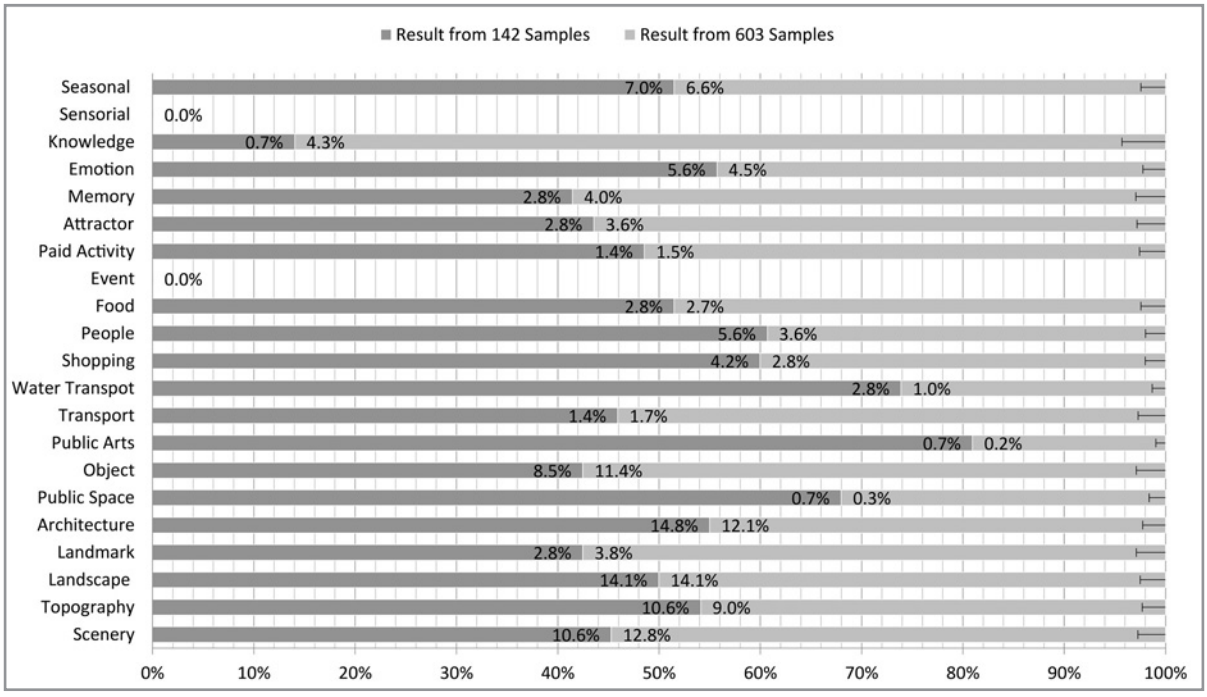

Figure 4 – Comparison of Survey Data from Different Sample Sizes

5. Analysing Place Identity for Tourism Planning

In the process of place identity classification, 640 social media postings were tagged with 1,775 place identity categories. Within the three main categories of place identity, the results show that the postings related to the first category 'physical setting' were the most noticeable, especially, the architecture element (Figure 5). One possible explanation for this is that the unique architectural style of Suzhou (black roofs and white walls) attracts visitors' attentions and is considered 'something different' from other cities in China. Another interesting result from the physical setting category is that visitors published many postings categorised in 'scenery', 'landscape' and 'object', but were less interested in posting contents on the city's landmarks such as historic monuments. In the second category 'activity', food and people watching were most commonly posted, and attractors such as animals and unusual items were also popular topics in the postings. Finally, in the category of 'meaning', the popular postings were selfies and photos recording visits. Seasonal change was another item posted frequently.

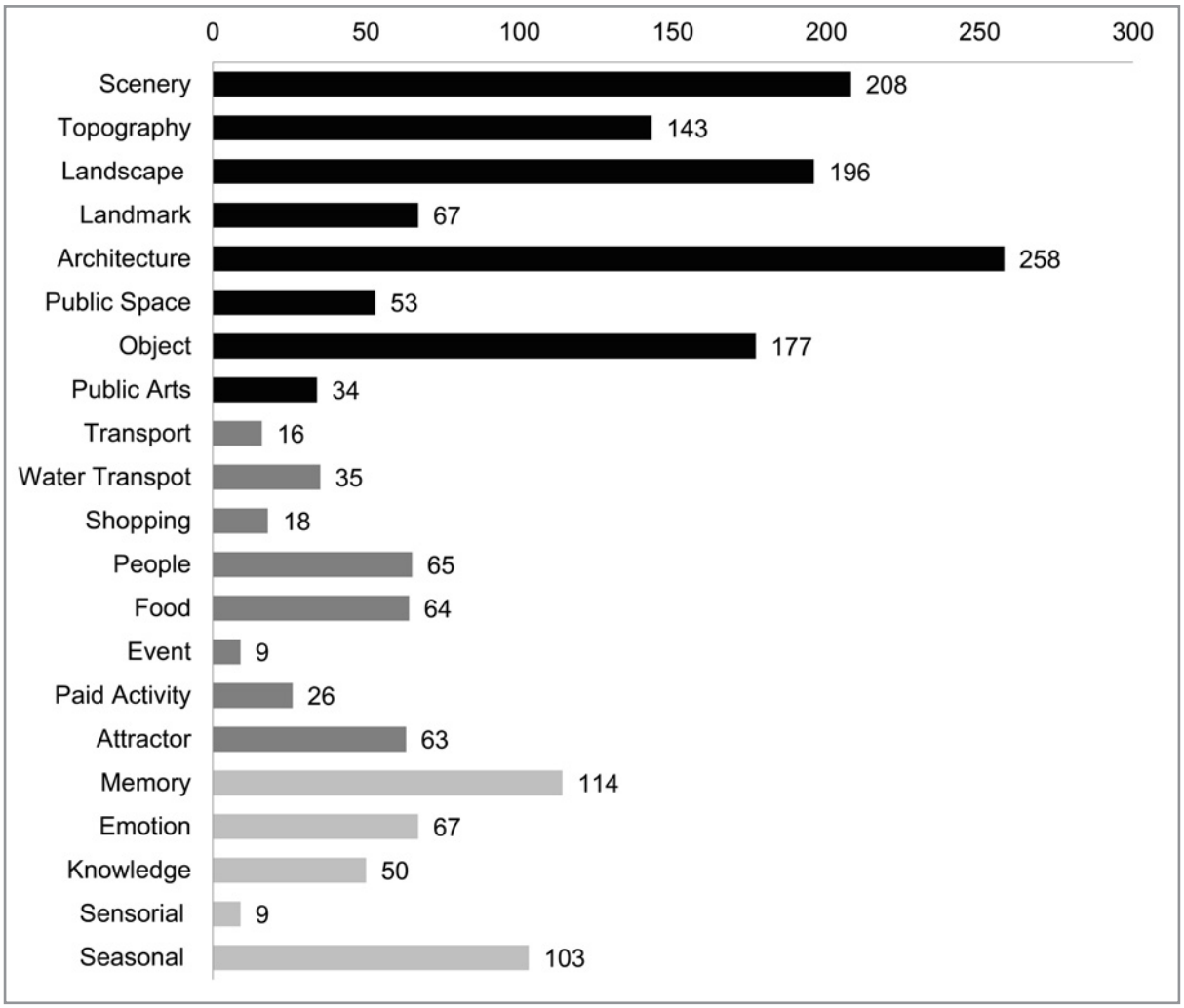

Figure 5 – Social Media Postings and Place Identity

5.1. Spatial Analysis

In order to explore the spatial pattern of tourists' activities, the research identified locations of the top 100 tourist destinations ranked in the three social media platforms used in this research. These were compared with the number of social media postings at the top 20 tourist destinations (Figure 6).

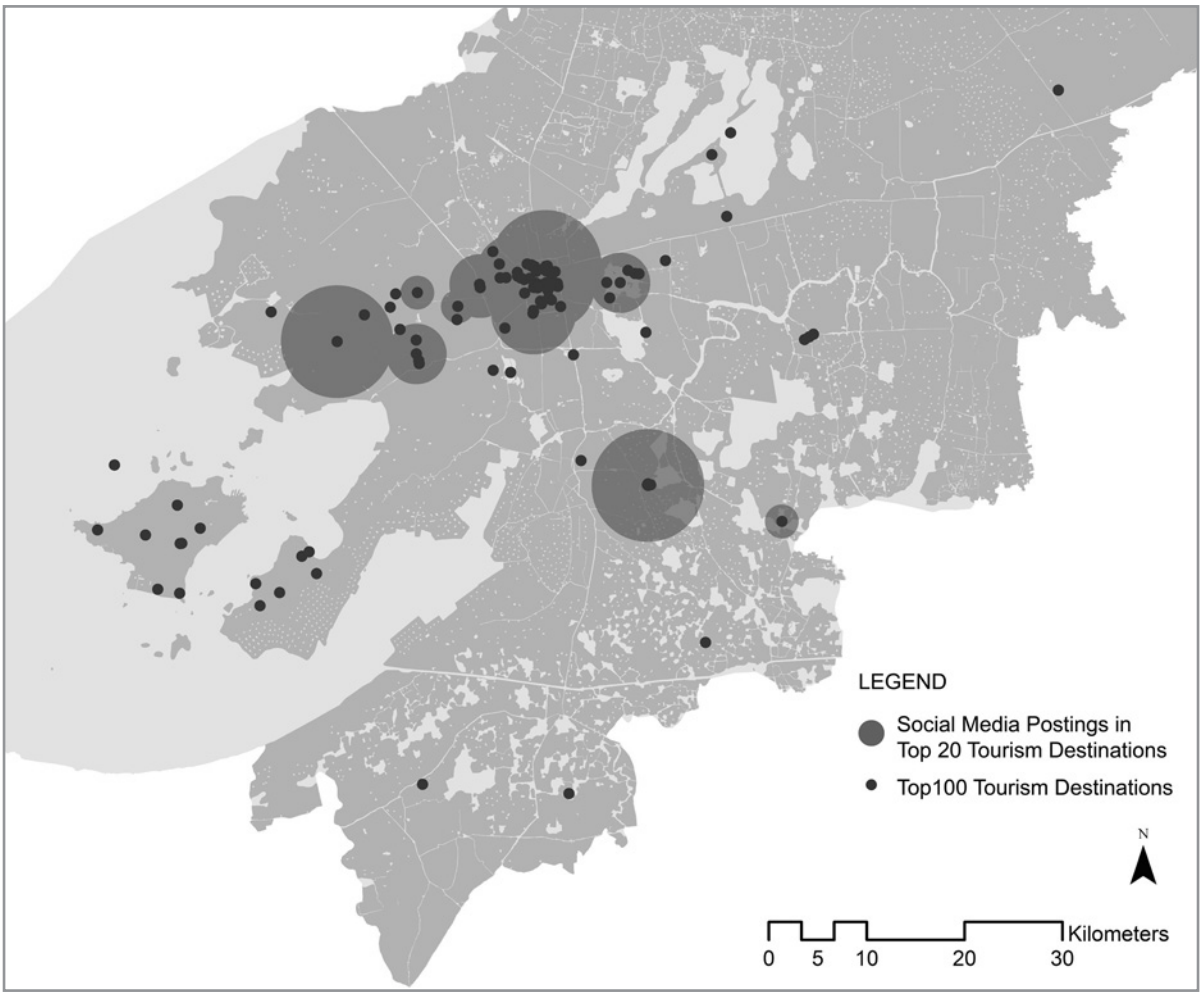

Figure 6 – Spatial Distribution of Suzhou's Tourism Destinations

The result shows that Suzhou has a strong potential for tourism with many tourist destinations across the city. However, it is also recognised that the most popular tourism attractions of Suzhou are located in the historic centre, with the others being clustered in different areas. The Suzhou Tourism Master Plan (2009-2020) has addressed this issue, and summarised the strategy as 'One Core, One Belt, Three Districts'. Many scholars hold the view that spatial agglomeration and the clustering of destinations could benefit regional tourism growth and related industries (Smith, 1994; Malmberg and Maskell, 2002; Capone and Boix, 2008; Lazzeretti and Capone, 2009). It is believed that the location-specific tourism resources would create synergies between neighbouring tourist attractions, thereby enhancing local accessibility, improving the interaction of tourist-related activities, and sharing costs for infrastructure (Cole, 2009; 2012; Yang and Fik, 2014). Considering the spatial distribution of tourist attractions, cross-marketing links between all the tourist venues seems to be desirable for Suzhou so that tourists can see the wide spectrum of activities available within the area.

In contrast to the spatial agglomeration of the tourist destinations, the analysis results suggest that there are significant differences in how the visitors perceive tourism identity in different tourist destinations (Figure 7). The following maps show the results of the spatial analysis comparing the numbers of tagged tourism identities posted on social media in three categories: physical setting; activity; and meaning. The findings from this study reveal that most tourist destinations show a stronger representation of a particular category, rather than an equal distribution among all categories. Bearing in mind that those are the 'top 20' tourist destinations in Suzhou, these results would seem to suggest that it is not necessary to be heavily recognised in all elements of tourism identity in order to be a well-known tourist destination of the city. This was particularly evident in the case of Zhouzhuang Ancient Town, the easternmost tourist destination of Suzhou. Although it is located remotely and receives little benefit from spatial clustering, the tourists have focused strongly on the activity element of tourism identities in particular, while the other two elements were little recognised.

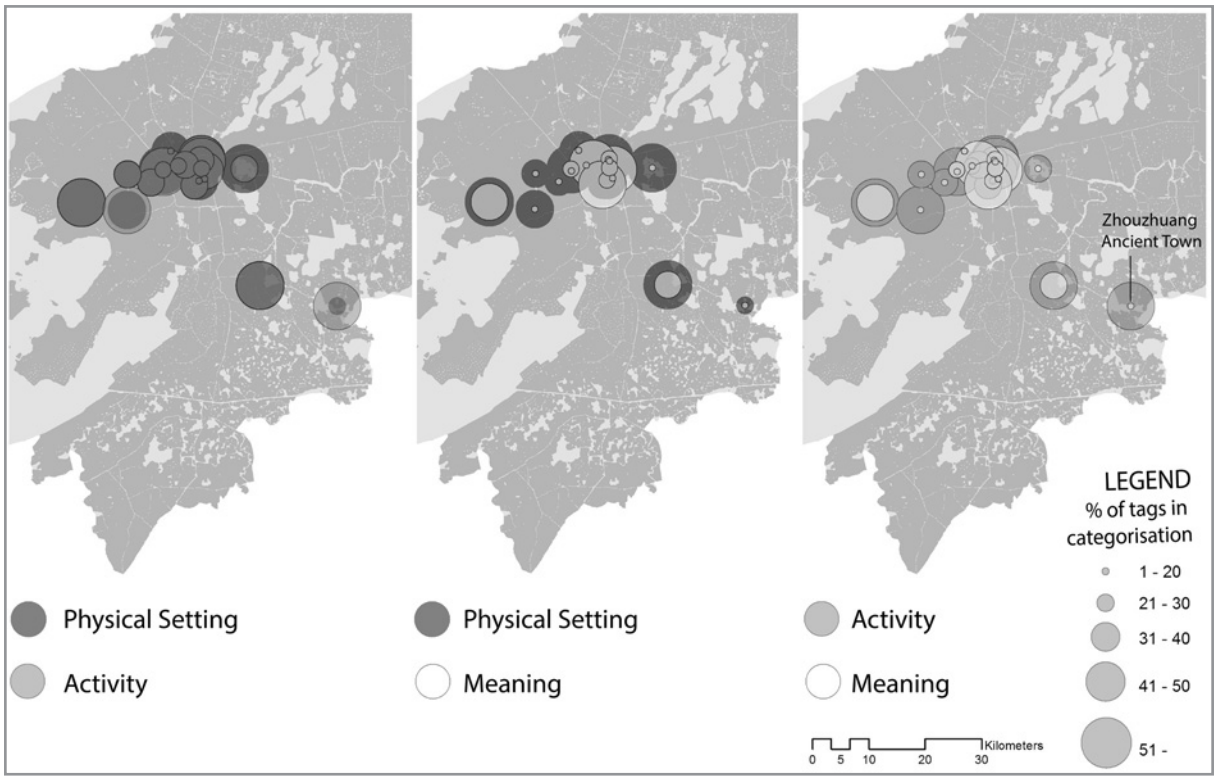

Figure 7 – A Comparison Between Three Elements of Tourism Identities

5.2. Temporal Analysis

Drawn from 1,775 sub-category tags of place attributes, the results of the temporal analysis are shown in Figure 8. Although a number of postings vary in each calendar month, there is no significant difference in terms of the proportion of the three categories: physical setting, activity, and meaning. There was an expectation that visitors may post more seasonally related contents about the change of seasons, for example on flower blossom in spring. However, while visitors post many seasonal contents in their social media accounts (Figure 5), there was no particular proportional change of seasonally-related content throughout the survey period.

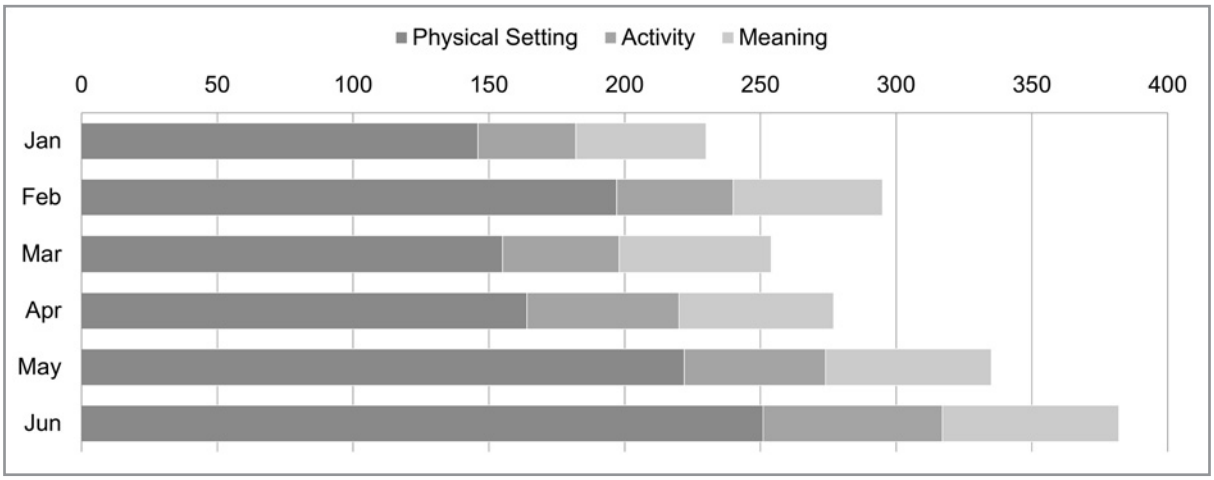

Figure 8 – Temporal Analysis Results (January to June 2016)

5.3. Popularity Analysis

Popularity analysis is considered in two aspects: an analysis of tagged tourism identity; and, tourists' opinions and satisfaction. All 1,775 category tags were analysed based on 20 tourist destinations (Table 2). An

interesting interpretation of the results is shown in the 'shopping' category. Humble Administrator's Garden, which is the best known classical garden in Suzhou, is recognised, on social media, as the most popular place for shopping activities. However, Guanqian Street, the city's town centre shopping district, scored lower in 'shopping' activity. This may be because people do not perceive the shopping experience in Guanqian Street to be unique or worthy of sharing upon social media. Another possible cause could be the decline of Guanqian Street in recent years, due to the competition that it has faced from newly developed large-scale shopping malls in Suzhou. Among 21 sub-categories, 'public space' and 'knowledge' are well recognised in Guanqian Street. It can be inferred that postings tagged with the knowledge category in Guanqian Street were mainly related to the demonstrations of jewellery craftsmanship that were arranged by shops to attract more customers (Figure 9). The data reported here appears to support the suggestion that Guanqian Street is in transition, transforming from the city's shopping centre for local citizens to a commercial area featuring cultural performances targeted at tourists. Another case illustrating a mismatch between the characteristics of tourist destinations and visitor experiences posted upon social media is Pingjiang Road. Pingjiang Road is one of the major tourism development areas; with rich architectural heritage it is recognised as a cultural area due to its having a high concentration of traditional artisan craft shops. Although it was expected to score more highly in relation to architecture and shopping considering its surrounding environments, data analysis suggests that 'food' and 'sensorial' categories were highly ranked. This data showed that many postings of food were related to the most popular food shop selling chicken feet in Pingjiang Road. It seems that eating chicken feet has been widely recognised among tourists as a must-do activity in Pingjiang Road, and it is visible from the social media data collected (Figure 9). Suzhou Museum is also worthy of attention, as the 'knowledge' category obtained a low score. This was surprising given that it is a museum. The 'architecture' category was also not strongly recognised, although this museum building was designed by a well-known Chinese architect (Figure 9).

Table 2: Popularity Analysis Results (unit: %, except Review Score)

Popularity Analysis		Physical Setting								Activity							Meaning					Review Score (Avg. 3.9)
		Scenery	Topography	Landscape	Landmark	Architecture	Public Space	Object	Public Arts	Transport	Water Transport	Shopping	People	Food	Event	Paid Activity	Attractor	Memory	Emotion	Knowledge	Sensorial	Seasonal	
Classical Garden	Humble Administrator's Garden	7	10	10	6	8	2	7	3	13	11	33	12	6	0	8	6	4	12	2	0	10	6.8
	Master of the Nets Garden	0	0	5	0	4	6	2	3	0	6	0	5	2	0	0	6	3	4	2	0	3	1.2
	Lingering Garden	1	0	12	6	6	2	11	12	0	6	0	5	6	0	0	5	4	3	6	0	3	4.5
	Lion Grove Garden	3	1	7	3	5	2	7	12	0	0	0	6	0	22	15	8	4	0	2	0	1	5.9
	Pavilion of Surging Waves	6	4	9	6	5	4	9	0	0	0	0	2	0	0	0	3	4	3	12	0	9	3.1
Old Towns	Feng Bridge	4	3	3	1	3	8	3	6	19	9	11	2	3	0	4	6	4	9	6	0	1	1.9
	Mudu Ancient Town	5	7	7	4	6	11	4	3	0	0	0	5	9	22	8	8	4	3	4	0	3	2.2
	Tongli Ancient Town	7	17	3	4	6	11	3	3	19	11	22	3	16	11	4	0	8	12	8	0	4	5.9
	Zhouzhuang Ancient Town	5	6	4	0	3	0	3	0	0	6	11	6	3	22	8	0	3	4	4	0	3	1.6
Streets	Guanqian Street	2	1	0	4	2	13	1	3	6	6	6	3	0	0	0	6	8	1	10	0	6	2.4
	Pingjiang Road	1	6	1	3	4	4	3	9	6	6	0	6	20	0	4	3	10	13	4	22	6	7.2
	Shantang Street	7	17	4	4	5	6	5	0	0	0	0	11	3	0	8	10	4	6	12	22	9	4.2
Historical Heritages	Hanshan Temple	3	5	5	12	8	6	7	18	13	0	0	8	0	0	4	3	3	7	4	0	8	3.3
	Panmen Gate	7	2	5	1	6	4	3	3	0	6	6	5	6	11	0	3	3	9	6	33	2	1.9
	Tiger Hill	4	8	6	7	7	0	6	3	0	0	0	3	2	0	0	3	3	3	2	0	7	5.3
Natural Landscapes	Qionglong Mountain	10	1	6	13	6	4	11	3	0	20	6	5	5	11	0	8	10	0	4	22	9	4.2
	Tianping Mountain	9	0	7	4	3	2	3	3	13	0	0	6	3	0	8	8	4	3	6	0	6	5.6
Artificial Landscapes	Suzhou Amusement Land	7	3	2	3	3	6	6	6	6	3	0	6	6	0	12	5	9	1	0	0	5	1.1
	Jinji Lake	12	8	0	12	3	9	2	9	0	9	6	2	8	0	0	6	6	3	4	0	4	5.0
	Suzhou Museum	0	0	7	3	5	2	5	3	6	3	0	2	2	0	19	2	5	1	2	0	4	4.1
		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	

Jewellery Craftsmanship
Guanqian Street

Chicken Feet Food Shop
Pingjiang Road

Museum Architecture
Suzhou Museum

Figure 9 – Images of Tourist Destinations in Suzhou

A 10-level Likert scale on positive and negative comments posted on social media was also calculated with regard to popularity analysis (Table 2, Review Score). The weights from +5 to -5 were added in the review score calculation and standardised by the numbers of comments posted in each tourism destination. The average review score was 3.9, and Pingjiang Road and Humble Administrator's Garden showed higher visitor satisfaction levels than the other attractions. Suzhou Amusement Land (theme park) was awarded the lowest score for visitor satisfaction.

5.4. Text Analysis

There have been various studies that have applied text-based analysis methods to tourism research. These include tourist opinion analysis based on online text messaging (Loh et al., 2003), tourism destination choice analysis in the use of online communication (Jalilvand and Samiei, 2012; Sotiriadis and van Zyl, 2013), travel behaviour analysis on user-generated contents (Wenger, 2008; Ye et al., 2011), online popularity analysis with web-based opinion platforms (Zhang et al., 2010), quality in translation on online tourism platforms (Pierini, 2007), and a number of other studies. This research employed a simple text analysis method of word frequency using word counting software. Considering the similarity of the meanings, 45 words were selected for further text analysis to evaluate text-format postings of the 20 tourism destinations. Certain words like 'wonderful', 'beautiful' and 'eating' were frequently used in collected social media postings (Figure 10). However, future analysis shows that there were also distinctive differences when the visitors described the characteristics of individual destinations (Table 3).

Figure 10 – Word Cloud Results from Text Analysis

Table 3: Text Analysis Results

Frequently Used Words		1st	2nd	3rd
Classical Gardens	Humble Administrator's Garden	wonderful	beautiful	knowledgeable
	Master of the Nets Garden	wonderful	Suzhou Pingtan	evening activity
	Lingering Garden	stroll	knowledgeable	rockery
	Lion Grove Garden	rockery	amusement	enjoyable
	Pavilion of Surging Waves	flower	beautiful	culture
Old Towns	Feng Bridge	poem	canal	bell tone
	Mudu Ancient Town	Yans Garden	beautiful	architecture
	Tongli Ancient Town	ticket	eating	walk
	Zhouzhuang Ancient Town	beautiful	eating	Wansan's pig feet
Streets	Guanqian Street	snack	stroll	unique feature
	Pingjiang Road	eating	stroll	chicken feet
	Shantang Street	eating	wonderful	unique feature
Historical Heritages	Hanshan Temple	poem	ticket	temple
	Panmen Gate	city gate	good	boating
	Tiger Hill	tower	Jian pool	history
Natural Landscapes	Qionglong Mountain	high	amusement	air
	Tianping Mountain	red maple	stone	high
Artificial Landscapes	Suzhou Amusement Land	exciting	queue	installation
	Jinji Lake	ferry wheel	existing pier	nightscape
	Suzhou Museum	Bei Yuming	design	modern

For example, Humble Administrator's Garden, the largest and most popular classical garden, was tagged with the words describing feelings, such as 'wonderful', 'beautiful' and 'knowledgeable'. On the other hand, other smaller gardens in Suzhou were described with words related to the particular activity and physical appearance, such as 'flower', 'rockery', 'evening activity' and 'Suzhou Pingtan' (a local musical performance). One possible explanation of this is that a particular feature in a relatively smaller space may help visitors to recognise the unique characteristics of the garden more easily. In the case of Lion Grove Garden (comprising a total of 11,000 square meters), the visitors used the word 'rockery' most frequently to describe the garden in their social media postings. It seems that they reflect the most famous feature of the garden, the large and labyrinthine grotto of Tai Lake rocks at its centre. In contrast, Humble Administrator's Garden (52,000 square meters) is five times larger than Lion Grove Garden, and composed of numerous inner gardens with different scenes and themes. These may make it difficult for tourists to capture a single feature to describe the overall characteristics of the garden (Figure 11). Unlike other gardens, the Master of the Nets Garden was mostly characterised by its regular art performance event, Suzhou Pingtan, instead of the garden's physical landscapes. These appearances can be used for the development of tourism strategies and marketing for the classical gardens.

Lion Grove Garden Humble Administrator's Garden

Figure 11 – Characteristics of Suzhou's Gardens

6. Conclusion

In this study, data from social media was used to examine the digital identity of tourist destinations in Suzhou. Through mapping place-based activities with visitors' personal interests and experiences, the results should be of assistance to planners of tourism and its governance.

Current data gathering methods such as questionnaires and interviews are resource intensive; furthermore, they are highly structured and therefore likely to lack spontaneity. Badly designed questionnaires and poor interviewing techniques may further skew results. Conversely, social media captures comments that reflect genuine, unprompted reactions. These may point to possibilities and attractions for tourists, previously ignored or not even recognised. The downside of this is the challenging task of analysing images which have wide-open subjects and are free of text. It is also possible that social media users may shun more obvious comments, such as 'beautiful building' or 'tranquil place', in favour of unusual experiences and uncommon events.

Despite these difficulties, the authors show that valuable insights can be gained from social media by detailed structuring / classification of types of experiences, combined with text analysis. Most importantly, the capture of spontaneous feedback from tourists is a uniquely powerful element. Whether alone, or in combination with conventional techniques, it offers a route to achieve more penetrating analysis. Regardless of methodology, sample size is important. Advances in machine linguistics and image recognition will gradually ease the manual analytical burden and lessen resource constraints. This is particularly true with regard to the text-free aspects of data gathering.

Acknowledgements

The research for this paper was financially supported by the 2016 Suzhou Social Science Planning Programme (Applied Strategies), and the Suzhou Association of Philosophy and Social Sciences. In developing the research outputs presented in this paper, the authors have received helpful inputs from Hong Ni, Chang Liu, Xuanyu Wu, Piotr Zychowicz, and Malcolm Henry. The authors also wish to thank the two anonymous referees and the audience at the AESOP Annual Congress 2017, Lisbon, Portugal, for their feedback on an earlier draft.

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