Comprehensiveness and Locality: Website Marketing of World City Governments in the Era of Globalisation

XUE Desheng[1], LIU Huaikuan[1], GUO Wenjiong[2], LIU Ye[1]

(1. *School of Geography and Planning, Sun Yat-sen University*, *Guangzhou* 510275, *China*; 2. *Collaboration and Innovation Center of Coordinating Urban and Rural in Shanxi Province*, *Taiyuan Normal University*, *Jinzhong* 030619, *China*)

Abstract: In the era of the Internet and globalisation, more and more international academics focus their attention on how city governments compete for talent, capital, and technology through website marketing to promote their economy and global status. However, 1) present research generally overlooks the importance of different types of elements in different marketing themes, 2) the combinations of marketing themes are still unknown, and 3) the presumption that the emphasised elements and specific combination of marketing themes on official websites differentiates cities requires more cases to be understood. In light of this background, this study collects homepage elements of 49 Alpha world cities' official websites and quantitatively analyses the frequency of different types of elements, the marketing content themes, and the dissimilarity of content of Chinese Alpha world cities. The results indicate that comprehensiveness and locality appear in the process of city marketing throughout official city websites. Overall, we make the following conclusions. 1) The importance of different kinds of elements significantly differs between 49 Alpha world cities. 2) Based on various combinations of elements, the marketing contents of Alpha world cities through official websites can be categorised into six themes of history and culture, government and information, construction and environment, government and living, construction and living, and general compound. 3) The marketing elements of five Chinese Alpha world cities, including Hong Kong, Beijing, Shanghai, Taipei and Guangzhou, are different than the other 44 Alpha world cities, and Chinese cities prefer to advertise their history and culture but rarely market citizens' activities. Moreover, Chinese cities' marketing mostly targets natives while the other 44 Alpha cities target external groups, and the locality of world cities' website marketing is reinforced especially on a native language edition website. This study ultimately finds that the Chinese edition websites of five Chinese cities place more focus on introducing local historical buildings, administrative services, and internal business information than the English edition websites do.

Keywords: website marketing; globalisation; marketing content; comprehensiveness; locality

1 Introduction

With the advent of globalisation, all cities will be caught up in the globalisation wave and must compete with others (Lefebvre, 2006). Consequently, if a city fails to develop attractive globalised elements, it will be sur- passed and eventually eliminated in this global competitive game (Liu et al., 2016; Ma et al., 2018). In this context, the concept of city marketing is put forward as a strategy for cities to 'package, upgrade and create all kinds of resources that may attract investment, elites and tourists, and sell themselves through commercial media'

(Ashworth and Voogd, 1990; Zhang and Wang, 2012). Moreover, Kotler indicates that city marketing consists of four parts: subject (planning group), object (target group), content (marketing elements), and medium (diffusion paths) (Kotler et al, 1993). In this regard, with the entrepreneurial transformation of governments and the virtualisation of marketing media, how city governments market themselves through city official websites has become an academic hot topic recently (Olds and Yeung, 2004; Zhou and Wang, 2014; Mathews and Patton, 2016; Wang and Zhen, 2017).

2   Theoretical Perspective

2.1   Key themes of website marketing contents

Present studies on city marketing through official websites mainly focus on the contents of marketing. For instance, based on the images from the official websites' homepages of 67 American cities with populations of over 250 000 people, Grodach classifies the marketing contents of North American cities into six themes: cosmopolitan city, collage city, non-city, outdoor urbanism, city work, and information (Grodach, 2009). Moreover, through a similar method of analysing the official websites of 12 British cities, Paganoni summarises the marketing content of British cities, in which they intend to build up a social inclusive atmosphere by presenting figures of daily activities and happy lives of immigrants, women, and the disabled, which is another theme that can be added to Grodach's classifications (Paganoni, 2012). In this sense, traditional theory classifies city marketing contents on official websites into seven key themes (Table 1).

2.2   The dissimilar elements of different marketing contents

However, the traditional theory of sorting marketing content overlooks the importance of different elements in different kinds of marketing contents (Kavaratzis and Kalandides, 2015). For instance, images of flagship buildings are used by both cosmopolitan and collage cities, while natural features are emphasised by non-cities and outdoor urbanism cities. City work cities emphasise two types of elements—local workers and natural settings—while social inclusion cities only present the elements of minorities. Accordingly, explicit analysis of the combination of elements in different marketing content is necessary.

Furthermore, the emphasised themes and specific combination of elements on official websites will be different for every city, likely based on the city's local advantages (Yeoh, 2005). For instance, Andersonville in Chicago is perceived as a Swedish community based on the many Swedish immigrants who lived there. Hence, Chicago's official websites emphasise Swedish cultural elements in this community, such as Swedish street names, festivals, and foods, to attract Swedish investors and technical immigrants (Johansson and Cornebise, 2010). Puerto Rico, a U.S. territory in the Caribbean, has a unique seascape. Therefore, Guaynabo, Puerto Rico, mainly presents seashore tour activities, such as surfing and sunbathing (Carrasquillo, 2011). Stratford is a post-industrial city in Canada, and its official websites highlight its industrial heritage (Lee et al., 2015). As one of the most typical Latino cities, Buenos Aires markets Latino culture on its official website, such as tango dancing (Dinardi, 2017).

Table 1   The city marketing contents on urban official websites

Theme	Content	Element
Cosmopolitan city	An overall image of the city as a diverse and lively destination point for business and tourist activities	Skylines, cityscapes, flagship buildings, cultural facilities, and multiculturalism
Collage city	Drawing on anything and everything that signifies urban and local to emphasise the uniqueness of the city as both a tourist destination and one worthy of local pride	Flagship buildings, recreation, ethnicity, and local cuisine
Non-city	Obscuring any reference to the urban environment and attempting to appear as if not a city	Suburban cityscapes, mountains and lakes, and flora and fauna
Outdoor urbanism	Fusing the natural with the urban while largely eschewing historical or cultural references	Combining downtown skylines and cityscapes with natural features such as mountains, oceans, rivers, and lakes
City work	Reflecting civic pride, governmental action, and a revitalised urban core	Local workers, city employees like fire fighters and police, officials, and natural settings to create an urban renaissance–like sun rising
Information	Providing information	Graphic pictures
Social inclusion	Harmonious society and integration of diverse ethnicity, regions, classes, and occupations	Daily activities and happy lives of immigrants, women, and the disabled

2.3 Domestic research on website marketing

Following the international theoretical research perspectives, Chinese scholars have also done solid empirical work analysing website marketing. Gao et al. (2007) assessed the marketing functions of 31 provinces' official tourism websites in China and concluded that most of the provincial tourism websites are at the preliminary stage of mere information provision. Zhang et al. (2013) quantitatively investigated the interaction process between contents and visitors of world heritage websites and concluded that visitors' involvement plays a significant role in website marketing. In this regard, on the one hand, most of the domestic studies focus more on tour destination marketing but seldom involve city marketing. On the other hand, although domestic studies generally highlight on analysing website marketing effects on tourists, few analyse the marketing contents and strategies.

Overall, present international and domestic studies on city marketing contents on urban official websites have three limitations. The first limitation is that importance of different types of elements in different marketing themes is generally overlooked. The second limitation is that the combination of marketing themes is ignored. The third limitation is that the presumption that the emphasised elements and specific combination of marketing themes on official websites differentiate cities requires more cases to prove. Therefore, to address these limitations, we quantitatively analysed the elements and marketing content of the official websites of 49 Alpha world cities to understand the importance of elements and combinations of marketing themes. We also compared five Chinese Alpha world cities' emphasised elements and combination features with the other 44 Alpha

cities to determine the correlation between marketing contents and local advantages. Last but not least, and guided by domestic research perspectives, we also paid attention to how marketing contents differentiate due to different marketing targets (i.e., website visitors). We analysed this through a comparative analysis of the dissimilar marketing contents in the English and Chinese editions of the five Chinese Alpha world cities' official websites. We chose English edition websites because they generally target worldwide visitors while Chinese edition websites focus more on local visitors.

3 Materials and Methods

3.1 Case study

Since 2000, an urban globalisation authority named GaWC, whose full name is Globalization and World Cities, has published a scientific report named 'The World According to GaWC' every four years. In this report, GaWC measures the global index of abundant cities and classifies the measured cities into five primary ranks: Alpha, Beta, Gamma, High Sufficiency, and Sufficiency. Alpha cities are further classified into four secondary ranks: Alpha++, Alpha+, Alpha, and Alpha–. In the latest report published in 2016, there are 49 cities identified as Alpha cities, with the following geographical breakdown: Europe–17, Asia–17, North America–8, South America–4, Oceania–2, and Africa–1 (http://www.lboro.ac.uk/gawc/world2016t.html). Because it is important to analyse the most global cities to study city marketing strategies for urban globalisation promotion, we chose Alpha cities, which represent the highest level of globalisation, as our study cases (Table 2).

Table 2 The list of Alpha world cities in 2016

Continent	Amount	Rank			
		Alpha++	Alpha+	Alpha	Alpha–
Europe	17	London	Paris	Milan, Moscow, Frankfurt, Madrid, Warsaw, Istanbul, Amsterdam, Brussels	Dublin, Zurich, Vienna, Stockholm, Luxembourg, Barcelona, Lisbon
Asia	17	–	Singapore, Hong Kong, Beijing, Tokyo, Dubai, Shanghai	Mumbai, Seoul, Kuala Lumpur, Jakarta	New Delhi, Bangkok, Taipei, Guangzhou, Manila, Riyadh, Tel Aviv
North America	8	New York	–	Chicago, Mexico City, Toronto, Los Angeles	Washington, San Francisco, Miami
South America	4	–	–	Sao Paulo	Buenos Aires, Bogota, Santiago
Oceania	2	–	–	Sydney	Melbourne
Africa	1	–	–	Johannesburg	—

3.2   Data collection and indicators

English is the most widely used language in the world. Thus, to investigate the precise website marketing strategies of websites used for foreign nationals and that target the attraction of global investment, talent, and technology, we concentrated our research focus on official English websites. To find the official English websites of Alpha cities, we first searched for Internet links to official websites through Wikipedia (www.en. wikipedia.org). For those without links through Wikipedia, we searched for official websites through Google and Baidu, and only used websites with addresses containing a '.gov' suffix, as that is the typical suffix for government websites. In this way, we collected Internet links to all 49 Alpha cities' English official websites.

Second, guided by present international studies on website marketing contents, we found 43 diverse elements mentioned in five key studies (Urban, 2002; Grodach, 2009; Terlouw and Denkers, 2011; Zhu et al., 2011; Paganoni, 2012). After a comprehensive consideration of the homogeneity of the website marketing elements in these five key studies, especially being inspired by the six selected elements in Grodach's research on figures of official website homepages in American cities, we classified the listed 43 elements into six types: Built Environment and Architecture, History and Cultural Activities, Natural Environments and the Outdoors, Governmental and Urban Images, Civil Living and Society, and Information Services. These six types contain various aspects of city marketing: e.g. landscape, economy, society, nature, culture, and administration (Grodach, 2009). Thus, we constructed a system of element types, consisting of six primary types and 43 secondary ones (Table 3).

Table 3   The interpretation indicators of homepage elements at urban official websites

Element	Reference					Note
	Urban, 2002	Grodach, 2009	Terlouw and Denkers, 2011	Zhu et al., 2011	Paganoni, 2012	
Ⅰ. Built Environment and Architecture (abbr. Built Environment)						
1 Downtown skylines (sky.)		√		√		Urban skyline
2 Cityscapes (cit.)		√		√		Streetscape, waterfront space
3 Infrastructure and industry (inf.)		√	√			Airport and station
4 Non–historic flagship buildings (n–his.)		√	√	√		Flagship building after World War Ⅱ
5 Regional historic buildings (reg.)		√	√	√		Construction with obvious features
6 Nonspecific historic buildings (n–spe.)		√	√			General construction without features
7 Convention facilities (con.)		√		√		Convention and ancillary facilities
Ⅱ. History and Cultural Activities (abbr. History and Culture)						
1 Public art (pub.art.)		√	√	√		Sculpture, statue, and monument
2 Historic decorations (his.dec)		√	√	√		Kerosene lamp and carriage
3 Historic flagship buildings (his.)		√	√	√		Flagship building before World War Ⅱ
4 Arts and culture (art.)		√	√	√		Indoor and outdoor art
5 Signature events (sig.)		√		√		Olympics and Formula One
6 Heritage events and symbols (event.)		√	√			Lunar Probe Project and revolt
7 Ethnic events and symbols (eth.)		√		√	√	Hispanic festival
8 History	√		√			Historical transition diagram
Ⅲ. Natural Environment and the Outdoors (abbr. Nature and Outdoors)						
1 Parks and landscaping (park.)		√	√			Park, botany, and fountain
2 Urban natural environments (u–env.)		√	√			Physical feature in urban area
3 Nonurban natural environments (n–env.)		√	√			Physical feature in rural area
4 Urban outdoor activities (u–out.)		√	√			Golf, jogging, and boating
5 Nonurban outdoor activities (n–out.)		√	√			Excursion, expedition, and cliff walks

<div align="right">continued</div>

Element		Reference					Note
		Urban, 2002	Grodach, 2009	Terlouw and Denkers, 2011	Zhu et al., 2011	Paganoni, 2012	
Ⅳ. Governmental and Urban Images (abbr. Government)							
1	Historic civic buildings (his.civ.)		√	√	√		Political building before World War Ⅱ
2	Modern civic buildings (mor.civ.)		√		√		Political building after World War Ⅱ
3	Local elected officials (off.)		√				Mayor, councilor
4	Administrative services (adm.)	√					Administrative structure chart
5	City symbols (sym.)		√		√	√	Emblem, slogan, and municipality
6	Symbols of local pride (pride.)		√				Beijing opera and carp streamer
7	Links to other cities (link.)	√		√		√	Intercity link and sister city
Ⅴ. Civil Living and Society (abbr. Civil Living)							
1	Municipal employees (mun.)		√				Police and fire fighters
2	Other employees (oth.)		√				General population
3	Shopping and entertainment (shop.)		√	√			Commercial complex and nightlife
4	Gastronomy (gast.)		√	√			Regional feature and traditional food
5	Theme parks (the.)		√				Theme park and aquarium
6	Spectator sports and facilities (sport.)		√		√		American football and marathon
7	Neighbourhood information (nei.)	√				√	Education and social house
Ⅵ. Information Services (abbr. Information)							
1	Language (lan.)	√					Homepage in English
2	Internal business information (int.busi.)	√		√			Scale, price, and flow chart
3	External business information (ext.busi.)	√		√			Tax and business environment
4	Transportation information (tran.)	√		√			Traffic and communication map
5	Tourist services (hotels, etc.) (tour.)	√		√			Hotel and tour site introduction
6	News and events (news.)	√					Newsletter
7	Online bureaucracy (on–burea.)	√				√	Work process, progress, and document
8	Online advertisements (on–adv.)	√					Commercial advertisement
9	Jobs and employment (job.)					√	Job information and technical training

Thirdly, we labelled the content of each image, picture, photo, and graph on an official website's homepage and identified the labelled graphic elements using the 43 secondary types. For an image containing two or more elements, we categorised it as several elements and identified each element as a separate secondary type. In this sense, we developed a matrix of 49 rows and 43 columns with unit a_{ij}. If the homepage of Alpha city i included secondary type elements j, then we define $a_{ij}=1$; otherwise, $a_{ij}=0$. Utilizing this definition, we constructed our basic database.

3.3   Methods
First, we calculated the total frequency of each element (primary element) and identified the details of the most frequent three secondary elements under each primary element category. However, under the primary element of Information Services, we identified the four most frequent secondary elements except 'language'. We did so because, on the one hand, 'language' indicates little about the marketing content, while on the other hand, the frequency of 'transportation information' and 'online bureaucracy' are the same. Under Built Environment and Architecture, we identified the four most frequent secondary elements because the frequency of 'non-historic flagship buildings' and 'regional historic buildings' are the same. Second, we used the simple matching method and centroid clustering method to calculate the

distance between samples and groups, respectively. Then, on the basis of Analysis of Variance (ANOVA) test values, we categorised the diverse contents of elements on 49 cities' official websites' homepage into six themes and identified the details of each theme, as well as the location features of cities emphasising each theme. Third, we identified the element contents of five Chinese Alpha cities, including Hong Kong, Beijing, Shanghai, Taipei and Guangzhou, and compared them to the other 44 Alpha citieis to further analyse how marketing contents differ across regions. Finally, we comparatively analyse the dissimilar marketing contents of the English and Chinese editions of five Chinese Alpha world cities' official websites. In the following section, we will discuss our findings in terms of each primary element and its most frequent secondary elements.

4 Results and Discussion

4.1 Different types of elements on 49 Alpha world cities' official websites

For the primary element of Built Environment and Architecture, cityscapes, infrastructure, non-historic flagship buildings, and regional historic buildings appear the most frequently. Therein, cityscapes include photos of new office districts and waterfront areas, and infrastructure images include bridges, vehicles, and transportation hubs. Non-historic flagship buildings are shown through photos of office buildings, television towers, and stock exchanges, while regional historic buildings include private houses with strong local features, churches of various architectural styles, and former colonial commercial streets (Fig. 1a).

Under the primary element of History and Cultural Activities, arts and culture, significant events, and historic flagship buildings are the most frequent secondary elements. Elements of arts and culture include singing and dancing, musical dramas, exhibitions of paintings, and light shows. Significant events present photos of anniversary carnivals, international conferences, film festivals, and costumed parades. Historic flagship buildings include religious facilities, such as churches and mosques, and historic museums (Fig.1b).

The primary element of Natural Environment and the Outdoors includes images of urban natural environments, urban outdoor activities, and parks and landscapes. Therein, urban natural environments include photos of rivers, flowers, and fauna, while urban out-

door activities include photos of jogging, cycling, and sunbathing. Parks and landscapes show photos of botanical gardens and suburb parks (Fig. 1c).

City symbols, administrative services, and local elected officials are the most frequently appearing secondary elements under the primary element of Governmental and Urban Images. City symbols include photos of city emblems and slogans, and administrative services involve information on the administrative structure of governments, urban planning, and financial budgets. Elements of local elected officials include photos of speeches and conferences (Fig. 1d).

Under Civil Living and Society, the subcategories including neighbourhood information, spectator sports and facilities, and other employees appear most frequently. Among them, neighbourhood information include photos with information on education, health care, environment protection, and public security. Spectator sports and facilities include photos of the Olympic Games, football matches, boxing, racing, and swimming competitions. Elements of other employees include photos of family activities, social communication, and children playing to reflect harmonious civil living (Fig. 1e).

Under Information Services, the most frequent secondary elements are internal business information, tour services, transportation information, and online bureaucracy. Internal business information includes start-up businesses, tax regimes, research and design, and quality supervision. Tour services include photos of tour routes, restaurants, hotels, and shopping malls, while transportation information includes information on ticket prices, interchanges, and locations. Online bureaucracy includes diverse photos, such as document transaction, voting and discussions on public affairs, lost and found, and charitable crowd funding (Fig. 1f).

4.2 Emphasised themes of city marketing content in different cities

Based on the cluster analysis results, we classified the six primary elements and 43 secondary elements into six emphasised themes of city marketing. To elaborate each theme's marketing contents, we specifically analysed the means and ANOVA values of each element. On the one hand, as the analysed unit a_{ij} is quantified as a binary variable, once the mean of element j in theme k is larger than the mean of total 49 cities, we presume that contents of element j are focused by theme k. On the
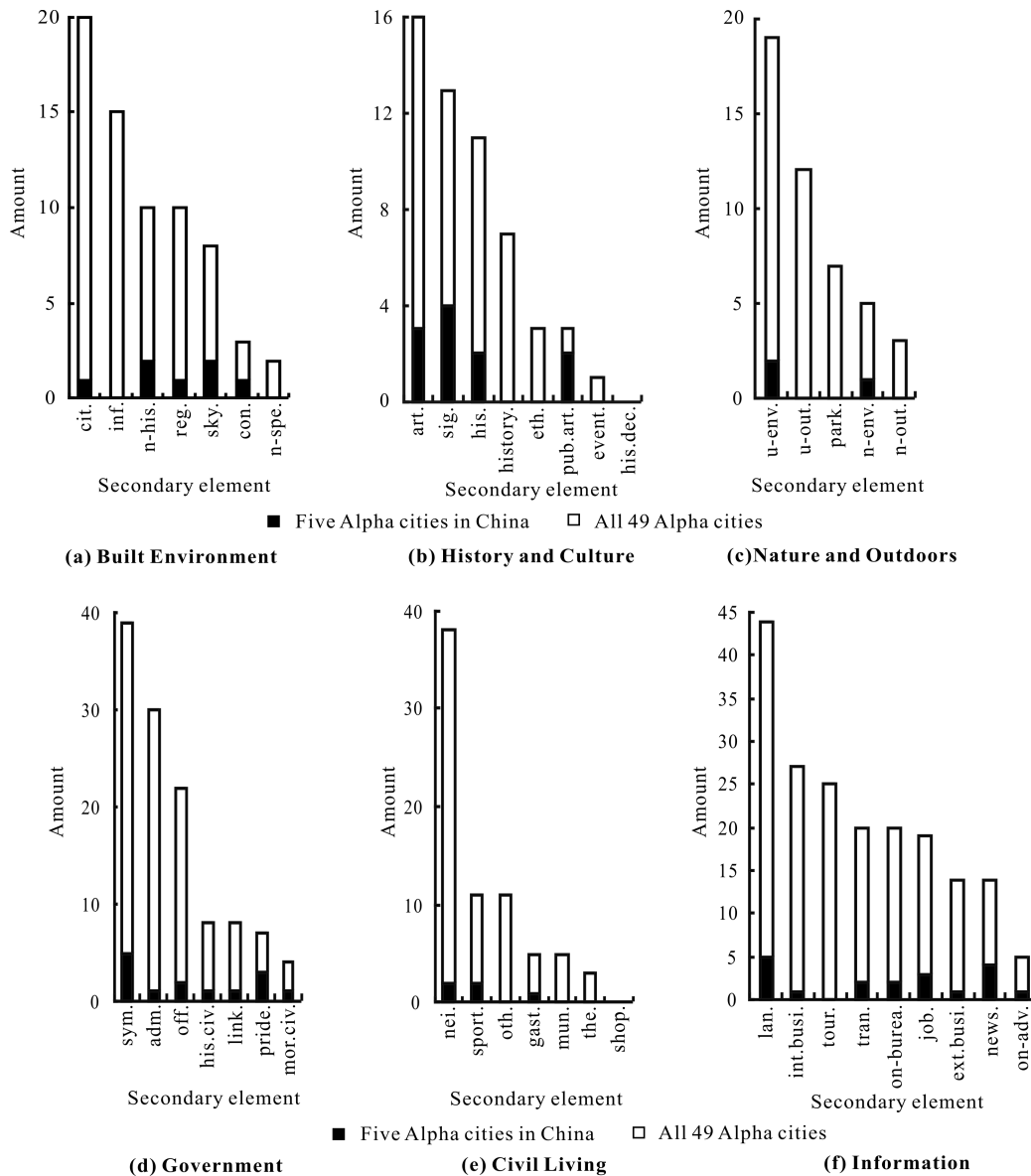
Fig. 1 The frequency of different types of elements on urban official websites. (1) cit. Cityscape; (2) inf. Infrastructure and industry; (3) n-his. Non-historic flagship buildings; (4) reg. Regional historic buildings; (5) sky. Downtown skylines; (6) con. Convention facilities; (7) n-spe. Nonspecific historic buildings; (8) art. Arts and culture; (9) sig. Signature events; (10) his. Historic flagship buildings; (11) history. History; (12) eth. Ethnic events and symbols; (13) pub.art. Public art; (14) event. Heritage events and symbols; (15) his.dec. Historic decorations; (16) u-env. Urban natural environment; (17) u-out. Urban outdoor activities; (18) park. Parks and landscaping; (19) n-env. Nonurban natural environments; (20) n-out. Nonurban outdoor activities; (21) sym. City symbols; (22) adm. Administrative services; (23) off. Local elected officials; (24) his.civ. Historic civic buildings; (25) link. Links to other cities; (26) pride. Symbols of local pride; (27) mor.civ. Modern civic buildings; (28) nei. Neighborhood information; (29) sport. Spectator sports and facilities; (30) oth. Other employees; (31) gast. Gastronomy; (32) mun. Municipal employees; (33) the. Theme parks; (34) shop. Shopping and entertainment; (35) lan. Language; (36) int.busi. Internal business information; (37) tour. Tour service; (38) tran. Transportation information; (39) on-burea. Online bureaucracy; (40) job. Jobs and employment; (41) ext.busi. External business information; (42) news. News and events; (43) on-adv. Online advertisements; (44) Built Environment represents Built Environment and Architecture; (45) History and Culture represents History and Cultural Activities; (46) Nature and Outdoors represents Natural Environment and the Outdoors; (47) Government represents Governmental and Urban Images; (48) Civil Living represents Civil Living and Society; (49) Information represents Information Services

other hand, as the ANOVA value denotes whether variance between groups is significantly larger than variance within groups—once the ANOVA value of element j is significant at the 5% or 10% level—it means that element j can be perceived as a substantial interpreting indicator. In this sense, we describe the six classified themes as follows: 1) History and Culture, 2) Government and Information, 3) Construction and Environment, 4) Government and Living, 5) Construction and Living, and 6) General Compound (Table 4).

Table 4   The details of six emphasised themes of city marketing

Element			Mean					
			Mono-Type	Bi-Complex				
Primary	Secondary	Total	History and Culture	Government and Information	Construction and Environment	Government and Living	Construction and Living	General Compound
I Built Environment and Architecture	Reg.**	0.20	0.10	0.00	0.29	0.00	0.38	0.50
	Sky.*	0.16	0.30	0.00	0.43	0.00	0.25	0.00
	Inf.*	0.31	0.30	0.13	0.57	0.63	0.13	0.13
	Cit.	0.41	0.40	0.25	0.57	0.38	0.50	0.38
	N-Spe.*	0.04	0.00	0.00	0.00	0.00	0.25	0.00
	N-His.	0.20	0.40	0.13	0.14	0.13	0.38	0.00
	Con.	0.06	0.00	0.00	0.14	0.25	0.00	0.00
II History and Cultural Activities	Pub.art.**	0.06	0.30	0.00	0.00	0.00	0.00	0.00
	Art.**	0.33	0.40	0.00	0.14	0.88	0.50	0.00
	Sig.**	0.27	0.40	0.00	0.71	0.00	0.38	0.13
	History**	0.14	0.00	0.00	0.00	0.00	0.75	0.13
	His.	0.22	0.50	0.13	0.29	0.13	0.25	0.00
	His.dec.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Event.	0.02	0.00	0.00	0.00	0.00	0.00	0.13
	Eth.	0.06	0.00	0.00	0.14	0.13	0.00	0.13
III Natural Environment and the Outdoors	Park.**	0.14	0.00	0.00	0.57	0.00	0.13	0.25
	U-Env.**	0.39	0.20	0.25	0.71	0.75	0.25	0.25
	U-Out.**	0.24	0.00	0.13	0.29	0.38	0.13	0.63
	N-Env.	0.10	0.00	0.00	0.29	0.25	0.13	0.00
	N-Out.	0.06	0.00	0.00	0.14	0.00	0.00	0.25
IV Governmental and Urban Images	Off.**	0.45	0.20	0.50	1.00	0.50	0.38	0.25
	Adm.**	0.61	0.00	0.63	0.86	0.63	1.00	0.75
	Link.**	0.16	0.00	0.00	0.00	0.38	0.63	0.00
	His.civ.	0.16	0.30	0.25	0.00	0.25	0.13	0.00
	Sym.	0.80	0.90	0.75	0.86	0.50	0.75	1.00
	Pride.	0.14	0.30	0.25	0.14	0.00	0.13	0.00
	Mor.civ.	0.08	0.00	0.00	0.00	0.25	0.13	0.13
V Civil Living and Society	Oth.**	0.22	0.00	0.00	0.14	0.75	0.38	0.13
	Nei.**	0.78	0.40	1.00	0.71	0.88	0.88	0.88
	Mun.**	0.10	0.00	0.00	0.00	0.25	0.00	0.38
	Gast.	0.10	0.20	0.13	0.00	0.13	0.13	0.00
	The.	0.06	0.00	0.13	0.00	0.00	0.25	0.00
	Shop.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sport.	0.22	0.10	0.00	0.43	0.38	0.25	0.25

| Element | | Mean | | | | | | |
| Primary | Secondary | Total | Mono-Type | Bi-Complex | | | | General Compound |
			History and Culture	Government and Information	Construction and Environment	Government and Living	Construction and Living	
VI Information Services	Int.busi.**	0.55	0.20	0.88	1.00	0.00	0.88	0.50
	Tran.**	0.41	0.20	0.50	1.00	0.00	0.38	0.50
	Tour.**	0.51	0.20	0.63	0.43	0.13	1.00	0.75
	On-Burea**	0.41	0.40	0.88	0.57	0.13	0.38	0.13
	Job.**	0.39	0.10	0.88	0.29	0.25	0.75	0.13
	Ext.busi.*	0.29	0.10	0.38	0.57	0.00	0.50	0.25
	On-Adv.	0.10	0.00	0.25	0.29	0.00	0.13	0.00
	Lan.	0.90	1.00	1.00	1.00	0.75	0.88	0.75
	News.	0.29	0.40	0.13	0.43	0.38	0.38	0.00

Notes: ** and * represent that the ANOVA test value is significant at 5% and 10%, respectively. (1) Reg. Regional historic buildings; (2) Sky. Downtown skylines; (3) Inf. Infrastructure and industry; (4) Cit. Cityscape; (5) N-Spe. Nonspecific historic buildings; (6) N-His. Non-historic flagship buildings; (7) Con. Convention facilities; (8) Pub.art. Public art; (9) Art. Arts and culture; (10) Sig. Signature events; (11) History. History; (12) His. Historic flagship buildings; (13) His.dec. Historic decorations; (14) Event. Heritage events and symbols; (15) Eth. Ethnic events and symbols; (16) Park. Parks and landscaping; (17) U-Env. Urban natural environment; (18) U-Out. Urban outdoor activities; (19) N-Env. Nonurban natural environments; (20) N-Out. Nonurban outdoor activities; (21) Off. Local elected officials; (22) Adm. Administrative services; (23) Link. Links to other cities; (24) His.civ. Historic civic buildings; (25) Sym. City symbols; (26) Pride. Symbols of local pride; (27) Mor.civ. Modern civic buildings; (28) Oth. Other employees; (29) Nei. Neighborhood information; (30) Mun. Municipal employees; (31) Gast. Gastronomy; (32) The. Theme parks; (33) Shop. Shopping and entertainment; (34) Sport. Spectator sports and facilities; (35) Int.busi. Internal business information; (36) Tran. Transportation information; (37) Tour. Tour service; (38) On-Burea. Online bureaucracy; (39) Job. Jobs and employment; (40) Ext.busi. External business information; (41) On-Adv. Online advertisements; (42) Lan. Language; (43) News. News and events

The History and Culture theme highlights marketing elements of the primary element of History and Cultural Activities. For this theme, means of elements in public art, arts and culture, significant events, and history are generally higher than the overall average, indicating that the History and Culture theme concentrates on advertising diverse local culture and cultural activities. More specifically, the marketing contents of the History and Culture theme could be described as material hard culture and immaterial soft culture: the former presents elements of cultural facilities like theatres, museums, and religious elements such as cathedrals and mosques, whereas the latter presents operas, music, art shows, and ceremonies. Among the 49 Alpha cities, Singapore, Beijing, Shanghai, Chicago, Frankfurt, Istanbul, Dublin, Melbourne, Bangkok, and Guangzhou concentrate their marketing on the History and Culture theme (Fig. 2). Moreover, all three Chinese mainland Alpha cities highlight the History and Culture theme, which suggests a potential locality of marketing content orientation.

The Government and Information theme emphasises both of the primary elements of Governmental and Urban Images and Information Services simultaneously. Elements in Governmental and Urban Images present administrative buildings like city halls, judicial institutions, and public officials, while elements in Services display local business information (i.e. the process of starting up businesses, taxes, and inflation rates), foreign business information (i.e. preferential policy, imports, and exports), transportation information (i.e. recommended routes and interchange), tourist information (i.e. carnivals and tourist attractions), and online bureaucracy (i.e. document transactions, public interviews, and lost and found). Additionally, elements in Information Services also introduce online commerce and employment information. In other words, the Government and Information theme emphasises advertising images of an efficient administrative government, a friendly business environment, and modernised transport infrastructure. New York, Milan, Mumbai, Toronto, Jakarta, Amsterdam, Washington, and San Francisco mainly highlight this marketing content theme.

The Construction and Environment theme adopts the same strategy and markets elements of the Built Environment and Architecture as well as Natural Environment and the Outdoors. In this theme, Built Environment and Architecture elements include the skyline and cityscape, bridge and rail transportation infrastructure,
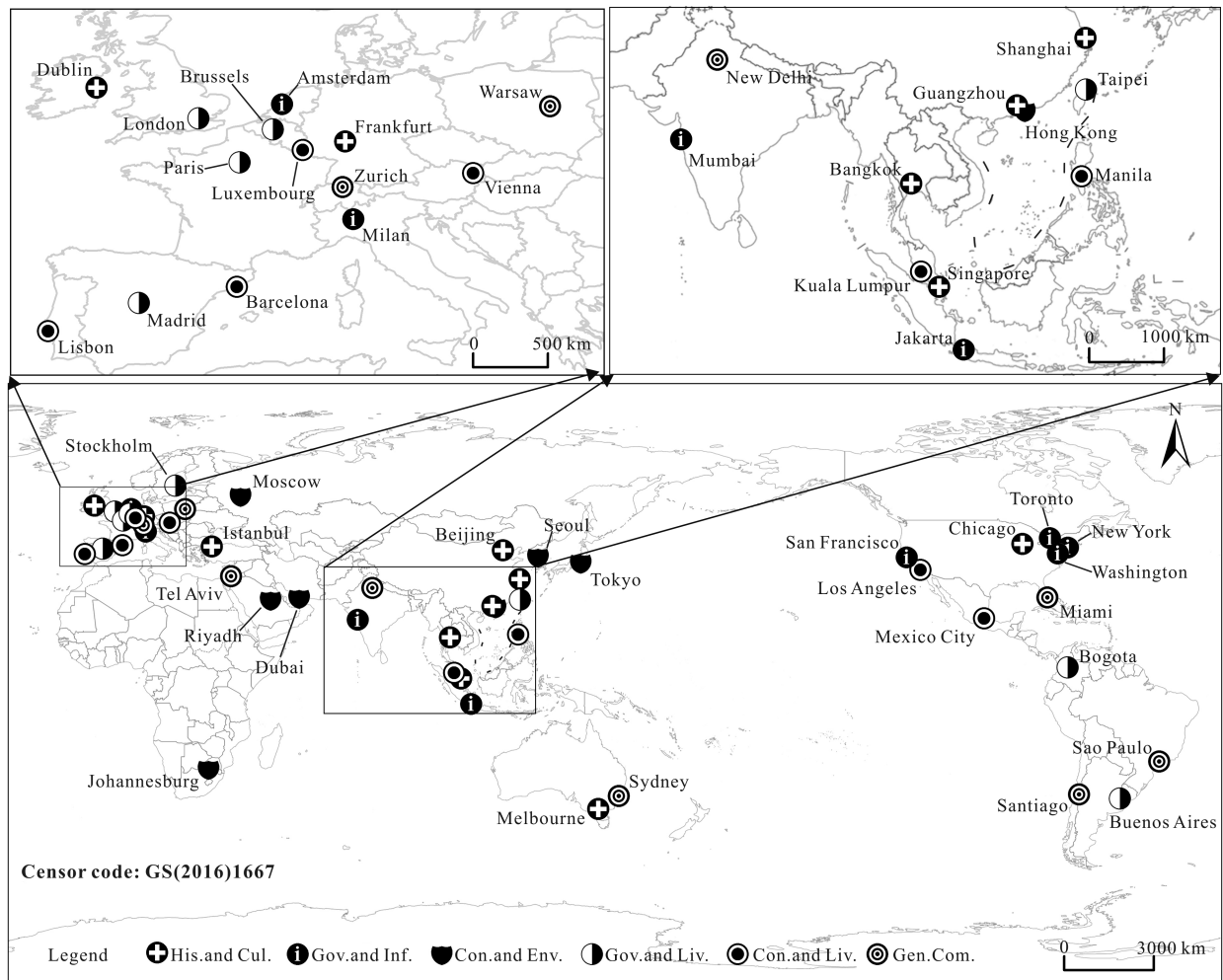
Fig. 2 The spatial distribution of Alpha level world cities emphasising six city marketing themes. (1) His. and Cul. History and Culture; (2) Gov. and Inf. Government and Information; (3) Con. and Env. Construction and Environment; (4) Gov. and Liv. Government and Living; (5) Con. and Liv. Construction and Living; (6) Gen. Com. General Compound. (Source: http://bzdt. nasg.gov.cn/)

convention centres, landscapes of central business districts, and buildings with an obvious local architectural style. Meanwhile, elements of Natural Environment and the Outdoors include parks, fountains, flora, mountains, and birds, as well as outdoor activities like cycling and diving. In sum, the Construction and Environment theme advertises a comfortable natural environment and various outdoor activities to attract investors, elites, and tourists. Seven Alpha cities—Hong Kong, Tokyo, Dubai, Moscow, Johannesburg, Seoul, and Riyadh—adopt this marketing content theme, and most of these cities are defined as speculative urbanism cities where government plays a dominant role in the amelioration of built environment and natural ecology (Hill and Kim, 2000; Goldman, 2011; Haines, 2011; Argenbright, 2013;

Chubarov and Brooker, 2013; Deza and López, 2014; Wu, 2016).

The Government and Living theme emphasises the primary elements of Governmental and Urban Images as well as Civil Living and Society. In this theme, elements of Governmental and Urban Images include city halls, administrative buildings, and public officials, as well as administrative information. Government elements also introduce information about sister cities and intercity communication activities to promote an image of friendliness and openness. Civil Living and Society advertises food, sport, education, health care, and social activities. Moreover, these elements also introduce information about natural hazards, civil forums, and environmental protection. In this regard, the Government and Living

theme aims to promote an image of openness and friendliness from a governmental perspective and an image of comfort and harmony from civil living perspectives (Wong and Liu, 2017). Cities adopting this theme include London, Paris, Madrid, Brussels, Taipei, Buenos Aires, Stockholm, and Bogota. As these cities are found on many continents, there is no obvious geographical factor associated with this marketing theme.

The Construction and Living theme, which markets the Built Environment and Architecture, History and Cultural Activities, and Civil Living and Society simultaneously, is a more complex marketing strategy. Under the Built Environment and Architecture, skylines, aerial views of cities, and buildings with obvious local architectural features are presented most frequently, while History and Cultural Activities elements include historical museums, churches, ethnic dancing, music, and traditional significant events like flower festivals and heritage protections. Civil Living and Society elements include food, family activities, neighbourhoods, public security, and environmental protection. Although the Construction and Living theme includes more primary elements, the directionality of its marketing contents is more vague and ambiguous. Alpha cities using this marketing theme are Mexico City, Kuala Lumpur, Los Angeles, Vienna, Manila, Luxembourg, Barcelona, and Lisbon.

Finally, there is a marketing theme with no obvious content emphasis, which is the General Compound theme. For this theme, images of buildings, nature, and outdoor activities are used. Moreover, information on administration, social services, transportation, and tourism is also introduced. Sydney, Sao Paulo, Warsaw, New Delhi, Zurich, Miami, Santiago, and Tel Aviv utilise this theme.

4.3 Dissimilar city marketing content of Chinese Alpha world cities

We further analysed the marketing content themes of five Chinese Alpha cities better to understand the presumption that different cities may emphasise different marketing contents. In 2016, Hong Kong, Beijing, Shanghai, Taipei, and Guangzhou were listed in the Alpha level. In this sense, we compared the marketing contents of Chinese cities with the other 44 Alpha cities and specifically identified the differences. Consequently, drew six conclusions. First, in the primary element of

Built Environment and Architecture, Chinese cities pay less attention to infrastructure but highlight modern flagship buildings such as city television towers and skylines of the central business district (Fig. 1a). Second, in the primary element of History and Cultural Activities, elements used by Chinese cities are similar to those used by the other 44 Alpha cities. Cultural activities such as carnivals, exhibitions, and performances are presented. In addition, cultural facilities with conspicuous facades are included (Fig. 1b). Third, in the Natural Environment and the Outdoors element, Chinese cities focus more on static landscapes such as environment and flora and less on dynamic outdoor sports (Fig. 1c). Fourth, in the element of Governmental and Urban Images, although Chinese cities present city symbols and public officials similar to the other 44, Chinese cities pay less attention to disclosing administrative information (Fig. 1d). Fifth, in the Civil Living and Society element, similar to the other 44 Alpha cities, Chinese cities introduce social services like health care, environmental protection, and sporting events. Additionally, Chinese Alpha cities include elements of food, highlighting culinary culture (Fig. 1e). Sixth, in the Information Services element, Chinese cities present more information on news, jobs, public transportation, and online bureaucracy. However, business information and tourist services, which are highlighted by the other 44 Alpha cities, are neglected by Chinese cities (Fig. 1f).

In summary, the elements on Chinese official city websites differentiate to the other 44 Alpha cities' websites to a certain extent. First, Chinese cities highlight marketing their history and culture by presenting historical buildings, cultural facilities, and non-material culture. Second, Chinese cities limit their presentation to static elements, such as the ecological environment and local food, but rarely involve dynamic activities, such as outdoor sports and social lives. Third, the information presented on Chinese cities' official websites only serves native residents and is mostly irrelevant to external groups, such as tourists and immigrants (Table 5).

4.4 Dissimilar website marketing elements in English and Chinese editions

Previous domestic studies generally presume that website marketing contents are highly influenced by marketing targets. In other words, website marketing elements presumably differ due to the different intended

Table 5   The comparison of five Chinese and the other 44 Alpha-level and Chinese world cities' marketing content

Primary element	The other 44 Alpha cities	Five Chinese Alpha cities	Chinese city feature
Ⅰ.Built Environment and Architecture	Cityscapes, infrastructure and industry, non–historic flagship buildings, regional historic buildings	Non–historic flagship buildings, regional historic buildings	Less focus on marketing infrastructure and industry
Ⅱ.History and Cultural Activities	Arts and culture, signature events, historic flagship buildings	Arts and culture, signature events, historic flagship buildings, public art	Focus more on modern cultural facilities
Ⅲ.Natural Environment and the Outdoors	Urban natural environments, urban outdoor activities, parks and landscapes	Urban natural environments, nonurban natural environments	Focus more on static natural landscape and rarely involve dynamic outdoor activities
Ⅳ.Governmental and Urban Images	City symbols, administrative services, local elected officials	City symbols, symbols of local pride, local elected officials	Less focus on marketing government and information
Ⅴ.Civil Living and Society	Neighbourhood information, spectator sports and facilities, other employees	Neighbourhood information, spectator sports and facilities, gastronomy	Focus more on gastronomy and rarely market citizens' daily lives
Ⅵ.Information Services	Language, internal business information, tourist services, transportation information, online bureaucracy	Language, news and events, jobs and employment, transportation information, online bureaucracy	Rarely involve information on business and tour services, and highlights job training

website visitors. Therefore, we collected the marketing elements of the Chinese edition websites of the five Chinese world cities, using similar collecting methods to those introduced in section 3.2, and comparatively analysed the homogeneity and heterogeneity of website-marketing contents in different language editions. The results indicate six things. First, as the paired *t*-test value exactly reflects the significance of heterogeneity of two groups' values that cuts across each primary element respectively, Chinese edition websites significantly place more emphasis upon marketing Built Environment and Architecture elements than English editions do. More precisely, beside regional historic buildings, Chinese edition websites also tend to show pictures of non-specific historic buildings (e.g., buildings constructed in colonial period), distinctive non–historic flagship buildings (e.g., CCTV headquarter tower, Canton tower) on English edition website. Second, in the elements of History and Cultural Activities, Chinese edition websites also highlight marketing historic decoration pictures (e.g., facades of arcade buildings alongside historic commercial streets). Third, in the elements of Natural Environment and the Outdoors, and similar to English edition websites, Chinese edition websites also show pictures of beautiful local natural environments. Fourth, in the Governmental and Urban Images elements, Chinese edition websites introduce administrative services by showing executive process pictures of administrative affairs, while English edition websites introduce symbols of local pride (e.g., Peking Opera,

kapok). Fifth, in elements of Civil Living and Society, Chinese edition websites focus on showing theme park pictures so as to market an image of rich entertainment. Sixth, in the Information Services elements, Chinese edition websites mainly introduce internal business information (e.g., entrepreneurship, tax, financial support) and tourist services (e.g., hotel, tour attraction), which are distinct upon English language websites. The latter tend to place more focus on introducing local news (e.g., implementing development zone) and employment information (e.g., skill training) (Table 6). In summary, the marketing elements of both Chinese and English edition websites present general homogeneity but partial heterogeneity. Compared to English edition websites, Chinese edition websites place greater emphasis on introducing local historical buildings, administrative services, and internal business information. These heterogeneous marketing elements reinforce the locality of world cities' website marketing, especially on a native language edition website.

5   Conclusions

The 49 Alpha world cities emphasise different kinds of elements on their official websites. On the basis of various combinations of elements, the marketing contents of Alpha world cities through official websites can be categorised into six themes: History and Culture, Government and Information, Construction and Environment, Government and Living, Construction and

Table 6   The comparison of Chinese world cities' website marketing contents in English and Chinese editions

Primary Element	Paired T–test Value	Homogeneous Element	Heterogeneous Element	
			English Edition	Chinese Edition
Ⅰ. Built Environment and Architecture	−2.646*	Regional historic buildings	Non–historic flagship building	Non–specific historic building
Ⅱ. History and Cultural Activities	0.935	Public arts, arts and culture, signature events, historic flagship buildings		Historic decorations
Ⅲ. Natural Environment and the Outdoors	1.000	Urban natural environment, Non–urban natural environment		
Ⅳ. Governmental and Urban Images	0.880	City symbols, local elected officials	Symbols of local pride	Administrative service
Ⅴ. Civil Living and Society	−1.922	Neighbourhood information, spectator sports and facilities, gastronomy		Theme parks
Ⅵ. Information Services	−0.580	Language, transportation information, online bureaucracy	News and events, jobs and employment	Internal business information, tourist service

Note: * represent that the paired T–test value is significant at 5%

Living, and General Compound. The History and Culture theme only highlights diverse local culture and activities, while the Government and Information, Construction and Environment, and Government and Living themes emphasise at least two primary types of elements. The Construction and Living and General Compound themes highlight more content, but they less clearly emphasise a combination of elements.

The marketing content of the five Chinese Alpha world cities, including Hong Kong, Beijing, Shanghai, Taipei and Guangzhou, is different than the other 44 Alpha world cities. With their well-known historical culture, Chinese cities attach great importance to historical and cultural content, such as historical flagship buildings, cultural facilities, food culture, and public arts. Meanwhile, Chinese world cities generally present static landscapes, such as buildings and nature, but rarely display dynamic human activities, like outdoor cycling or jogging. Moreover, as a non–traditional immigrant country, Chinese cities are unaware of foreigners. Therefore, Information Services elements on Chinese cities' websites are limited to introducing civil services to natives and do not target external groups such as immigrants and tourists. Moreover, Chinese edition websites tend to place more attention upon introducing local historical buildings, administrative services, and internal business information than the English edition ones. This reinforces the locality of world cities' website marketing.

In this study, we presume that comprehensiveness and locality appear conspicuously in the process of city marketing through official websites. However, there are still some drawbacks that remain for further study. First,

in this research we did not consider if the marketing content themes were differentiated among Alpha cities in different secondary ranks. Second, although the results indicated that marketing content themes of Chinese Alpha cities were different than the other 44 world cities, the reasons for this differentiation and the factors influencing the selection of marketing contents is unknown. Third, and finally, we only compared the differences of marketing elements between English and Chinese edition websites but excluded other non-English speaking world cities. In the future, we will compare and contrast the Alpha++ cities' websites with Alpha+, Alpha, Alpha–, and other lower-ranked cities' websites in more depth. We will also select typical cases and further determine how geographical features influence marketing content selection. Last but not least, we will compare the dissimilar marketing contents between English and native language editions of other non-English speaking world cities. In this sense, our findings could serve as an accurate and practical guide for lower-ranked world cities for improving their marketing through visual media.

References

Argenbright R, 2013. Moscow on the rise: from primate city to megaregion. *Geographical Review*, 103(1): 20–36. doi: 10.1111/j.1931-0846.2013.00184.x

Ashworth G J, Voogd H, 1990. *Selling the City: Marketing Approaches in Public Sector Urban Planning*. London: Belhaven Press, 27–44.

Carrasquillo C A S, 2011. Gated communities and city marketing: recent trends in Guaynabo, Puerto Rico. *Cities*, 28(5): 444–451. doi: 10.1016/j.cities.2011.05.009

Chubarov I, Brooker D, 2013. Multiple pathways to global city formation: a functional approach and review of recent evi-

dence in China. *Cities*, 35: 181–189. doi: 10.1016/j.cities.2013.05.008

Deza X V, López M G, 2014. Regional concentration of knowledge-intensive business services in Europe. *Environment and Planning C: Government and Policy*, 32(6): 1036–1058. doi: 10.1068/c11171r

Dinardi C, 2017. Cities for sale: contesting city branding and cultural policies in Buenos Aires. *Urban Studies*, 54(1): 85–101. doi: 10.1177/0042098015604079

Gao Jing, Qi Tianfeng, Zhang Yonggang, 2007. An empirical analysis on the marketing functions of local governments' official tourism websites. *Geography and Geo-Information Science*, 23(2): 104–108. (in Chinese)

Goldman M, 2011. Speculative urbanism and the making of the next world city. *International Journal of Urban and Regional Research*, 35(3): 555–581. doi: 10.1111/j.1468-2427.2010.01001.x

Grodach C, 2009. Urban branding: an analysis of city homepage imagery. *Journal of Architectural and Planning Research*, 26(3): 181–197.

Haines C, 2011. Cracks in the façade: landscapes of hope and desire in Dubai. In: Roy A, Ong A (eds). *Worlding Cities: Asian Experiments and the Art of Being Global*. Oxford: Blackwell Publishing Ltd, 160–181. doi: 10.1002/9781444346800.ch6

Hill R C, Kim J W, 2000. Global cities and developmental states: New York, Tokyo and Seoul. *Urban Studies*, 37(12): 2167–2195. doi: 10.1080/00420980020002760

Johansson O, Cornebise, M, 2010. Place branding goes to the neighbourhood: the case of pseudo-Swedish Andersonville. *Geografiska Annaler: Series B, Human Geography*, 92(3): 187–204. doi: 10.1111/j.1468-0467.2010.00347.x

Kavaratzis M, Kalandides A, 2015. Rethinking the place brand: the interactive formation of place brands and the role of participatory place branding. *Environment & Planning A*, 47(6): 1368–1382. doi: 10.1177/0308518X15594918

Kotler P, Haider D H, Rein I, 1993. *Marketing Places: Attracting Investment, Industry and Tourism to Cities, States and Nations*. New York: The Free Press, 21–45.

Lee A H J, Wall G, Kovacs J F, 2015. Creative food clusters and rural development through place branding: *culinary tourism initiatives in Stratford and Muskoka, Ontario, Canada. Journal of Rural Studies*, 39: 133–144. doi: 10.1016/j.jrurstud.2015.05.001

Lefebvre H, 2006. The urban revolution. In: Brenner N, Keil R (eds). *The Global Cities Reader*. Abingdon & New York: Routledge, 407–413.

Liu X J, Derudder B, Wu K, 2016. Measuring polycentric urban development in China: an intercity transportation network perspective. *Regional Studies*, 50(8): 1302–1315. doi: 10.1080/00343404.2015.1004535

Ma H T, Zhang F F, Liu Y, 2018. Transnational elites enhance the connectivity of Chinese cities in the world city network. *Environment and Planning A*, 50(4): 749–751. doi: 10.1177/0308518X18761395

Mathews A J, Patton M T, 2016. Exploring place marketing by American microbreweries: neolocal expressions of ethnicity and race. *Journal of Cultural Geography*, 33(3): 275–309. doi: 10.1080/08873631.2016.1145406

Olds K, Yeung H, 2004. Pathways to global city formation: a view from the developmental city-state of Singapore. *Review of International Political Economy*, 11(3): 489–521. doi: 10.1080/0969229042000252873

Paganoni M C, 2012. City branding and social inclusion in the glocal city. *Mobilities*, 7(1): 13–31. doi: 10.1080/17450101.2012.631809

Terlouw K, Denkers R, 2011. The geography of regional websites: regional representation and regional structure. *Geoforum*, 42(5): 578–591. doi: 10.1016/j.geoforum.2011.05.003

Urban F, 2002. Small town, big website?: cities and their representation on the Internet. *Cities*, 19(1): 49–59. doi: 10.1016/S0264-2751(01)00045-2

Wang Bo, Zhen Feng, 2017. Impacts of city's characteristics on city's importance in the virtual world: an empirical analysis based on Internet news media. *Scientia Geographica Sinica*, 37(8): 1127–1134. (in Chinese)

Wong T C, Liu R, 2017. Developmental urbanism, city image branding and the "Right to the City" in transitional China. *Urban Policy and Research*, 35(2): 210–223. doi: 10.1080/08111146.2015.1122587

Wu F L, 2016. State dominance in urban redevelopment: beyond gentrification in urban China. *Urban Affairs Review*, 52(5): 631–658. doi: 10.1177/1078087415612930

Yeoh B S A, 2005. The global cultural city? Spatial imagineering and politics in the (multi)cultural marketplaces of South-east Asia. *Urban Studies*, 42(5–6): 945–958. doi: 10.1080/00420980500107201

Zhang Jingxiang, Wang Xu, 2012. The scaling up of cities in the process of endogenous city marketing-a case study of Xuyi county. *Urban Planning Forum*, (2): 33–38. (in Chinese)

Zhang Weiya, Tao Zhuomin, Cai Bifan et al., 2013. Study on heritage websites' persuasive route based on structural equation model: a case study of Chinese world heritage official websites. *Geographical Research*, 32(9): 1747–1760. (in Chinese)

Zhou L J, Wang T, 2014. Social media: a new vehicle for city marketing in China. *Cities*, 37: 27–32. doi: 10.1016/j.cities.2013.11.006

Zhu H, Qian J X, Gao Y, 2011. Globalisation and the production of city image in Guangzhou's metro station advertisements. *Cities*, 28(3): 221–229. doi: 10.1016/j.cities.2010.12.004