

Segmenting Markets by Bagged Clustering: Young Chinese Travelers to Western Europe

Girish Prayag^{1,*}, Marta Disegna², Scott Cohen³ and Hongliang Yan⁴

¹University of Canterbury, Christchurch, New Zealand

²Free University of Bolzano, Bolzano, Italy

³University of Surrey, Guildford, United Kingdom

⁴Leeds Metropolitan University, Leeds, United Kingdom

Abstract

Market segmentation is ubiquitous in marketing. Hierarchical and non-hierarchical methods are popular for segmenting tourism markets. These methods are not without controversy. In this study, we use bagged clustering on the push and pull factors of Western Europe to segment potential young Chinese travelers. Bagged clustering overcomes some of the limitations of hierarchical and non-hierarchical methods. A sample of 403 travelers revealed the existence of four clusters of potential visitors. The clusters were subsequently profiled on socio-demographics and travel characteristics. The findings suggest a nascent young Chinese independent travel segment that cannot be distinguished on push factors but can be differentiated on perceptions of the current independent travel infrastructure in Western Europe. Managerial implications are offered on marketing and service provision to the young Chinese outbound travel market.

Keywords: segmentation, bagged clustering, push-pull factors, Chinese travelers, Western Europe

* Corresponding Author:

Girish Prayag, Department of Management, Marketing and Entrepreneurship, University of Canterbury, Private Bag 4800, Christchurch 8140, New Zealand. Email: girish.prayag@gmail.com

Market segmentation is ubiquitous in marketing. It consists of dividing a market into smaller and homogeneous groups (Kotler and Armstrong 1999; Kruger, Saayman and Ellis 2011; Tkaczynski and Rudle-Thiele 2010), thus allowing a targeted marketing mix to be developed (Dolnicar, Kaiser, Lazarevski, and Leisch 2012). Since the introduction of market segmentation in the late 1950s, the number and type of segmentation approaches have grown immensely (Dolnicar and Leisch 2004; Liao, Chu, and Hsiao 2012). Successful market segmentation strategy depends on the quality of the segmentation solution (Dolnicar and Leisch 2010). The two major approaches for segmenting markets are *a priori* or commonsense segmentation and *a posteriori* or data-driven segmentation (Dolnicar, 2004). The first approach consists of identifying groups using a predefined criterion such as nationality that is expected to cause heterogeneity among consumers. The second approach involves identifying groups post-hoc by applying segmentation algorithms (Dolnicar and Leisch 2004), of which cluster analysis is the most frequently used (Tuma, Decker, and Scholz 2011). The two most popular cluster analysis algorithms are the standard partitioning and hierarchical methods (Dolnicar 2003; Jain 2010).

Among standard partitioning or non-hierarchical methods, *k*-means is widely applied in marketing and tourism studies (Arimond and Elfessi 2001; Dolnicar 2002, 2003; Jain 2010; Tuma, Decker, and Scholz 2011). *K*-means clustering aims to group the observations around a center in order to find a segment of the set of units in a fixed number of clusters. It requires three user-specified parameters: number of clusters *k*, cluster initialization, and distance metric (Jain 2010). Some of the main disadvantages of using *k*-means include: (1) the number of clusters has to be selected in advance on the basis of practical and subjective preferences, i.e. *a priori* or derived from applying a hierarchical clustering method; (2) there is no single optimal solution for determining the best clusters; and (3) stability of the solution is not guaranteed (Arimond and Elfessi 2001; Dolnicar 2003). Although many internal validity

indices have been developed such as the Silhouette and Dunn indexes that enable researchers to select the appropriate number of clusters (e.g., Handl, Knowles, and Kell 2005), none has been accepted globally or applied sufficiently in the tourism field (Brida, Disegna, and Osti 2012). Furthermore, in practice the value of these indices must be interpreted as a guideline rather than an absolute criterion (Vesanto and Alhoniemi 2000).

Hierarchical methods find clusters by iteratively joining the “closest” clusters composed of one or more observations (agglomerative clustering), or splitting the “furthest” clusters (divisive clustering). Ward’s method of hierarchical clustering remains popular in tourism studies (Dolnicar 2002, 2003; Masiero and Nicolau 2012). Hierarchical methods suffer from the limitations of not being able to handle large amounts of data, inflexibility (i.e. once a unit is merged in a group it is impossible to modify its classification), and the results are easily affected by the presence of outliers (Kuo, Ho, and Hu 2002). Hierarchical methods also presuppose an underlying hierarchy among the objects or respondents to be clustered, which may not reflect market reality (Wedel and Kamakura 2000). To overcome some of the limitations of both hierarchical and non-hierarchical methods, Punj and Stewart (1983) suggest the combination of *k*-means and Ward’s method, and this is known as two-stage clustering. Sheppard (1996) investigating the sequence of analysis in two-stage clustering found that neither was necessarily better than the other. Vriens, Wedel, and Wilm’s (1996) comparing different methods of clustering found that single stage procedures tend to outperform two-stage clustering procedures on goodness of fit and validation on hold out samples.

Beyond more traditional methods, other popular segmentation algorithms or methods in the fields of marketing and tourism include neural networks (Bloom 2005; Dolnicar 2002; Mazanec 1992), latent class analysis (Alegre, Mateo, and Pou 2011; Mazanec and Strasser 2007) and finite mixture models (Wedel and Kamakura 2000). Latent class analysis and finite

mixture models are typically problematic with reproducibility, i.e., repeated computations of the algorithm lead to different groupings of respondents (Dolnicar, Kaiser, Lazarevski, and Leisch 2012). In practice, each segmentation algorithm conducts a multivariate description of the data, grouping units based on a suitable similarity measure. Unfortunately, this implies that different methods present different views of the data (Leisch 2006) and therefore no absolutely “correct” segmentation method exists (Beane and Ennis 1987; Brida, Disegna, and Scuderi 2013; Dolnicar, Crouch, Devinney, Huybers, Louviere, and Oppewal 2008; Tkaczynski and Rundle-Thiele 2010). Hence, the researcher must find the best segmentation method to capture the hidden structure in the data set.

The limitations of traditional clustering algorithms have led to the application of relatively newer techniques such as bagged clustering (Leisch 1999; Dolnicar and Leisch 2003) and bi-clustering (Dolnicar, Kaiser, Lazarevski, and Leisch 2012) in the tourism field. Based on the bagging (“bootstrap aggregating”) procedure, bagged clustering is a resampling method that improves the accuracy of results produced by unstable procedures (Breiman 1996). Bagged clustering combines sequentially partitioning and hierarchical clustering methods and presents several advantages in comparison to more traditional clustering techniques: 1) it is not necessary to impose the number of clusters in advance; 2) the final solution is less dependent on the initialization of the algorithm; 3) the partitioning methods are more flexible and perform better with large data sets than hierarchical methods; 4) the results are more stable than classic clustering algorithms due to the inherent replication process; 5) the results are less dependent on the data set at hand as numerous bootstrap samples are used as starting points for the repeated calculations; and 6) niche segments can be easily identified compared to classical algorithms such as *k*-means (Dolnicar and Leisch 2004; Leisch 1999). Despite such advantages, surprisingly only five studies to date have employed bagged clustering in the

tourism field (Dolnicar and Leisch 2000, 2003, 2004; Dolnicar, Crouch, Devinney, Huybers, Louviere, and Oppewal 2008; Brida, Disegna, and Scuderi 2013).

Given this context, the objectives of this study are two-fold. First, we apply bagged clustering to identify niche segments among young Chinese travelers based on their push/pull motivations (Crompton 1979; Dann 1977). Second, we empirically verify if an independent travel segment exists among the young travelers. By doing so, the study's contributions are three-fold. First, the application of bagged clustering to segment young Chinese travelers offers enhanced stability and interpretability, leading to more holistic market segments (Dolnicar and Leisch 2003, 2004). Existing studies on Chinese travel motivations often assume that Chinese travelers are homogeneous and group travel orientations pervade (e.g., Huang and Hsu 2009; Kau and Lim 2005; Kim and Prideaux 2005; Lam and Hsu 2004). Segmentation studies on this market often fail to offer stable solutions given that *k*-means, Ward's method or two-stage clustering are prevalent (e.g., Chen, Bao, and Huang 2013; Hsu and Kang 2009; Hsu, Kang, and Lam 2006; Kau and Lim 2005; Li, Zhang, Mao, and Deng 2011). Second, we empirically validate the emerging research strand (Chen, Bao, and Huang 2013; Ong and du Cros 2012) suggesting the burgeoning of an independent travel segment from China. Third, despite being a key market for Chinese outbound tourists (European Travel Council 2011), Western Europe as a regional destination has received scant attention in the tourism literature (Arlt 2006; Corigliano 2011; Yang, Reeh, and Kreisel 2011). The majority of studies on Chinese outbound travel motivations are situated within the context of other regional destinations such as Korea (e.g., Kim and Prideaux 2005), Singapore (e.g., Kau and Lim 2005), Hong Kong (e.g., Huang and Hsu 2009), and the US (Li, Lai, Harrill, Kline, and Wang 2011). The findings offer western service providers insights into the attractiveness of the current tourism offer, which enables them to subsequently develop marketing propositions that can attract young travelers from China.

Segmenting Markets by Bagged Clustering

The central idea of bagged clustering is to overcome the typical difficulties encountered in cluster analysis by combining the strengths of both hierarchical and partitioning approaches (Dolnicar and Leisch 2004). Figure 1 schematically shows the steps of bagged clustering.

******Take in Figure 1******

In Figure 1, \mathbf{X} is the initial dataset of N units on which B bootstrap samples are drawn with replacement. A partitioning method, as the classic k -means algorithm, is chosen by the researcher and is applied to each bootstrap sample. From this procedure, we obtain $(B \times K)$ centers, where K is the number of centers fixed in the partitioning method and c_k^b is the k -th center of the b -th bootstrap sample ($k = 1, \dots, K; b = 1, \dots, B$). The $(B \times K)$ centers are combined in a new dataset $\mathbf{C}_{B \times K}$ on which a hierarchical clustering method is run. The resulting dendrogram offers the solution for the best partitioning of the centers. Each original unit is then assigned to the closest center and subsequently to the cluster. In this way, the best partitioning of the original units is obtained (Dolnicar and Leisch 2004; Leisch 1999). Although an initial choice of K is required, it does not affect the final results. The final number of clusters is obtained *a posteriori* as a result of the hierarchical algorithm (Leisch 1999). In fact, the final result obtained depends on running the partitioning algorithm on B bootstrap samples. Consequently, bagged clustering is less dependent on the starting selected centers. Applying bagged clustering to the motives of winter tourists, Dolnicar and Leisch (2003) were able to identify stable vacation styles. In another study, bagged clustering on summer vacation tourists in Austria uncovered five clusters and highlighted the superiority of the method in identifying niche segments (Dolnicar and Leisch, 2004). More recently using the same method, Dolnicar, Crouch, Devinney, Huybers, Louviere, and Oppewal (2008) found seven clusters of households based on tourism and discretionary income allocation.

These studies confirm the robustness and preferability of bagged clustering over traditional methods in identifying meaningful segments among a heterogeneous population.

The Case Study – Young Chinese Travelers to Western Europe

China remains an important outbound tourism market for many western destinations (Li, Harrill, Uysal, Burnett, and Zhan 2010; Ryan and Gu 2008; Sparks and Pan 2009). Understanding Chinese travelers' motivations and behaviors is critical for developing effective and engaging marketing strategies. Unsurprisingly, many of the existing studies on Chinese outbound tourism treat this market as a homogenous segment, given that tourism through the Approved Destination Status (ADS) scheme is usually restricted to all-inclusive package tours (Sparks and Pan 2009), which requires Chinese leisure travelers to tour in organized groups. Exception to this, is travel to Hong Kong, Macau and Taiwan, where an Individual Visit Scheme (IVS) is available to residents of certain Mainland Chinese cities (Li, Lai, Harrill, Kline, and Wang 2011; Ong and du Cros 2012). Chinese outbound tourism is diversifying, both in terms of motivations and behavioral practices (Arlt 2006). Zhang and Lam (1999) identified some differences in travel motivations among Chinese visitors to Hong Kong. Sparks and Pan (2009) argued that younger Chinese travelers may want more autonomy during their travel. Recent studies (e.g., Bui, Wilkins, and Lee 2013; Chen, Bao, and Huang 2013; Li, When, and Leung 2011; Ong and du Cros 2012) suggest the emergence of an independent travel segment from China. Specifically, Li, Wen, and Leung (2011) found that female Chinese visitors prefer to tour independently and Chen, Bao, and Huang (2013) found that Chinese backpackers may not be so different from western backpackers. Bui, Wilkins and Lee (2013) found that Asian independent travelers, including those of Chinese origin, desire 'western cosmopolitanism'. These studies suggest the need for a more nuanced understanding of the heterogeneity in the Chinese outbound tourism market, with particular reference to young travelers. Approximately 65% of all Chinese outbound tourists are young

or middle aged individuals between 25 to 44 years old and well educated (Tourism Review 2012).

Understanding Motivations-The Push/Pull Framework

Motivations are cognitive in nature and assist in explaining many aspects of tourist behavior (Fodness 1994; Gnoth 1997). Over the years, many motivation theories and models such as the hierarchy of needs (Maslow 1943), the distinction between allocentric and psychocentric (Plog 1974), expectancy-value theories (Lewin 1938), goal directed behavior (Bettman 1979), travel career ladder (Pearce and Lee 2005), motivation and expectation formation (Gnoth 1997), and the push-pull framework (Dann 1977; Klenosky 2002) have sought to explain tourist motivations. The most popular motivation theory remains the push/pull framework that provides a simple and intuitive approach for explaining tourist motivations (Dann 1977; Prayag and Hosany 2014). Push factors represent tourists' generic desire to travel while pull factors represent destination attributes influencing when, where and how people travel (Mill and Morrison 1998). Hence, push factors can be considered the socio-psychological motives of travel (Crompton 1979) and pull factors represent destination attributes (Klenosky 2002; Yuan and McDonald 1990) or images (Gartner 1993; Prayag and Ryan 2011). The push/pull framework may also represent the demand and supply side of the tourism industry respectively (Formica and Uysal 2006) and remains a parsimonious analytical tool for explaining tourist travel decisions (Li, Meng, Uysal, and Mihalik 2013; Prayag and Hosany 2014). Given the complexity of the motivation construct (Gnoth 1997), some authors believe that push and pull factors should be studied separately (e.g. Dann 1977; Fodness 1994) and others consider them to be interdependent (Baloglu and Uysal 1996; Klenosky 2002; Prayag and Ryan 2011). Pull factors occur only as a result of the push factors (Dann 1977). Consequently, three distinct research strands about the application of the push/pull framework have emerged in the tourism literature. The first strand uses push factors

only (e.g., Dann 1977; Fodness 1994; Sirakaya, Uysal, and Yoshioka 2003; Snepenger, King, Marshall, and Uysal 2006), either for furthering understanding of the concept itself or for benefit segmentation purposes. Alongside, some studies have used pull factors only (Gavcar and Gursoy 2002; Prayag 2010) or both (Crompton 1979; Fluker and Turner 2000; Klenosky 2002; Kim, Lee, and Klenosky 2003; Prayag and Hosany 2014; Tkaczynski, Rundle-Thiele, and Beaumont 2010) for the same purposes.

Push/Pull Factors of Chinese Travelers to Western Europe

The level of interest in Europe as a "dream destination" is high among the Chinese outbound market (ETC 2011). Yet, tourism researchers are failing to keep abreast with this emerging and diversifying market (Arlt 2006). Few academic studies have sought to understand the motivations of Chinese travelers to Western Europe. Corigliano (2011), for example, found that the major push/pull factors to Italy included visiting renowned destinations, museums and art galleries, places of historical and cultural interest, the discovery of natural landscapes, visiting rural destinations, participation in local events, visiting local residents and experiencing local crafts. The findings depart from the mainstream motivations of Chinese travelers in the sense that they reflect a deeper interest in perceived authentic experiences that may involve a higher level of contact with locals. This is perhaps related to the demographics of visitors in Corigliano's study (mainly below the age of 35). In another study, Yang, Reeh, and Kreisel (2011) found that novelty, knowledge, experiencing an interesting event with whole family (socialization), relaxation and fun, and improvement of relationships with colleagues (kinship) were the main motives of Chinese visitors to experience the Oktoberfest in Germany. Yun and Joppe (2011) investigating the appeal of seven long-haul destinations among Chinese visitors, found that the UK, France and Germany were perceived the least favorably for outdoor activities. While France had a strong appeal on cultural factors, Germany and the UK had unfavorable perceptions on this factor. Industry

reports suggest that shopping remains an important activity in packed multi-country itineraries for Chinese visitors to Europe (Visit Scotland 2012) and language can be a barrier (Visit Britain 2012). Yet, a growing number of independent travelers from China have a good command of English (Visit Scotland 2012).

Motivations of Independent Travelers

Hyde and Lawson (2003) consider backpackers to be a segment of the independent travel market, whereas Nash, Thyne, and Davies (2006) perceive the two roles as largely synonymous. In this study, we adhere to the view that backpackers and independent travelers are largely synonymous. Hence, we define independent travelers as those “who have flexibility in their itinerary and some degree of freedom in where they choose to travel within a destination region” (Hyde and Lawson 2003:13). The motivations and behaviors of independent travelers are well researched (e.g., McNamara and Prideaux 2010; Loker-Murphy 1996; Mohsin and Ryan 2003; Maoz 2007; Paris and Teye 2010), with some dispute over whether they actually differ from those of package mass tourists (see Larsen, Øgaard, and Brun 2011). Nonetheless, core push factors for independent travel identified in past studies include: exploring other cultures, increasing one’s knowledge, relaxing mentally, affiliation or social motives, seeking novelty and action, and desiring a perceived authentic or genuine experience (Loker-Murphy 1996; Moscardo 2006; Paris and Teye 2010). The supply side of this market (pull factors) has been an additional line of inquiry. For example, Loker-Murphy and Pearce (1995) found independent travelers to have a preference for budget accommodation and an emphasis on meeting other people during their trip. Nash, Thyne and Davies (2006) examining levels of importance and satisfaction amongst budget accommodation users in Scotland, found that the choice of accommodation was driven by factors such as price, location, cooking and bathroom facilities, availability of information, safety, price promotions and ease of booking facilities, amongst others. Hecht and Martin

(2006) focusing on the service preferences of hostel users in Canada found that the top five service preferences were cleanliness, location, personal service, security, and other services such as internet and laundry facilities. Recent literature, still oriented largely from a western perspective, recognizes increased heterogeneity in independent travel (e.g., Cohen 2011; Paris 2012; Uriely, Yonay, and Simchai 2002). Accordingly, Pearce and Foster (2007:1285) describe independent travelers as “a mobile, usually younger market segment who exhibit a preference for budget accommodation, emphasize meeting other travelers, follow an independently organized and flexible travel schedule, pursue longer rather than very brief holidays and prefer informal and participatory activities”.

The Emerging Chinese Independent Travel Market

The Economist (2010: np) predicts that Chinese independent travel in Western Europe is “the next big thing”, and there is already evidence of Chinese visitors, whether through purposes of study, business and/or visiting friends and relatives, using Schengen visas to access multiple European countries on a single trip, wherein they are beginning to use backpacker facilities, such as hostels (cf. Hostelworld.com 2012). There is a paucity of information on Chinese independent travel, with the notable exceptions of Ong and du Cros (2012) and Chen, Bao, and Huang (2013). The former examines the experiences of Chinese backpackers to Macau via the Individual Visit Scheme while the latter identifies segments of Chinese backpackers based on their travel motivations. The phenomena is also examined in a domestic context by Lim (2009: 293), who suggests that Chinese backpackers are “highly educated, largely urban-based, upwardly mobile professional adults who are among the chief beneficiaries of China’s recent socio-economic development”. The younger generation of outbound Chinese travelers (under age 35) are not only the future main Chinese travel market, but also show signs that they are different from older generations, as they are more adventurous and seek more autonomy during their travel (Sparks and Pan 2009). Chen, Bao,

and Huang (2013) using mostly western motives, uncovered four main motives of Chinese backpackers: social interaction, self-actualization, destination experience, and escape/relaxation. However, they use *k*-means clustering to subsequently identify segments, casting doubt on the reproducibility of these segments. Nevertheless, their findings suggest a convergence of Chinese independent travelers' motivations with their western counterparts. Despite Chinese independent travelers manifesting certain common features with backpackers generally, they tend to exhibit Chinese characteristics (Lim 2009). Specifically, within the Chinese independent travel market, segments can be identified on the basis of age, education level and income. For example, social seekers driven by motives of social interactions are largely below 20 years, well-educated and earn below 1,500 RMB per month (Chen, Bao, and Huang 2013).

Empirical Illustration

Data

Data in this study were collected from a consumer survey of young Chinese travelers in Beijing with Western Europe as the target destination. Beijing was selected for its trend setting status in lifestyle factors and known high propensity to travel (Hsu, Cai, and Li 2010). There is also evidence that an independent travel market is emerging from cities such as Beijing, Shanghai and Guangzhou (Lim 2009; Ong and du Cross 2012). Two trained interviewers were stationed outside high street shopping centers, leisure centers, western restaurants and coffee chains, tourist attractions, subway stations, and local universities, similar to the study of Hsu, Cai, and Li (2010). A screening question (are you interested in traveling to Western Europe in the next five years?) was used to identify the correct target population of young Chinese travelers of 18 to 44 years old. While recognizing that travel interest may not convert into actual travel (McKercher and Tse 2012), this population group is

not only the largest group, but also has the highest propensity to travel either in groups or independently. Within this group, the 30 to 44 years old is a well-educated segment in their prime earning years (Tse and Hobson 2008). The younger generation is also more autonomous (Sparks and Pan 2009) and specifically the 21 to 35 years old are well educated and part of an emerging Chinese independent travel segment (Chen, Bao, and Huang 2013). After explaining the purpose of the study, respondents were asked to fill in the questionnaire on site. Of the 600 distributed questionnaires, 403 were useable.

The measurement for motivation was developed from previous studies on mainstream Chinese outbound travelers (Corigliano 2011; Hsu, Cai, and Li 2010; Kim and Prideaux 2005; Li, Wen, and Leung 2011; Sparks and Pan 2009; Yun and Joppe 2011; Zhang and Lam 1999) and independent travelers/backpackers generally (e.g., Moscardo 2006; McNamara and Prideaux 2010; Paris and Teye 2010; Pearce and Foster 2007), and adapted for the purpose of the study. A list of 10 push factors (see Appendix A) was measured on a 7-point scale, anchored on [1] *Not at all important* and [7] *Very important*. The 17 pull factors (see Appendix A) were measured on a 7-point scale anchored on [1] *Strongly disagree* and [7] *Strongly agree* and adapted from the literature (e.g., Hecht and Martin 2006; Li, Lai, Harrill, Kline, and Wang 2011; Wang, Vela, and Tyler 2008). Several socio-demographic and trip characteristics were also measured (see Appendix B). The survey instrument originally designed in English was translated to Chinese. Back translation was used to assess the accuracy of meaning and content of the Chinese version. The translated version was further verified by one Chinese professor proficient in both languages. The questionnaire was pilot tested in Beijing among 20 respondents from the targeted group and revealed only minor problems that were subsequently amended in the final version.

The demographic profile of the sample indicated that the majority of respondents were females (56.8%), mostly single (63.2%), less than 26 years old (54.1%), with some

university/college degrees (59.4%) or postgraduate degrees (36.8%), earning an average monthly income of less than RMB 7,000 (69.3%). Of the respondents, 52.4% had a full time job while 42.1% described themselves as students. Respondents will travel for holiday (81.6%) and studying purposes (20.1%) mostly. First-time visitors (77.4%) to Western Europe would constitute the majority. In general, Chinese outbound travelers to Europe are well educated with the highest proportion having a bachelors' degree and earning between RMB 3,000 to 10,000 a month (Euromonitor 2011). This profile of the general Chinese travelers resonates well with the education level and monthly income of our sample. Bui, Wilkins, and Lee (2013) found that Asian independent travelers are typically between 20 and 37 years old, which suggest that the age profile of this sample fits within the general trend of independent travelers. Also, individual travelers from China visiting Europe include Chinese students studying in Europe who may travel as part of their stay abroad, adventurous young professionals, and family and friends of students who visit and travel around with them (Euromonitor 2011). Our sample echoes some of these characteristics, suggesting that the overall profile of the sample has close resemblance to that of young Chinese outbound travelers and those undertaking independent travel in Europe.

Data Analysis

Given that push and pull factors are interdependent (Baloglu and Uysal 1996; Klenosky 2002) and motivations have greater ability to segment tourist markets than socio-demographics (Masiero and Nicolau 2012), the 10 push and 17 pull factors were used simultaneously for bagged clustering. Appendix A reports the legend used in the following analysis. The bagged clustering algorithm considered the k -means as the partitioning method, with $K=20$ centers and 10,000 iterations used as the base method. A number of bootstrap samples ($B=100$) were considered, resulting in a total of 2,000 centers, which were then hierarchically clustered using Euclidean distance and Ward's agglomerative linkage method.

These parameters were chosen because they provided the best performances in previous studies, which used simulated artificial datasets with similar characteristics to the one in this study (Dolnicar and Leisch 2004). Figure 2 shows the dendrogram derived from this procedure. The plot under the dendrogram in Figure 2 shows the distance of aggregation for each cluster, where the black line reports standardized absolute heights and the grey one stands for first differences. The accentuated bend in the grey line suggests that the suitable number of clusters is two or four. These correspond to cutting the dendrogram where the longest distance between two consecutive aggregations appears. Given that the purpose of this study is to identify segments of young travelers with a particular focus on niche segments, the four cluster solution is interpreted.

*****Take in Figure 2*****

Results

Cluster Description

The box plots in Figure 3 allow investigation of the distribution and interpretation of the cluster centers with respect to the segmentation variables used and the segments identified. The red line that runs across all the box-plots of a specific cluster, reports the sample mean of each variable. For the sake of interpretation, it is important to emphasize that the higher the height of the grey box (i.e. interquartile range), the smaller the homogeneity of the segment with respect to the variable considered. This implies that segments are better characterized by variables presenting low dispersion and that the stronger the dispersions of variables among segments, the more dissimilar the segments are.

*****Take in Figure 3*****

Two niche segments, clusters 2 and 3, emerged, and Kruskal–Wallis tests with ties were significant at $p \leq 0.01$ for all segmentation items, indicating that significant dependencies between items and groups exist. Cluster 1, consisting of 123 respondents, are Chinese potential travelers that cannot be distinguished from other clusters on the level of importance attached to push factors. However, they can be distinguished on eight pull factors (b1, b2, b4, b5, b6, b9, b10, b11), which include attributes such as Hotel/Hostel has a good reputation (“b1”), front desk open 24 hours (“b5”), restaurants serving Western and Asian fusion food with Chinese menus (“b9”), Chinese speaking staff at hotel (“b10”) and destination information available in Chinese (“b11”). This group will use the present general infrastructure available for visitors in Western Europe, including backpacker infrastructure, but also want services to be customized in Chinese. They essentially desire the current services, amenities and facilities offered to Chinese and western visitors in general. Accordingly, this cluster was named “*Essentials*”. Cluster 2 (22 respondents) is homogeneous in assigning high levels of importance to almost all of the push factors. This indicates a cluster that is driven by motives of socialization (“a1”), learning and discovery (“a6” and “a7”), prestige (“a4” and “a5”), relaxation (“a10”) and self-fulfillment (“a2” and “a3”). This cluster is agreeable to Western Europe offering most of the pull factors measured. However, they are less interested in shopping (“a9”) and are neutral about Western Europe Hotel/Hostel offering same sex rooms (“b17”). These visitors are the most exigent in terms of the services, amenities and facilities offered in Western Europe and their motivations are the most closely aligned to mainstream Chinese and partly independent travelers. Accordingly, this cluster was named “*Exigent*”. Cluster 3, consisting of 39 respondents, is homogeneous with respect to visitors who consider of lesser importance interactions with local people (“a1”), indicative of socialization not being an important motive for traveling to Western Europe. This cluster is also homogeneous with regards to the relatively low levels of importance attached to Western

Europe having hotel/hostels with good reputation (“b1”), restaurants serving western food with Chinese menus (“b8”) and western and Asian fusion food with Chinese menus (“b9”). Furthermore, they don’t agree that Hotel/Hostel must offer Chinese speaking staff at hotel (“b10”), destination information must be available in Chinese (“b11”), and safety deposit boxes provided in hotels (“b16”). Clearly, these visitors attach low importance to personalization of services and facilities in Chinese. Accordingly, this cluster was named “*Low Personalization*”. Finally, cluster 4 (119 respondents) had no particular attitudes given that they could not be differentiated from the other clusters on the basis of the push factors and could only be differentiated on the basis of two pull factors, restaurants serving western food with Chinese menus (“b8”) and restaurants serving western and Asian fusion food with Chinese menus (“b9”). In general, they rated many of the push and pull factors as neutral but rather agreed that they are “pushed” by visiting famous cultural and historical attractions (“a5”). They generally disagreed that they would visit Western Europe for shopping (“a9”). Hence, these visitors were named “*Neutrals*”.

Cluster Profiling

The four clusters were profiled against the socio–demographic (gender, age, income) and travel characteristics of a possible trip to Western Europe (purpose, duration, destination, information source). Appendix B reports the complete list of these profiling variables with a brief description of each. Regarding the socio-demographics, Chi-square test results revealed statistically significant differences between the four clusters on gender, monthly income, level of education, and employment status (Table 1). “*Essentials*” and “*Exigent*” clusters had the highest proportion of females (67% and 68% respectively) and the highest proportion of travelers with at most a University/college degree (72% and 82% respectively). The income levels were collapsed into two categories and the results indicated that travelers earning less than RMB 3,000 a month, constituted a high proportion of “*Exigent*” (68%) and “*Neutrals*”

(60%) visitors. The variable employment status was also recoded and the results revealed that the “*Low Personalization*” group had the highest proportion of full-time employed travelers (64%) while the “*Neutrals*” had the lowest proportion (39%). On the basis of travelers’ preferences for organizing their trip, accommodation, length of stay, the person they will be traveling with on their next trip to Western Europe, and main purpose of travel, no significant differences emerged between the four clusters, indicating that past ways of conceptualizing backpackers, as characterized by a minimum of organized activities, a preference for budget accommodation, and traveling mainly for holiday or recreational purposes, might not be relevant for the young Chinese market. In terms of preferences for non-personal sources of information, significant differences existed between the four clusters on the choice to use a guidebook, whereby the “*Low Personalization*” (77 %) and “*Essentials*” (71%) clusters would not use this source of information and “*Exigent*” travelers (50%) would use it. Likewise, a significant difference existed between the clusters on the basis of the destinations that they are most likely to visit in Western Europe. The “*Exigent*” and “*Essentials*” group had the highest proportion of potential travelers that want to visit France (91% and 79% respectively), Greece (77% and 57% respectively), and Switzerland (68% and 58% respectively) and a high proportion of travelers in the “*Exigent*” (45%) and “*Neutrals*” (38%) groups also wanted to visit the Netherlands.

*****Take in Table 1*****

The membership of each cluster was further analyzed using a multinomial logit model to enhance characterization of each cluster. The logit model was specified to show the socio-demographics and trip characteristics that significantly influenced the likelihood of respondents being part of one of the clusters with respect to the baseline group. In this study, the baseline group is the “*Neutrals*” (Cluster 4), given that they cannot be distinguished on any of the push factors and most of the pull factors. Regression models were estimated using

White's (1980) robust variance-covariance matrix in order to correct for the possible heteroskedasticity of the error terms. Table 2 reports the estimated coefficients.

*****Take in Table 2*****

The results confirm previous findings. Specifically with respect to the baseline group, we note that: females are more likely to be members of the “*Essentials*” segment; travelers with a monthly income of less than RMB 3,000 are less likely to be members of the “*Low Personalization*” cluster; travelers with at most a university/college degree are more likely to be members of the “*Essentials*” and “*Exigent*” segments; full-time employees are more probably “*Essentials*” travelers. In addition, the results showed that young travelers (18-25 years old) are most likely to be members of the “*Low Personalization*” cluster, while first-time visitors are less likely to be members of this segment. In terms of destination preferences, travelers who want to visit Belgium but not Netherlands are most probably grouped in the “*Essentials*” segment. “*Exigent*” travelers are most likely to visit France, Netherlands and Greece, but they are not attracted to Italy and Ireland. Travelers who want to visit Portugal and Switzerland are less probably members of the “*Low Personalization*” segment. Referring to the information sources that travelers want to use in planning their future trip to Western Europe, we note that travelers who want to use TV or radio advertising are less likely to be members of the “*Essentials*” group; those who want to use travel forums and blogs are less likely to be members of the “*Exigent*” group; and those who want to use a guidebook are less likely to be members of the “*Low Personalization*” segment.

Overall these results suggest that, with respect to the baseline group, female full-time employees would visit Belgium without using TV or radio advertising to plan the trip, and they will want the “*Essentials*” in terms of services to find Western Europe attractive as a destination. The “*Exigent*” travelers do not exhibit any particular characteristics with respect

to their socio-demographic and trip characteristics. This cluster is most likely formed by travelers who want to visit France, Netherlands or Greece, without using travel forums and blogs to plan their next trip. The “*Low Personalization*” cluster is young travelers who have visited Western Europe previously, having the income level to do so. They do not want to visit Portugal or Switzerland, and will most likely not use a guidebook to plan their next trip to Western Europe.

Discussion and Implications

The main objective of this study was to segment young Chinese travelers to Western Europe based on their motivations, using bagged clustering, and to identify whether an independent travel segment exists among such travelers. The results indicate the existence of four segments that portend the emergence of an independent young travel market from China. From a methodological perspective, the use of bagged clustering for segmenting motivations confirms the preferability of the method over the more traditional clustering methods for niche segment identification. In line with previous studies (Dolnicar and Leisch 2003, 2004), the identified segments are stable and reproducible unlike many other Chinese market segmentation studies (Chen, Bao, and Huang 2013; Hsu, Kang, and Lam 2006; Kau and Lim 2005; Li, Zhang, Mao, and Deng 2011; Maseiro and Nicolau 2012) that rely on hierarchical or non-hierarchical methods exclusively. The identified segments conform to prior knowledge on the Chinese market of the existence of two major travel orientations in the outbound market, group and independent travel (Li, Wen, and Leung 2011; Sparks and Pan 2009). The identified segments integrate more than one dimension of tourist motivation in clustering given that both push and pull factors were used simultaneously to identify the clusters. Hence, bagged clustering offers a more holistic perspective of travelers and reflects more accurately an inherent structure in a population (Dolnicar and Leisch 2003). Likewise, the interpretation and simplistic visualization advantages (e.g., Figure 3 box-whisker plots) of bagged clustering

offer managers a simple tool to understand what variables differentiate each segment and this information can be valuable for positioning and advertising purposes.

From a managerial perspective, the overwhelming finding is that there is an emerging independent travel segment among young Chinese outbound travelers. Unlike the study of Chen, Bao and Huang (2013) that identified several segments of independent travelers from the push factors of young Chinese travelers, we found pull factors (services, amenities and infrastructure provision) to be more apt at identifying an emerging independent travel segment. The “*Essentials*” are most likely to be female travelers, educated, employed full-time, and want the amenities, services, and facilities in Western Europe customized to the Chinese market. This segment does not exhibit the characteristics of an emerging independent travel segment. They are exigent in terms of the cleanliness of accommodation facilities, want service providers to have a good reputation, and offer adequate facilities in room. The findings conform to previous studies (e.g., Li, Lai, Harill, Kline, and Wang 2011) on service expectations of mainstream Chinese travelers who are mostly package tourists. A preference for more facilities and services offered would not be unique to Chinese independent travelers. Hecht and Martin (2006) found that Asian travelers in general were more demanding of services offered in western hostels.

The “*Exigent*” are driven by western (e.g., Loker-Murphy and Pearce 1995; Mohsin and Ryan 2003) and Chinese independent travel (e.g., Chen, Bao, and Huang 2013) motivations of socialization, learning and discovery, self-fulfillment and relaxation. These motives are not unique to Chinese independent travelers but commonly associated with Asian independent travelers from Japan, Thailand, Malaysia and South Korea in general (Bui, Wilkins, and Lee 2013). Similar to other Asian independent (Bui, Wilkins, and Lee 2013) and package travelers (Kim and Prideaux 2005), young Chinese travelers are also motivated by prestige. This reflects not only the motive of many mainstream Chinese travelers to visit the

western world but may also suggest the need for accumulating social capital to assert a new middle class identity upon returning home (Maoz 2007). The “*Exigent*” are most likely to be females, educated, earning less than RMB 3,000 a month, and driven by mostly by pull factors. This segment exemplifies a blurring or de-differentiation (Uriely 2005) of the borders between independent and group travel. This occurrence may be due to the “infancy” of Chinese independent travel, but it may also represent a breakdown in distinctions between tourist roles (Yiannakis and Gibson 1992), in which what may seem a contradiction in tourist behavior – the blending of independent and group travel – is not experienced as such by its practitioners.

The “*Low Personalization*” segment is particularly interesting as they exhibit some of the characteristics of an emerging Chinese independent travel market (self-fulfillment and relaxation) suggested in other studies (Chen, Bao, and Huang 2013). However, they are not motivated by socialization which is not uncommon to the behavior of mainstream Asian travelers (Kim and Prideaux 2005). The motive of socialization is an important characteristic of western independent travel (Loker-Murphy and Pearce 1995; Mohsin and Ryan 2003), but recent research (e.g., Larsen, Øgaard, and Brun 2011) suggests that this may no longer hold true, at least in a physical sense. An emerging Chinese independent travel scene values communication via virtual online communities, suggesting that virtual socializing with other travelers may take priority over socializing at the destination (Lim 2009). Given that this segment relies on the internet, travel forums and blogs for planning their trip may just as well reflect this behavior. This segment also consists of full-time employed, well educated (post-graduate), young (18-25 years old), and repeat visitors, who are also driven by similar push and pull factors as the “*Exigent*”. However, they do not expect Western Europe to personalize existing services, amenities and facilities to Chinese expectations. This segment will be particularly attractive to service providers in Western Europe. The “*Neutrals*” are not driven

by shopping, are mostly students or unemployed, and earn less than RMB 3,000 a month. They are mostly indifferent to the pull factors. Hence, this segment may not be an attractive segment for service providers in Western Europe.

Overall, the findings confirm that any nascent Chinese independent travel market is unlikely to be motivated by previously identified travel motives for western and Chinese independent travelers exclusively. Larsen, Øgaard, and Brun (2011) confirm that few differences on motivation persist between western independent travelers and mainstream tourists, suggesting that motives may not be sufficient as a psychological variable to explain visitor behavior. An emergent independent travel market from China is most likely to exhibit some similarities in motives of group Chinese travelers to Western Europe. Nevertheless, the findings have important managerial implications for developing independent travel infrastructure in Western Europe, service provision to young Chinese travelers, and destination marketing. The existing independent travel infrastructure in Western Europe has some appeal to young Chinese travelers. Specifically, they are interested in flexible transport options such as rail travel passes and hop-on/hop-off coach pass options. In terms of accommodation, the “*Essentials*” and “*Exigent*” typically value cleanliness of facilities, a kettle for hot water in room, complimentary linen and towels, front-desk open 24 hours, and internet facilities on-site. Accommodation closer to major attractions and transport facilities are likely to fair better with these segments. Such desired amenities and facilities are also essential for mainstream travelers from China (Li, Lai, Harrill, Kline, and Wang 2011), but the preferences of the younger market may well reflect Paris’s (2012) concept of “flashpackers”, an emerging sub-culture of independent travel tourism who are tech-savvy and relatively affluent.

Targeting young Chinese travelers will require a two pronged strategy for service provision. On the one hand, some travelers (“*Essentials*”) require service adaptation as they

would prefer Chinese speaking staff at hostels/hotels, destination information and restaurant menus available in Chinese, confirming previous studies on service provision to the Chinese outbound market (Hsu, Kang, and Lam 2006; Li, Lai, Harrill, Kline, and Wang 2011; Wang, Vera, and Tyler 2008). On the other hand, the “*Low Personalizations*” segment requires no such adaptation, reinforcing the idea of a heterogeneous outbound market from China. A good starting point for service providers will be to understand services and facilities offered in hotels and restaurants in China (Li, Lai, Harrill, Kline, and Wang 2011; Wang, Vera, and Tyler 2008). Some countries (e.g., France and the UK) already provide tourism services in Chinese (Chan 2006; Wang, Vera, and Tyler 2008), however, a more coordinated approach at the regional level (i.e. Western Europe) is necessary to ensure a quality experience for Chinese travelers, given their preference for multi-country itineraries (Euromonitor 2011).

The results of this study can also assist destination marketers with planning marketing and communication strategies. Marketing activities emphasizing shopping as a significant tourist activity in Western Europe is unappealing to some segments (e.g., “*Essentials*” and “*Neutrals*”). This differs from other studies (Arlt 2008; Hsu, Cai, and Li 2010) suggesting that the Chinese outbound market is primarily motivated by the quality of shopping activities. Hence, a more refined imaging and positioning of touring activities will be required for the young Chinese market based on the results of this study. Likewise, advertising and promotion campaigns solely focused on depicting either only group package or solo independent travel experiences may be unsuccessful with young travelers from China. They will relate better to ad campaigns showing some individuality within the comfort of group travel or the use of backpacker infrastructure by a small close-knit traveling group. Communication strategies should select media and on-line channels most appropriate to each segment. The “*Essentials*” are unlikely to rely on TV and radio advertising, the “*Exigent*” are unlikely to use travel forums and blogs, and the “*Low Personalization*” are unlikely to use guidebooks for planning

their trip. Hence, unlike previous studies (e.g., Sparks and Pan 2009) that found TV, fashion magazines, and travel books as the most used information sources to find travel-related information, our findings suggest that different segments have different preferences for collecting travel-related information. Given that the internet is used widely, destination marketers in Western Europe must monitor how the young Chinese market interacts with their reference groups, whether on-line or not, in collecting and disseminating travel-related information (Hsu, Kang, and Lam 2006).

Conclusion

The results of this study offer evidence of a heterogeneous young Chinese outbound market and suggest the emergence of an independent travel market to Western Europe among young travelers. Yet, the results presented are subject to several limitations. First, the use of a convenience sample of travelers impacts on the generalizability of the findings. Thus, the results are best used as a point of departure for other studies to empirically validate the propositions made. Second, the findings are derived from young travelers from one city only (Beijing). Replicating this study in other cities such as Shanghai and Guangzhou would be necessary to give more credence to an emerging young Chinese independent travel segment. Third, the methodology employed does not allow deeper cultural meanings affecting visitors' motivations and service preferences to be explored. Future studies can explore these using a qualitative methodology. Fourth, while the study implicitly assumes that potential Chinese travelers understand the difference between different types of accommodation, from hostels to four star-rated hotels, other studies (e.g. Hecht and Martin 2006) argue the contrary. Hence, future research should seek a deeper understanding of the Chinese market's perceptions of different forms of accommodation and other supply-side considerations. Despite these limitations, the evidence provided in this study suggests that the tourism industry in Western

Europe should be readying itself to welcome in the near future more diverse forms of travel by young Chinese travelers.

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Figure 1: The steps of the Bagged Clustering method.

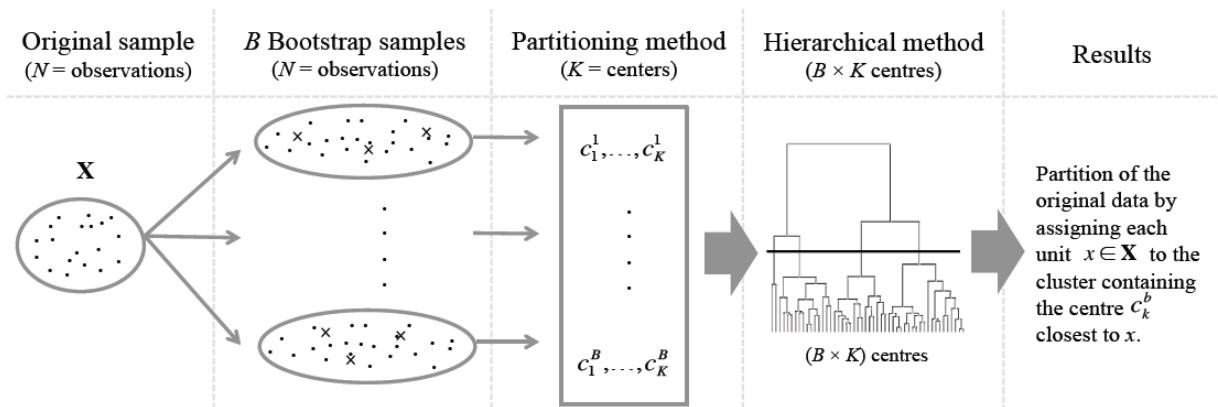


Figure 2: BC dendrogram and plot of the relative height of aggregation (black line) and the first differences (grey line).

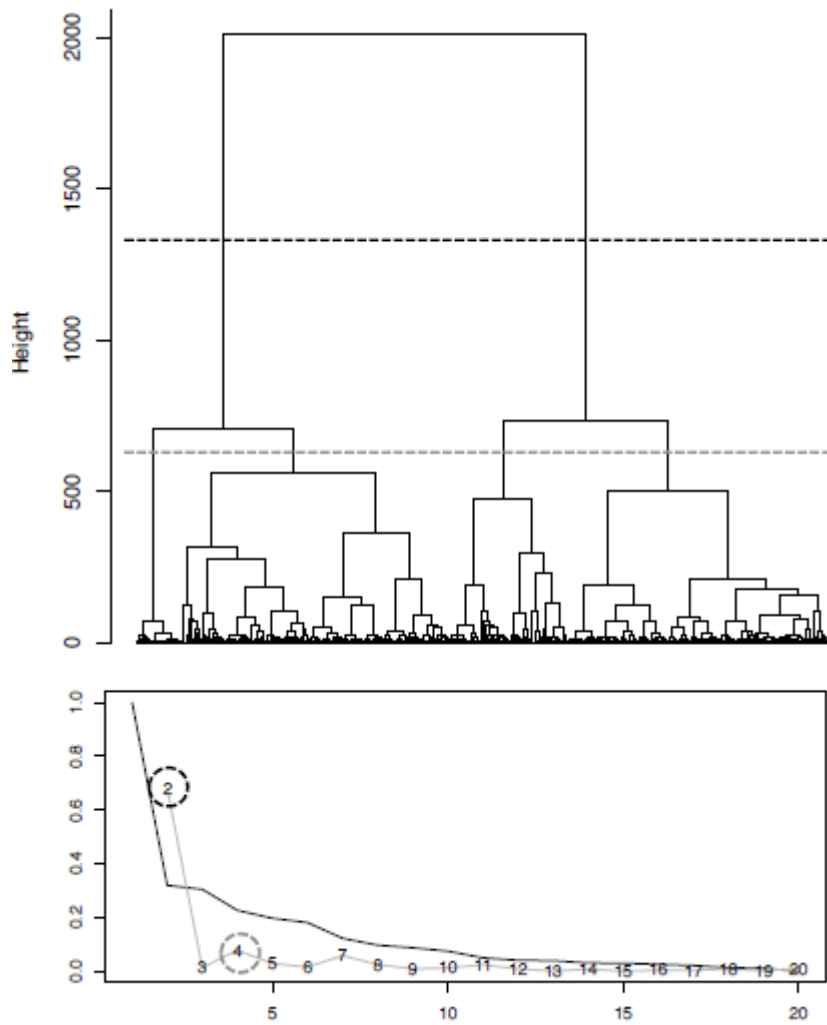


Figure 3: Box-plots for the four clusters solution.

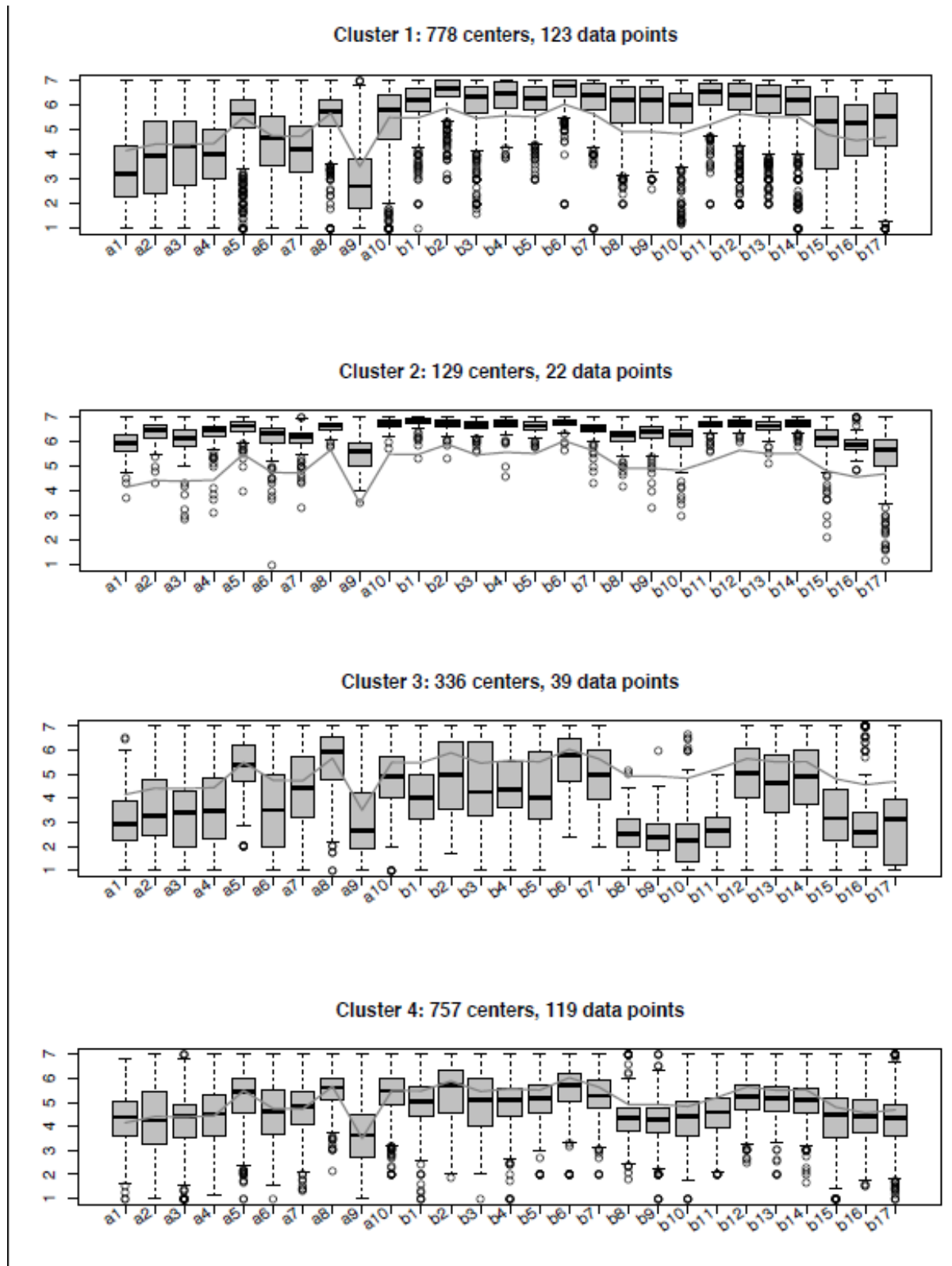


Table 1: Profiling of clusters by socio-demographic characteristics

Variables	Whole sample	CL1 "Essentials"	CL2 "Exigent"	CL3 "Low Personalization"	CL4 "Neutrals"	χ^2
<i>Socio-demographic characteristics</i>						
Female	57.10	66.67	68.18	48.72	47.9	10.93**
< RMB 3,000 monthly income	51.18	44.63	68.18	35.90	60.00	11.85***
Single	64.19	59.50	72.73	57.89	69.57	3.95
University/college degree or above	65.22	71.54	81.82	55.26	58.62	8.73**
18-25 years old	54.82	49.59	59.09	51.28	60.68	3.34
Full-time employee	50.33	58.54	40.91	64.10	38.98	13.13***
<i>Trip characteristics</i>						
Preferred type of accommodation: 3-5 star Hotel	41.39	43.09	40.91	46.15	38.14	1.03
First time visitors of Western Europe	77.44	79.51	80.95	63.16	79.31	5.12
Estimated duration of the next trip in Western Europe: less than 2 weeks	59.14	59.35	45.45	66.67	58.97	2.62
Party group of the next trip in Western Europe: family or partner	56.42	60.16	63.64	44.44	54.78	3.39
<i>Main Purpose of travel</i>						
VFR	2.97	2.44	4.55	2.56	3.36	0.40
Study	21.12	20.33	18.18	15.38	24.37	1.69
Work	4.95	2.44	4.55	10.26	5.88	4.21
Holiday	82.51	84.55	86.36	82.05	79.83	1.18
<i>What destinations are you most likely to visit?</i>						
UK	53.80	58.54	54.55	46.15	51.26	2.34
Italy	53.80	49.59	54.55	58.97	56.30	1.60
Belgium	13.20	16.26	13.64	10.26	10.92	1.84
Portugal	10.23	10.57	4.55	5.13	12.61	2.63
France	73.27	78.86	90.91	69.23	65.55	9.41**
Switzerland	53.80	57.72	68.18	38.46	52.10	6.42*
Ireland	16.17	18.70	9.09	10.26	16.81	2.44
Netherlands	31.02	22.76	45.45	28.21	37.82	8.77**

Germany	39.93	39.84	54.55	43.59	36.13	2.89
Spain	39.93	38.21	54.55	28.21	42.86	4.77
Austria	21.78	22.76	13.64	23.08	21.85	0.97
Greece	48.84	56.91	77.27	35.90	39.50	17.1***

What information source are you most likely to use to plan your trip to Western Europe?

TV or radio advertising	15.18	12.20	13.64	12.82	19.33	2.65
Guidebook	33.66	29.27	50.00	23.08	38.66	6.98*
Internet search engine	77.56	81.30	72.73	69.23	77.31	2.84
Travel agency	41.25	45.53	31.82	38.46	39.50	2.01
Travel forums & blogs	48.18	51.22	36.36	51.28	46.22	2.02
Special magazine	31.68	31.71	27.27	28.21	33.61	0.62

All test results are not significant unless indicated otherwise: ***Significant at $p \leq 0.01$, **Significant at $p \leq 0.05$, *Significant at $p \leq 0.1$.

Table 2: Results of the multinomial logit model

Independent variables	CL1 "Essentials"	CL2 "Exigent"	CL3 "Low Personalization"
<i>Socio-demographic characteristics</i>			
Female	1.019 (0.34)***	0.846 (0.69)	0.424 (0.49)
Less than RMB 3,000 monthly income	0.031 (0.87)	2.165 (1.99)	-2.534 (0.91)***
Single	0.177 (0.57)	1.069 (1.12)	-0.542 (0.86)
University/college degree or above	0.819 (0.34)**	1.864 (1.02)*	-0.263 (0.59)
18-25 years old	0.529 (0.68)	-2.932 (1.81)	2.519 (0.88)***
Full-time employee	1.494 (0.74)**	0.208 (2.45)	0.331 (0.74)
<i>Trip characteristics</i>			
Preferred type of accommodation: 3-5 star Hotel	-0.168 (0.38)	0.718 (0.72)	-0.123 (0.53)
First time visitors of WE	-0.142 (0.41)	0.019 (0.8)	-1.024 (0.59)*
Estimated duration of the next trip in WE: less than 2 weeks	0.263 (0.36)	-0.315 (0.74)	0.426 (0.53)
Party group of the next trip in WE: family or partner	0.294 (0.36)	0.43 (0.7)	-0.953 (0.59)
<i>Main Purpose of travel</i>			
VFR	-0.663 (0.92)	2.182 (1.98)	-0.412 (1.76)
Study	-0.012 (0.45)	-0.27 (0.87)	-0.532 (1.05)
Work	-0.496 (0.84)	-1.181 (1.55)	0.098 (1.46)
Holiday	0.189 (0.54)	0.454 (0.79)	-0.328 (0.98)
<i>What destinations are you most likely to visit?</i>			
UK	0.174 (0.34)	-0.211 (0.6)	-0.45 (0.46)
Italy	-0.555 (0.39)	-1.455 (0.77)*	0.754 (0.59)
Belgium	0.948 (0.56)*	0.687 (0.79)	-0.383 (1.1)
Portugal	-0.536 (0.71)	-1.17 (1.64)	-40.274 (1.19)***
France	0.48 (0.41)	1.894 (0.97)*	-0.022 (0.48)
Switzerland	0.235 (0.37)	0.64 (0.84)	-1.028 (0.57)*
Ireland	0.372 (0.58)	-2.017 (1.12)*	-0.805 (1.09)

Netherlands	-1.264 (0.41)***	1.091 (0.63)*	-0.207 (0.57)
Germany	-0.047 (0.36)	0.884 (0.64)	0.611 (0.53)
Spain	-0.343 (0.36)	0.052 (0.6)	-0.844 (0.59)
Austria	0.288 (0.47)	-0.823 (0.92)	-0.169 (1.02)
Greece	0.442 (0.38)	2.239 (0.71)***	0.144 (0.57)
<hr/> <i>What information source are you most likely to use to plan your trip to Western Europe?</i>			
TV or radio advertising	-0.823 (0.48)*	0.257 (0.73)	-1.518 (1.14)
Guidebook	-0.47 (0.34)	0.288 (0.68)	-1.187 (0.67)*
Internet search engine	0.114 (0.39)	0.571 (0.77)	-0.91 (0.73)
Travel agency	0.388 (0.32)	-0.462 (0.53)	0.017 (0.53)
Travel forums & blogs	-0.114 (0.34)	-2.025 (0.72)***	0.036 (0.57)
Special magazine	0.132 (0.36)	-0.011 (0.65)	-0.129 (0.65)
Constant	-2.545 (1.1)	-7.152 (3.65)*	1.89 (1.66)

Notes: All test results are not significant unless indicated otherwise: ***Significant at $p \leq 0.01$, **Significant at $p \leq 0.05$, *Significant at $p \leq 0.1$. Robust Std. Err. in brackets. $N = 278$; Wald $\chi^2(96) = 6058.09$; Prob > $\chi^2 = 0.00$; Pseudo $R^2 = 0.2326$; McFadden $R^2 = 0.233$; Cox &nell $R^2 = 0.423$; Nagelkerke $R^2 = 0.467$.

Appendix A

Labels	Description
<i>How important are the following motivations in influencing your choice to travel to Western Europe?</i>	
a1	Interact with local people from Western Europe
a2	To feel free and independent
a3	To find thrills, excitement and adventure
a4	Visit destinations that others think are worth visiting
a5	Visit famous cultural and historical attractions
a6	Fulfil your curiosity about Western Europe
a7	Learn about the history and culture of Western Europe
a8	See some beautiful natural scenery
a9	Go shopping for Western European products unavailable or much too expensive in China
a10	Physically relaxing and resting during your travel
<i>To what extent do you agree or disagree that Western Europe must offer the following facilities, amenities and services to Chinese visitors like yourself?</i>	
b1	Hotel/Hostel has a good reputation
b2	Clean kitchen, bedroom and bathroom
b3	Complimentary linen and towels
b4	Adequate facilities in room (e.g. kettle for hot water)
b5	Front-desk open 24 hours
b6	Internet facilities on site
b7	Close to tourist spots and amenities (e.g. transport)
b8	Restaurants serving Western food with Chinese menus
b9	Restaurants serving Western and Asian fusion food with Chinese menus
b10	Chinese speaking staff at hotel
b11	Hotel/Hostel and destination information available in Chinese
b12	Rail travel pass options
b13	Hop-on, hop-off coach pass options
b14	Affordable short-haul flights
b15	One-use toiletries
b16	Safety deposit boxes
b17	Same sex rooms

Appendix B.

Independent variables	Descriptions
<i>Socio-demographics</i>	
Gender	1= female; 0= male
Individual Monthly Income	1= individual monthly income less than RMB 3,000; 0 = otherwise
Marital Status	1 = Single; 0 = otherwise
Education level	1 = University degree and less; 0 = Post-graduate degree
Age	1 = 18 and 25 years old; 0 = 26 years old and over
Employment Status	1 = Full-time employee; 0 = student or not employed
<i>Travel characteristics</i>	
Preferred Type of Accommodation	1= 3-5 star hotel; 0= otherwise (e.g., hostel, guest house)
Visitation Status to Western Europe	1= First-timer; 0= otherwise
Estimated Duration of the Next Trip to Western Europe	1= less than 2 weeks; 0= otherwise
Party Group of the Next Trip to Western Europe	1= Family or partner on the next trip; 0= otherwise
<i>What will be the main purpose of your travel to Western Europe?</i>	
VFR	1= visiting friends & relatives; 0= otherwise
Study	1= study; 0= otherwise
Work	1= work; 0= otherwise
Holiday	1= holidays; 0= otherwise
<i>What destinations are you most likely to visit?</i>	
UK	1= UK; 0= otherwise
Italy	1= Italy; 0= otherwise
Belgium	1= Belgium; 0= otherwise
Portugal	1= Portugal; 0= otherwise
France	1= France; 0= otherwise
Switzerland	1=Switzerland; 0= otherwise
Ireland	1= Ireland; 0= otherwise

Netherlands	1= Netherlands; 0= otherwise
Germany	1= Germany; 0= otherwise
Spain	1= Spain; 0= otherwise
Austria	1= Austria; 0= otherwise
Greece	1= Greece; 0= otherwise

What information source are you most likely to use to plan your trip to Western Europe?

TV or radio advertising	1= TV or radio advertising; 0= otherwise
Guidebook	1= Guidebook; 0= otherwise
Internet search engine	1= Internet search engine; 0= otherwise
Travel agency	1= Travel agency; 0= otherwise
Travel forums & blogs	1= Travel forums & blogs; 0= otherwise
Special magazine	1= Special magazine; 0= otherwise
