Tourism market segmentation of Italian families for the summer season

La segmentazione del mercato turistico delle famiglie Italiane nella stagione estiva

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Abstract In last decades, the rapid expansion of tourism sector and the major differentiation of the tourism products have stimulated several studies in segmentation of tourism markets; but the applications of that technique has always focused on single consumers, while often the real "buyer" is the family. In this paper, we deal with national leisure tourism of Italian families in summer season; for the analysis, a sample of around 3,500 Italian families from a multi-scope sample survey "Travels and Holidays", collected by the National Institute of Statistics (ISTAT) is used. The major objective of this study is to investigate holiday strategies of Italian families in connection with recent changes in family structure, in order to individuate different profiles and different customs in travel patterns.

Abstract *Negli ultimi decenni, la rapida espansione del settore del turismo e la maggiore differenziazione dei prodotti turistici hanno stimolato numerosi studi sulla segmentazione dei mercati turistici. Gli studi si sono comunque concentrati sui singoli consumatori, mentre spesso il vero "committente" è la famiglia. In questo lavoro, focalizziamo l'attenzione sui viaggi e le vacanze delle famiglie italiane nella stagione estiva. Per le analisi, abbiamo utilizzato l'indagine multiscopo dell' 'Istituto Nazionale di Statistica (ISTAT) "Viaggi e vacanze", . L'obiettivo principale è quello di esplorare le scelte delle famiglie italiane in relazione con i recenti cambiamenti nella struttura familiare e individuare diversi profili e differenti modelli di viaggio.*

Key words: cluster analysis, market segmentation, tourism

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1. Introduction

In the last fifteen years, the framework of Italian families has changed considerably. Traditional families have decreased (-5,4%), while singles, childless couples and single-parent families have increased (ISTAT, 2014a). This change in the social fabric has important implications; one of these is the variation in consumer habits, that strongly reflect the structure of families. In 2013 around a fifth of Italian population had at least one journey (ISTAT, 2014b); 91% of these were leisure travels. In summer season, the percentage of Italians who had at the minimum one holiday trip increase to 38,3%. However, since 2009 the number of trips made by Italians has fallen; it has been estimated that only in last five years have been lost around 60 million of journeys (ISTAT, 2014b).

Segmentation (Kotler and Keller, 2012) is a common marketing technique that consists to divide market into well-defined slices, called "segments"; each one consists of a group of consumers (or, more generally, subjects) who share a similar set of needs and wants.

In tourism sector, is broadly recognized that different tourists have different needs, that have to be satisfied in a different manner (Dolnicar, 2002); consequently, "the concept of [tourism] market segmentation has been widely accepted and warmly embraced" (Dolnicar and Bettina, 2008), also because it represents a largely accepted and an effective method for analyzing tourist behaviour (Huang and Sarigöllü, 2007). However, past studies on tourism market segmentation were focused on grouping single tourists, neglecting the core unit of the society: the family. As a matter of fact, in the literature tourist is considered as a lone traveller, but in reality tourism is intensively group based, and families form the consumer base of tourism industry (Obrador, 2012). Many authors in last years have drown attention to the "invisibility" and the marginalization of the family in tourism theory (Obrador, 2012), also with the absence of childhood (Obrador, 2012; Small, 2008; Blichfeldt, Pedersen, Johansen and Hansen, 2011; Schänzel, Karen and Weaver, 2005). In addition, in vacation decision-making (Blichfeldt, Pedersen, Johansen and Hansen, 2011) the unit (i.e. the buying centre) is many a time represented by the family. Nevertheless, this relationship between families and tourism reflect the changes in family framework of Western countries, because these transformations in demographics have implied important changes in tourists' behaviour (Schänzel, Karen and Weaver, 2005).

In this paper, we analyze holiday customs of Italian families through clustering techniques; the main aim of this paper is to discover travel preferences relating to the composition of the contemporary families.

2. Data

We use data of multipurpose survey on households: trips, holidays and daily life. Since 1997, the National Institute of Statistics (Istat) carries out the quarterly survey CATI (Computer Assisted Telephone Interview) "Trips and Holidays" on a sample of about 14,000 households per year (approximately 3,500 per quarter and 32,000 individuals per year). The aim is to quantify and analyze the flows of tourists resident in Italy, both within the country and abroad, as well as to give information on the characteristics of the trips and on the socio-demographic characteristics of tourists and non-tourists. The reference periods are the four quarters January-March, April-June, July-September and October-December. In each period, for each household member, information about trips ended in the referring quarter is collected[2].

We analyse a sample of 3,506 Italian families, in the period from July to September 2013. The target population is composed of Italian families; family is defined by group of people that live together, connected with marriage, family relationship, affinity, adoption or protection (ISTAT, 2014b). From this survey, we selected families who made almost one journey for leisure purpose in the third quarter of 2013, obtaining a sub-sample of 976 families. To describe Italian family's vacations we selected twelve indicators (Table 1). In addition, we use three demographic indicators of Italian families (Table 2).

Table 1: Travel habits variables

Variables	Meaning	Levels
DEST_ITA	At least one holiday in Italy	No/Yes
DEST_EU	At least one holiday in Europe[3] (not Italy)	No/Yes
DEST_REST	At least one holiday in extra-European countries	No/Yes
MEZZO	Principal mean of transport	Plane/Train/Ship/Road
MOTVAC	Principal motivation of the holiday	Leisure/Visit to relatives/ Religion/ Wellness
ORGALL	Reserved accommodation	No/Yes
IORGALL	Internet reserved accommodation	No/Yes
ORGTRA	Reserved transport	No/Yes
IORGTRA	Internet reserved transport	No/Yes
FBREVE	At least one short holiday	No/Yes
FLUNGA	At least one long holiday	No/Yes
FNVAC	Number of holidays	1/from 2 to 3/4 or more

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[2] See the website http://siqual.istat.it/SIQual/visualizza.do?id=0098401.

[3] European countries are selected by UNWTO classification

Table 2: Demographic variables

Variables	Meaning	Levels
NCOMP	Number of family's components	1/2/3/4/5 or more
ISTR	Highest qualification in family	PhD/4-years degree/ Master's degree/ Bachelor's degree/ Associate degree/5-years High School/3-years High School/Middle School/ Elementary School/ No title
RIP	Geographical division (area of residence)	North-East/North-West/ Middle/South/ Islands

82.27% of families made at least one trip to Italy, 24.18% in Europe and 3.38% in the rest of the world, using for travel mostly cars and buses. Most travellers made a trip for pleasure (72.28%) or to visit relatives (22.59%), only a residual part of sample travelled to religious tourism (3.08%) or take care health (2.05%). in the third quarter, Italian families are mainly vacationers looking for relaxation after a long period of work or study. They seek entertainment, a few days (23.92%) or for a longer period (84.39%), taking advantage of good weather and taking the opportunity to visit relatives. For travel they use mainly car or bus (71.36%), airplane (16.63%), while few people train (5.65%) or ship (6.37%). A little group of tourists uses Internet to organize their trip: schedule it entirely (22.79%) or only transport (16.02%). It comes to individuals with a high level of education (X^2 test with p-value=0.003) with families of 2 or 3 members.

3. Methods

To study according to the individuals, the variables and the categories, we use Multiple Correspondence Analysis (MCA – Greenacre & Blasius, 2006) on selected twelve indicators (see Table 1) and three supplementary variables (see Table 2). We are looking for latent variables which sum up the information contained within a number of variables.

To study how close the categories are to one another, one must We apply on the first factors of MCA several clustering algorithms: complete, k-means and PAM (Partioning Around Medoids) to detect the optimal partition.

We applied the Calinski-Harabasz, Dunn, and Silhouette indexes to judge various aspects of cluster validity measure the goodness of a clustering structure and to compare different clusters.

5. Main results and discussion

The most important latent dimensions detected by MCA are two: 1) the first factor, that explains 78.45% of the inertia, represents the organization of the travel: transportation, accommodation, use of Internet in the plane; while the second factor, that explain 10.39% of the variability, is the duration of holiday.

Table 3 shows the results the Calinski-Harabasz, Dunn and Silhouette indexes for k-means that presents the best solution for 3 clusters. We also used the PAM, and hierarchical methods single ward and average algorithms, but the results were not satisfactory for this reason have not been reported. Figure 1 shows the groups obtained.

We detected the following family tourism profiles:

1) TRADITIONAL HOLIDAY-MAKINGS (red cluster): they often travel by car, holiday spent in ownership houses for a long time period, older people who belongs to few-components families;

2) INTERNET USERS (black cluster): they plan their holiday through internet, they travel by air and go abroad, choosing the highest level of accommodation. Their families are made up 3 or 4 young people, composed by members who got a job;

3) HASTY HOLIDAY-MAKING (green cluster): they plan short vacations in Italy, they travel by car or train, and choose a intermediate level of accommodations.

Table 3: Clustering indices for choosing the optimal number of clusters with k-means algorithm

N. Clusters	Calinski-Harabasz Index	Dunn Index	Silhouette Index
2	982	0,014	0,518
3	**1543**	**0,035**	**0,576**
4	1373	0,03	0,466
5	1217	0,023	0,422
6	1527	0,017	0,479

Figure 1: Plane representation of the cloud of individuals
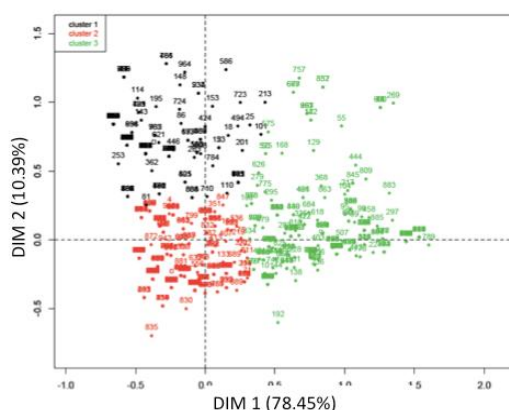
In the third quarter of 2013, Italian family profiles on holiday are well defined: the clusters are strongly linked to family composition, age of the members and the financial resources; in the next step, we will extend analysis to remaining quarters and from 2006 to 2013 to compare the effects of the economic crisis on Italian family holidays.

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