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ScienceDirect

Procedia - Social and Behavioral Sciences 111 (2014) 166 – 175

Procedia
Social and Behavioral Sciences

EWGT2013 – 16th Meeting of the EURO Working Group on Transportation

Can High Speed Rail foster the choice of destination for tourism purpose?

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Abstract

Marketing decisions and strategic planning of tourism provisions require knowledge of factors affecting this choice and type of trips and forecast of tourism flows in the short and long term. It is interesting to know how holidaymakers select their holiday destinations and investigate which factors are determining their choices. Indeed the objective of this paper is to analyze the role of High Speed Rail systems in this choice. A survey was carried out in Paris in October 2012, tourists were interviewed close to the Eiffel Tower, Paris Lyon Central Train Station and Notre-Dame Cathedral. The results will be compared with a previous survey employed in Rome in April 2012. The scope here is providing an answer to the questions: are tourists influenced by the presence of High Speed Rail in choosing Paris or Rome for their holidays? Does High Speed Rail influence the probability of visiting other served cities and returning to Paris or to Rome? The research suggests that several factors (the presence of architectural sites, the quality of promotion of the destination itself, the presence of events) influence the choice of a tourist. It also shows that the HSR system has affected the choice of Paris and Rome differently.

Selection and/or peer-review under responsibility of Scientific Committee

Keywords: High-Speed Rail; Tourism market; Destination choice; Regression models.

1. Introduction

Major investments on High Speed Rail (HSR) systems have been recently carried out all around the world. Asia is currently the leader in HSR systems in terms of km of lines with 10 271 km (6 914 km in Europe) (UIC, 2012). In USA, HSR is a nascent project. In 2011, the administration of President Obama has budgeted $10 billion for investments in HSR systems to connect major urban centres. In Europe the first HSR line was the

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Selection and/or peer-review under responsibility of Scientific Committee
doi:10.1016/j.sbspro.2014.01.049

"Direttissima" Rome-Florence. Designed at the beginning of the sixties, it was built during the seventies and since 1978, the first section was operational. This was a specific response to the poor quality of the conventional rail route between these cities, which was also the main link between Rome and Northern Italy. The first HSR link in France, between Paris and Lyon, was opened in 1981; the Hannover-Wuerzburg HSR line was opened in the second half of the eighties in Germany; while in Spain the section Madrid- Cordoba-Seville of 470 km long was inaugurated in 1992. The development of the High Speed/High Capacity network in Italy is embedded in the wider context of the Trans European corridors. In 2000 Italy had 248 km of HSR line, those from Rome to Florence; around half of those of Germany and Spain and even one fifth of those of France. In 2006 there were 562 km due to the opening of the Rome-Naples and of the Turin-Novara sections, but Spain in the same period passed from 470 to 1 225 km. Once the whole HSR project is completed in 2014, most major cities will be connected to the network (see Fig. 1). The key objective for the construction that is currently underway is to raise the Italian rail network to the best European standards and to improve its capacity. After the completion of the HSR system there will be a reduction in travel time between the major cities connected of almost 40-50%. In addition to HSR lines, there is also the High Capacity (HC) rail lines consist in speeding up and increasing the capacity of the existing rail lines. In this case, the new rail lines have lower speed limits, but at the same time they allow a better service. An example of this type is the Regional Metro System (RMS) project of Naples and Campania region in Italy (Cascetta & Pagliara, 2008). The national Italian network and operations are owned by FS (State Railway) Holdings, a fully government owned company. It has three key operating subsidiaries: Trenitalia operates all freight and passenger trains, including the HS trains, RFI (Rete Ferroviaria Italiana) manages the infrastructure, and TAV (Treno Alta Velocità SpA) is responsible for the planning and construction of the new HS infrastructure. In the last year, a new operator named Nuovo Treno Viaggiatori (NTV) (New Passengers' Train) is in competition with Trenitalia. Italo, the new HS train, has been operating since March 2012.

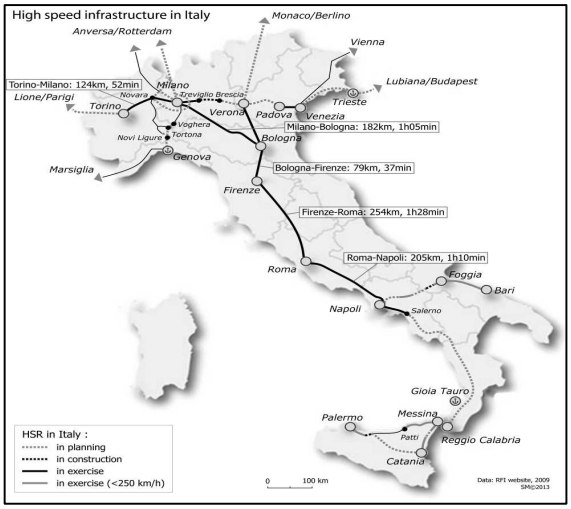

Fig.1. The HS/HC rail system in Italy

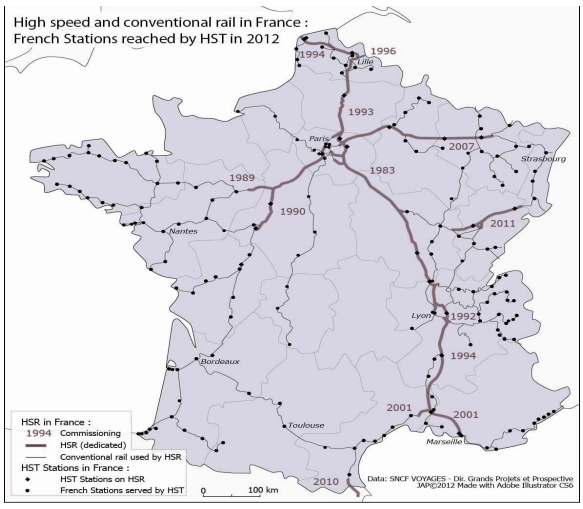

Fig. 2. High speed lines and high speed rail services in France

In France, since the 1980's, HSR and train services have been mainly developed through radial axes from Paris. In 2011, the HSR system was 30 years old and 2036 km long according to UIC. The South East HSR, linking Paris and Lyon was inaugurated in 1981. It is the first axis of a star network around the French capital. It reproduces the historical morphology of French rail network, centred in Paris. HS Trains (HST) reach the speed

of 320 km/h and use a HS dedicated line network, offering performance and frequency. However, the HSR service is specific in France. HSR network is connected to the conventional rail network, and HST rolling stock is compatible on both networks, allowing a large and direct accessibility of HSR services in French territory. In France, there are less than 20 HSR stations but about 200 stations served by HST (see Fig. 2). The HSR service of Paris destination is provided by 4 main central stations (Paris Lyon, Paris North, Paris East and Paris Montparnasse Central Train Stations), and completed by 3 regional stations (Massy HST Station, CDG Airport HST Station and Marne-la-Vallée Chessy HST Station). Each central station is served by a line linking to a specific area in France: south west in Paris Montparnasse Station, south – south east in Paris Lyon Station, east in Paris East Station and north in Paris North Station. These 4 stations are departures or terminal stations. Transfers between two central stations cannot be made by train and are not easy.
The development of the HSR network is based on nested stakes: reach of technological progress, commercial strategy, French planning, European positioning etc. According to the French national railway company (SNCF), over the years, 2 billions of passengers have travelled with French HST (TGV) and over 83% of French use it at least once. It is a commercial success and a technological showcase for the French historical operator. The French network is also well connected to European network. The SNCF is operating on French lines with TGV, and on international ones in partnership with European operators (Eurostar, Thalys, Lyria etc.). Since 1997, SNCF and the rail infrastructure manager, RFF (Réseau Ferré de France), have been separated. But, the French government is working on a new rail reform (2013), which will bring changes in few months.

HSR systems seem to represent the present and the future of transport investments. The European Commission foresees that, by 2050, medium distance transport of passengers will take place by train including HST (EC, 2011, p. 9) and many are the expected impacts. Our aim is to propose a first analysis of how affected urban tourism destination choice may be by HSR Services (HSRS). Although there is large literature on HSRS and tourism (see Bazin *and al*, 2011b, for a review) the analysis on the link between HSRS and destination choice seems to have been less investigated. However it is interesting to know how holidaymakers select and revisit their holiday destinations and to investigate which factors are determining their choices. Masson and Petiot (2009) stated that the introduction of HSR can improve the tourists' utility and thus reinforce the tourist attractiveness of the territory. Indeed, investments in transport infrastructures and services bring an increase in employment and therefore an increase in the economic growth of a country. At the same way, an increase in tourism demand brings an increase in employment and, in turn, a significant contribution to the GDP of a country. The objective of this paper is to investigate the role of HSR in destination choice for tourism purpose and on the probability to return in a served city. The case study of Paris will be analysed and compared with a previous study carried out in Rome in Italy. It is very clear from the above analysis that the two HSR networks have been developed differently during the years, i.e. that of Italy is very recent and therefore less well "rooted" among the users and a little more expensive[†] compared to that of the French TGV. Indeed in France there are specific prices and reduced prices for young people. HSR is highly used and well accepted among the users and considered as a transport alternative.

This paper is organized as follows. Section 2 provides an overview of the literature on destination choice for tourism purpose highlighting the factors influencing this choice and the role of HSR systems on it. Section 3 reports the two case studies of Rome and Paris, specifically the results of the surveys will be analyzed in details, while in section 4 the willingness to revisit Rome and Paris is described from the modelling point of view. In section 5 conclusions and further perspectives will be reported.

[†] 43 Euros BASIC; 50 Euros PREMIUM; 58 Euros BUSINESS SILENT AREA; 70 Euros BUSINESS LOUNGE; 99 Euros EXECUTIVE for going to Naples to Rome and vice-versa 195 km to travel on an ordinary day. In France for a 200km trip (for example from Paris to Tours) 46 euros for the class 2 and 86 for the first one.

2. An overview of previous studies on the link between HSR and Tourism

The analysis on how urban tourism destination choice may be affected by HSRS needs to identify the elements affecting the choice of destination and the role played by transport.

Concerning the first point, in 1973, Rugg wrote "*little theoretical or empirical research has been generated on the determinants of the demand for foreign travel*" (Rugg, 1973, p. 65). He was the first to introduce a time constraint, the modification of the budget due to transportation cost between alternate destinations and the modifications of the time constraint resulting from including the time cost between alternative destinations.

Since then, there have been a lot of studies concerning destination choice. From a microeconomic point of view, a review of the existing tourism demand literature is dominated by econometric models which follow a single-equation time-series approach (Lim, 1997), and from few advanced studies of demand systems (O'Hagan and Harrison, 1984). Because the existing demand models do not consider measures of traveller's attitudes including perceptions of service attributes and personal feelings toward different destinations and/or services, they are not sensitive to the wide range of strategies that can be designed to motivate/influence or change consumer travel behaviour (Koppelman, 1980). In addition to the most popular time series models, Song and Li (2008) reported an overview of the modelling and forecasting methods that can be applied to tourism. Specifically, logistic regression models have been extensively used also at the tourist demand analysis (Witt and Witt, 1995; Song and Wong, 2003) especially to explain the decision to do/not to do a holiday. Very interesting are some contributions which analyze the relationship between past experience and the perceived image of a tourist destination (Beerli and Martin, 2004; Decrop and Snelders, 2004); individual characteristics and the type of accommodation used (Pina and Delfa, 2005); duration of the holiday and socio-demographic, motivations and destination characteristics (Filippini, 2005).

Concerning the second point, if literature recognizes that transport is very important for tourism development, the analysis of this role in general has often been overlooked: "*little serious research has been undertaken into the significance of transport as a factor in destination development*" (Prideaux, 2000, p. 54). But "*the health of the nation's tourism industry is inextricably tied to the efficiency of its transport system*" (Prideaux, 1993, p. 246). Indeed, transport is intrinsically linked to tourist' behaviour; transport is an integral part of tourism. Moreover, "*the ability of the transport industry to service the needs of the tourist industry is largely driven by the key consumer demands for speed, convenience, safety, comfort and affordability*" (Prideaux, 1993, p. 248). According to gravitation models (cf. Crampon, L. J., 1966, for the first study of that type) the number of visitors that can be attracted to a destination depends on the magnitude of the population in the area market and on the distance between this destination and this market area. The number of tourists decreases with growing distance.

However a transport innovation as a HSRS (Delaplace, 2012) modifies the link between tourists and distance because a decrease of travelling time can be analyzed as a decrease of distance. Because time is money, HSRS can decrease generalized transport costs. Consequently HSRS can affect the utility of tourists and the competition between destinations (Masson and Petiot, 2009): the market area and the market competition can be enlarged. Some cities can be reinforced while others could be disadvantaged (see Wang *et al*., 2012, for the Chinese' case study). Chen and Haynes showed for China that provinces that are served by HSRS "*are likely to have approximate 20 percent additional numbers of foreign arrivals and 25 percent greater tourism revenues than provinces without such systems*" (Chen, Haynes, 2012, p. 1). For these authors, HSR will have an effect on strengthening of the competitiveness in tourism.

In their qualitative analysis of the impact of HSR on urban and business tourism on French cities close to Paris in France based on a literature review and on interviews, Bazin *et al*. (2011a) showed that this kind of tourism may be fostered by HSR for at least four reasons: first, urban tourism is short stay tourism (two or three days) especially during weekends. Consequently, using HSRS avoids the fatigue of driving, congestions and parking difficulties in city centres. Second, in some countries and during certain times of the year, especially with some promotional offers, it can be cheaper than the road trips when travelling alone or in couple. Third, compare to

airplane, it can allow saving time particularly when the station is located in the centre of the city. Finally, it offers advantages due to the growing concern for sustainable development. HSRS present better ecological assessment than other means of transportation (EC, 2009).

Another interesting aspect for tourism is to study tourist's intention to revisit a specific destination and particularly in city. In this respect, we can hypothesis that the accessibility that HSRS can foster the tourism return intention to a city. Very limited contributions are present in the literature. One of the most important paper analyses the probability of revisiting Cyprus with respect to socio-demographic and destination characteristics (Seddighi and Theocharous, 2002). In this paper a micro-econometric approach, based on observations of holidaymakers, is proposed. This approach allows the examination of the characteristics which influence individual travel behaviour and it provides a conceptual/methodological framework for the understanding of the nature, form and character of the holiday-decision-making processes of individuals. The first study which analyses the different covariates of revisiting Lisbon uses a mixed logit model and a mixed logit with bounded parameters model. The probability of revisiting Lisbon "*increases significantly with accommodation range, events, food quality, expected weather, beach, overall quality, nightlife, reputation, and safety*" (Barros and Assaf, 2012, p. 224). They also showed that the overall quality and reputation variables, which are not statistically significant in the logit model, become statistically significant in the mixed logit model.

However, currently and to our knowledge, there is no previous survey that tries to evaluate the link between HSRS and 1) tourism destination choice and 2) tourism return intention to an urban destination, apart from the case study of Roma which will be described later in the paper (Valeri *et al*., 2012). As mentioned above, from the literature it emerges a lack of contributions that analyze the relationship between tourism and transport. Furthermore, few studies used a quantitative approach for the analysis. This paper attempts to consider various aspects related to transport in particular to HSR using logistic regression econometric models.

3. The lessons learnt from the two cases studies of Paris and Rome

3.1. HSR and tourism in Paris and Rome

In order to investigate the impacts of HSR systems on tourists 'choice, two case studies will be analyzed. They differ in terms of countries analysed, therefore in terms of different behaviour of the tourists and therefore of the users of the HSR systems. The first one is that of Rome in Italy where a Revealed Preference survey was employed from the 16th of April till the 5th of May 2012 (from 7:00 a.m. till 8:00 p.m.). The locations chosen were Termini rail station and two famous tourist places like Colosseo and the Vatican (Valeri *et al*., 2012). 241 complete interviews were collected and the sample consisted of 152 individuals (63%) men and 89 women (37%). The age range was between 18 and 74 years old (mean = 39), 64% of them were unmarried. 71% of tourists were Italians and 29% foreigners. 87% of travels were made in group (the remaining 13% travelled alone), mainly with family (41%) and friends (42%). 65% of respondents attended high school and 34% of them had a bachelors/graduate degree or other professional certifications (1%). Most of respondents were dependent-workers (44%) or freelance (19%). Income of 23% of the sample was less than 500€, 37% between 501 and 1 500€, and 21% between 1 501 and 2 500€.

The second case study is in Paris, an international tourist destination and also a major railway node in France and Europe. Both case studies are based on a random sampling technique and they have not been weighed.

In the case of Paris, the Revealed Preference survey was employed from the 26th of October till the 2nd of November 2012 (from 7:45 a.m. till 7:00 p.m.). The location chosen were two famous tourist places in Paris, i.e. the Eiffel Tower and Notre Dame Cathedral, and Paris Lyon Central Train Station. It is the first Parisian Station served by HST, reach by the historical line Paris-Lyon. Also, this station has the highest HSR frequency of

Parisian stations, about 31,8 million of passengers in 2012[‡] (SNCF). 226 complete interviews were collected, with a highest representation of women (58%) than men (42%). This highest representation of woman in the French case, comparing Roma's case, is coherent with tourist data in Paris (CRT, 2012). In Paris, 42% were French while 58% were foreigners. The age ranged from 18 to 73 (mean of 38), and tourists from 25 to 44 years old are the most represented ones (43%). For this sample, 32% of the tourists were singles and 68% partnered. 172 respondents (76%) were travelling in group, mostly with family (58% of the respondents) or friends (19%). Most of the respondents have university degrees (74%), 19% attended high-school and 7% junior high-school. Respondents were employees (33%) and managers or executives (23%). Freelance were less represented than in the Rome case study (13% of the French sample). About 20% of the respondents were students (15% of students and 4% of student employees). For 55% of the sample, the income was more than 2 500€ per month, and actually more than 4 500€ for 22% of the respondents. 10% of them have an income lower than 500€. Concerning the transport mode used to arrive in Rome the most used were the airplane (35%), intercity rail (33%) and HSR (27%). A small percentage chose car, conventional train and coach (respectively 3%, 1% and 1%). For obvious reasons, the airplane was used mainly by foreigners even if it was also used by a limited number of Italian respondents (14%). In the Parisian case, 110 respondents came by HSR (49%) and 116 chose other modes (51%). Plane was used by 34% of the sample, with higher rate for foreign tourists (52% of foreign respondents). However, 38% of foreigners chose HSR. According to local authorities, French tourists and also European ones are significantly coming to visit Paris using HSR (CRT, 2012). For French tourists, only 8% of them were using plane and 64% HSR. 15% of the sample chose to come by car and only 2% by train. This rate is low, especially comparing to Roma case study. It can be explained by the organization of French HSR services, reaching destinations on HSL and on conventional ones.

The length of trip (including departure from home, arrive in Rome, travel to other cities, overnight and return home) was on average 7 days. Moreover, 5 days is the average duration of the stay (consisting of nights in Rome and in other cities). These results are influenced by the fact that the interviews were administered in a period of time in which there were short national holidays. The budget available was on average 745€, while the estimated spending of this budget was 701€. Therefore, the budget generally was almost all spent during the holiday (Valeri *et al.,* 2012). About the length of trip in the French case study, the average was the same as in Rome case: 7 days. It is also the case for the average duration of stay in Paris, with 5 days. About the budget estimated for that stay in Paris, it was an average of 1 050€, from less than 50€ to 12 000€[§] (based on 178 respondents). The budget spent was lower, with an average of 772€ (based on 108 respondents), mostly because almost all tourists interviewed in Paris Lyon Central Station were arriving and had not yet the opportunity to spend money. In the case of Rome, only the 26% of the respondents were positively influenced by the presence of the HSR for the destination choice. The motivations were mainly due to the ease access to the HSR station (28%) and to the speed to reach the destination (27%), follows, the reduced travel time (13%). The remaining 74% chose Rome for a holiday independently of the presence of HSR. The main motivation is due to the high cost of the HSR ticket (70%). 87% of respondents who were influenced by HSR in their destination choice were Italians and arrived in Rome with HSR (97%) and interregional low speed train (3%); a limited group of respondents (13%) were foreigners using the airplane to get in Rome. Among those for which HSR did not influence the choice of destination, 70% stated that the cost of the ticket is very high.

In the French case study, 49% of respondents were positively influenced by the presence of HSR in the destination choice, especially because of the speed of the travel (94%), and also for the good accessibility of both departure (75%) and destination stations (72%)[**]. Frequency of the service (56%) and the decreasing of the travel time in case of new services (51%) were also important motivations. That last point was very important in the

[‡] For this last year, the traffic is higher in Paris North Central Station (31,9 million), due to the renovation of Paris Lyon Central Station.

[§] It was difficult for tourists to respond to questions about estimated and spent budgets, sometimes because respondents did not feel comfortable to speak about money, other times because they had problems in estimating the budget or because they just arrived, and could not say anything about money spent.

[**] For that question, respondents could choose several answers.

Rome case due to the major developments in the network of the last decade. In the case of Paris, HSR was the third main motivation after cultural offers (83%) and historical and architectural landmarks (81%). Gastronomy (47%), presence of relatives in the Parisian area (46%) or personal events (42%) were also important motivations for visiting Paris. The French tourists were more sensitive to HSR services in the choice of that destination (60%). Also, 75% of the respondents influenced by HSR services came by HST. 51% of the sample didn't think that HSR was a motivation for choosing Paris. Actually, 51% of respondents did not use HSR to come to Paris. The cost of the ticket supports that choice (36%), but not as much as in the Rome case study, and the duration of the travel (34%) was almost as important. The French tourists were more sensitive to the price. The convenience (23%), due to the level of services, and the existence of the service (a possible HSR offer) (19%) had a strong influence for not choosing HSR. 84% of the respondents were willing to revisit Rome for another holiday. They were mainly Italians using intercity (43%) and HSR services (35%). Those who intended to return to Rome were driven by the richness of the historical, artistic, monumental heritage and cultural events (75%). On the other hand the fact that Rome was too expensive discouraged tourists to revisit it. Concerning the case study of Paris, 98% of the respondents wished to revisit this destination. Their motivations were mostly linked to their wish to discover more (40%) and due to the attractiveness of the destination (36%). The presence of relatives was a strong motivation (27%), more important than the tourist offers (20%). Both French (99%) and foreign tourists (97%) wished to come back. This percentage was high, independently of the transport mode used to reach Paris: 98% of them who came by HSR wished to come back.

3.2. HSR and tourism from Paris and Rome to near cities

In the case of Rome 88% of the respondents were not influenced by the HSR presence to visit others cities connected with a HSR service close to Rome; this was mainly due to the high cost of the HSR ticket (47%) and their holiday's limited time (44%) (Valeri *et al*. 2012).
For the 12% of the sample, the HSR had promoted the visit to other neighbouring cities: Naples (38%), Florence (26%), Venice (21%), Milan (9%) and Bologna (6%). Their motivations were mainly the reduced travel time (42%) and the accessibility to the city centre (29%). 93% of respondents that used HSR to move towards other cities were foreigners and arrived in Rome with the airplane. In the case of Paris, 20% of the respondents were visiting another place during their travel. They were 43% influenced by the HSR services for choosing to visit others places, and 53% were actually using it, and in several cases, then could not reach it by HSR (too far, no offers etc.). For those respondents visiting other destinations, 61% were foreign tourists but they are less sensitive than French tourists to HSR services. However, influence of HSR was higher than in Rome case study, and mostly associated with the speed of the journey. Differences between the HSR systems can explain especially in the number of destinations served in the France. For tourists visiting other destinations and not influenced by HSR (57%), they mostly chose other mode alternatives. Cost was not as significant as in Rome case study.

4. Modelling the willingness to revisit Rome and Paris

A further quantitative analysis has been carried out. Regression models have been specified and calibrated to identify the factors influencing holidaymakers to revisit Rome and Paris.
The literature on logistic regression is large and has been growing since 1970 especially in social sciences and educational research. These models have been extensively applied also at the tourist demand analysis (Witt and Witt, 1995) especially to explain the decision to do/not to do a holiday. In both case studies, the probability of revisiting the city has been specified according to a very simple linear regression model. However authors are aware that the approach is a simpler one, since user choices are mostly affected by non-linearity and uncertainty which have not been considered in this paper. The model here considered is the following one:

$$\text{Predictedlogit}(\text{REVISIT}=1)=\beta_0+\beta_1 X_1+\beta_2 X_2+\beta_3 X_3 \ldots\ldots \beta_N X_N \quad (1)$$

where the variables considered are in the following reported:

AGE_18-24	dummy variable equal to 1 if the tourist's age is between 25-44; 0 otherwise.
AGE_25-44	dummy variable equal to 1 if the tourist's age is between 25-44; 0 otherwise.
GENDER	dummy variable equal to 1 if the tourist is male; 0 otherwise.
NATION	dummy variable equal to 1 if the tourist is Italian/French; 0 otherwise.
UNIV	dummy variable equal to 1 if the tourist attended the university; 0 otherwise.
MARITAL_STATUS	dummy variable equal to 1 if the tourist is married; 0 otherwise.
INCOME_> 2.500€	dummy variable equal to 1 if the tourist has an income greater than 2.500€; 0 otherwise.
TRAV_FRIENDS	dummy variable equal to 1 if the tourist travel with friends; 0 otherwise.
TGV	dummy variable equal to 1 if the tourist was influenced by the presence of HSR; 0 otherwise.
QUALITY_PROMO	dummy variable equal to 1 if the tourist is influenced by the promotion of Roman heritage resources; 0 otherwise.
SATISF_PASTEXP	dummy variable equal to 1 if the tourist is influenced by a past experience in Rome; 0 otherwise.
VISIT_RELAT	dummy variable equal to 1 if the tourist visit relatives at destination; 0 otherwise.
ARCHITECT	dummy variable equal to 1 if the tourist is attracted by the architectural sites at destination; 0 otherwise.
MULTI_DEST	dummy variable equal to 1 if the tourist can visit also from the chosen destination another city; 0 otherwise.
EVENT	dummy variable equal to 1 if the tourist is attracted by events at destination; 0 otherwise.
TRDURAT_≤7 DAYS	dummy variable equal to 1 if the tourist's holiday stay is less than 7 days; 0 otherwise.
TRCOST	Travel cost in Euro.

The type of tourists that most likely will revisit Rome and Paris will be analyzed, given their socio-economic, tourist and transport related attributes. The dependent variable is the willingness to revisit Rome or Paris (Yes: 1, No: 0), the independent variables are the attributes above listed. Estimation results are reported in Table 1. In the case of Rome, all the parameters are significant and of the expected sign (except TRCOST that has a correct sign but is not significant and GENDER is not significant as well). Indeed, the satisfaction of past experience (SATISF_PASTEXP) has a positive impact on the probability to revisit Rome; also the holiday stay less than 7 days (TRDURAT_≤7DAYS) has a positive impact to return to Rome and visit other places. Concerning the socio-economic characteristics the tourist that has a high probability to revisit Rome is aged between 25-44 years old and has an income higher than 2.500€. With respect to nationality, Italians have a higher probability to revisit Rome and the negative value of the MARITAL_STATUS means that singles are more likely to come back. Transport characteristics seem not to have a big impact on the destination choice. Indeed, although the cost of transportation has a correct sign, it is not significant, which means that is not an attribute relevant to have an influence on destination choice. Nevertheless, the quality of promotion of Roman heritage resources is important. The main outcome to the Rome case study is tourists will revisit it independently on the presence of HSR.

In the case of Paris, all the attributes are significant and of the expected sign. Tourists that are willing to revisit Paris are younger than the whole sample: they are aged between 18 and 24, they are French, and attending university. They travel with friends and they would like to go back to Paris because it is full of architectural sites, which is the most significant attribute, then because of they have the opportunity of visiting other places from there and because they can also visit relatives. Paris is also a city full of events and for the young people that it really a factor influencing their choice to come back. Very interesting is the TGV variable which is very significant and positive, meaning that for the young people the presence of HSR influences their choice. The variable itself embeds all the characteristics connected with TGV, i.e. high speed, reduction of travel times, the high frequency, the reliability, the easy access to the station, and so on. Moreover young people know about that reduced fares are present and so they can benefit of this opportunity for coming back.

Table 1. Variables influencing the probability of revisiting Rome

Variable	**Rome**	**Paris**
	Coefficient (t-test)	**Coefficient (t-test)**
AGE_18-24	-	0.105 (1.979)

AGE_25-44	0.9187 (2.013)	-
GENDER	0.5123 (1.169)*	-
NATION	2.0659 (3.463)	0.192 (3.904)
UNIV	-	0.238 (5.111)
MARITAL_STATUS	- 2.5313 (4.538)	-
INCOME_2500	1.6932 (2.596)	-
TRAV_FRIENDS	-	0.167 (3.063)
HST (TGV)	-	0.177 (4.167)
QUALITY_PROMOTION	1.1804 (2.410)	-
SATISF_PASTEXP	1.0876 (2.370)	-
VISIT_RELAT	-	0.160 (3.416)
ARCHITECT	-	0.434 (9.712)
MULTI_DEST	-	0.172 (3.677)
EVENT	-	0.0902 (2.036)
TRDURAT_≤7DAYS	1.2795 (2.802)	-
TRCOST	- 0.2593 (0.532)*	-
Rho2	0.563	0.650
Rho^2 adj	0.411	0.595

** Not Significant*

The different behaviour of the French might be explained considering that the Italian HSR system is recent and not well rooted, while the French HSR system is well accepted by the French and it is likely considered the means of transport most chosen by them.

5. Conclusions and further perspectives

The objective of this paper has been that of investigating the factors influencing destination choice for tourism purpose and the role of HSR systems in affecting this choice. This topic is not well explored in the literature from a modelling point of view except very few contributions reported in section 2. Among them the case study of Rome with which the new case study of Paris has been compared. Indeed the main outcome of this manuscript has been that several factors influence the choice of a tourist, like the presence of architectural sites, the quality of promotion of the destination itself, the presence of events, but the HSR system has affected the choice of Paris and Rome differently. The two cities belong to two different countries in which the history of HSR service is very different; in France TGV is considered a real transport mode alternative, while in Italy it is a relatively new system which still needs a campaign of promotion to be well accepted among the users and therefore the tourists. The main motivation of this could also be justified in the high travel costs. Authors hope that the findings of this study can provide useful information for analysts in their efforts to segments and target the tourism market.

Further investigation will consider new surveys to support our results in order to get more information on the different "tastes" of tourists' segmentation. A further modelling perspective will consider the analysis of the probability of visiting cities close to Rome and Paris with HSR. It is indeed important to analyse how these cities can benefit by the existence of HSR in order to take tourists from these big hubs, i.e Rome and Paris, to other surrounding cities. This will contribute to a better understanding of the wealth produced by this type of export. One more important thing is that of comparing cities that have HSR systems and cities that have not in order to understand the impact of station, this will definitely influence national and regional policies on rail. However, although HSR services promote tourism mobility, it is necessary the existence and development of strong local potentiality to promote the destination; ii) local strategies to develop integrated products; and iii) specific aspects related to tourism sector such as business and urban tourism (Masson & Petiot, 2009, Bazin *et al*., 2011a).

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