

RELATIONSHIP BETWEEN SPATIAL ACCESSIBILITY AND TOURISM DEMAND- CASE STUDY: TOURISM DESTINATIONS IN WESTERN MOLDAVIA (ROMANIA)

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Abstract

This paper is meant to advance the comprehension of the ways that tourism destinations benefit from their level of spatial accessibility to their catchment areas, that is, to their tourism demand. Previous studies have shown that although minimum cost and effort are important factors in tourism, too much accessibility can dissuade visitors to overnight and thus to produce tourism benefits. Our first hypothesis is that the distance between destinations and origins of the potential tourists plays a non-linear role in the process of destination choice or even on the decision to leave home, which needs to be defined in terms of pattern. The second hypothesis presumes that there is a direct relationship between the travel time spent by a tourist to arrive to a destination and his tourism behaviour at the destination. The method to observe this relation was to apply a tourist-behaviour survey to relevant spatial distributed visitors from all over Romania that have visited the Western Moldavia region (northeast Romania) in the previous 3 years before the survey. National tourists represent a significant 83% of the total demand (arrivals at destinations of the case study region). Results have shown a Gaussian-type of accessibility role in tourism demand, where too much accessibility prevents tourists from consuming a lot at the destination or too low accessibility prevent potential tourists to choose a destination. The study has also revealed a complex relationship between time-distance (travel time to destination) and tourism behaviour in terms of budget spent, average stay, importance of weather in choosing to travel etc. The resulted reading grid can be used by other Romanian destinations as a planning tool in development or advertisement strategy. Furthermore, the methodology can be replicated for creating new reading grids for tourism destinations of any country that wants to clearly define its catchment area and its potential tourism behavioural patterns.

Keywords: spatial accessibility, tourism demand, catchment area, tourist behaviour, Romania.

1 INTRODUCTION

Usually, geographical distance act like a brake in the process of human mobility. There is an inverse relationship between the two as the growth in distance produces a reduction of the intensity of the mobility.

Nevertheless, as Greer and Wall (1979) demonstrated, this law partially applies to tourism phenomena as the impact of the distance (or cost) to the development of tourism activities and facilities acts like a cone: the relationship is direct and grows in intensity until a certain point, after which becomes inverse.

The use of geographical distance as explanatory and predictive factor of tourism demand has been more intense in the 60s and 70s. Although it is being replaced by more sophisticated methods and principles (McKercher and Lew 2004, 41), we cannot deny its role in explaining the important growth of destinations in developing countries. This is the case of post-communist countries such as Romania. The question is though how does accessibility influence the level of tourism development?

Existing studies show the role of movement cost over tourism development (Prideaux 2004; Lozato-Giotart 2008), but results do not typically go further than the idea that a decrease of movement cost to destination may induce growth of tourism activities at the destination. Thus, the study of the importance of spatial accessibility over the development of tourism destinations shows numerous challenges. Israeli and Mansfeld (2003, p. 462) argue that there is a lack of conceptual framework over tourism mobility although tourism has been a major forms of mobility over the past decennials. Muntele and Iațu (2006, p. 219) even notice contrary opinions about the impact of distance over the volume of tourist flows.

Most of spatial models for tourist flows are based on the classical origin – itinerary – destination frame (Muntele and Iațu 2006, p.217). Previous attempts to model the relationship between the travel distance and types of tourism activities (or main motivations) are numerous (for a synthesis of the models of spatial tourists' mobility see Flognfeldt, 2005). Nevertheless, the majority consider that the position of origins of potential tourists is the pillar of the model (see Miossec 1977, Lundgren 1984, Lozato-Giotart 1993), suggesting that these origins are the main factors that structure the geographical tourism space. Without ignoring this reality, our study proposes an inverse approach, starting from the hypothesis that tourist destinations play an active role in structuring tourist flows by consciously addressing to a specific portion of their catchment areas.

The present study partially uses the model of Lozato-Giotard, who proposes a zoning of the tourism space according to distance from the great origins of tourists, usually main cities (Lozato-Giotart 1993). The author identified zones of a ray of 150 km around cities which is dominated by main and secondary residences, daily excursionism and week-end trips, followed by a second belt, more extended, to up to 1500km, which is characteristic to longer stays or to great tours or itineraries. A last zone, beyond 1500km is seen as a long-distance, international tourism. The difference in approach is that on one side, the present work proposes to identify tourist behaviour for each zone at a national and regional scale. On the other side, unlike Lozato-Giotard, the central element of the model will be the destinations and not the origins. Finally, the study will limit to national tourism, envisaging the elaboration of a model that will explain in detail the spatial behaviour of the national tourists that chose Western Moldavia – a historical region of Romania - as a destination.

2 CASE STUDY AREA – CHARACTERISTICS OF TOURISM

Our study focuses on Western Moldavia, i.e. the western half of the historical region of Moldavia now being part of Romania (Figure 1). Situated in the north-eastern part of country, the eight counties included in the analysis are peripheral both in national and European context. Moreover, the peripherality is at the same time geographical, socio-economic and tourism-related. The geographical peripherality traces its origins in the position alongside at the eastern border of EU and of Romania, in the low connectivity with western province of Transylvanian and in the poor accessibility to the capital of Bucharest and to the port of Constanta. The socio-economical peripherality has complex factors (including historical) and reflects itself in the declining of the population (-10.5% for the 2002-2011 intercensus period, compared to -6.2% for the rest of the country). Not eventually, the region under study is a touristic periphery as it is not part of the main touristic corridors of Romania linking Transylvania with Bucharest and the Black Sea resorts (on a NW-SE axis, also part of the European corridors to be developed). Therefore, one might argue that our study evaluates the role that geographical accessibility plays in the development of the peripheral tourist destinations.

The region is known for an imbalance between a high level of tourism potential and a low level of tourism-related infrastructures. Quantified data of the Spatial Planning of the National Territorial in 2007 has shown that Moldavia gathers 18% of the national tourism potential (close to the rate of 20% or size and demography of the national territory) and only 7.7% of the national tourism infrastructures (Bulai, 2013). From outside it is perceived as a cultural destination (mostly religious and architectural attractiveness) although the inhabitants of the region mostly perceive its natural potential. The north-western part of it (most part of Suceava and Neamt counties) is the most attractive also because of superposition of both cultural and natural attractions but suffers from a triple peripherality - inside the region, in the national context and in the European territory as well.

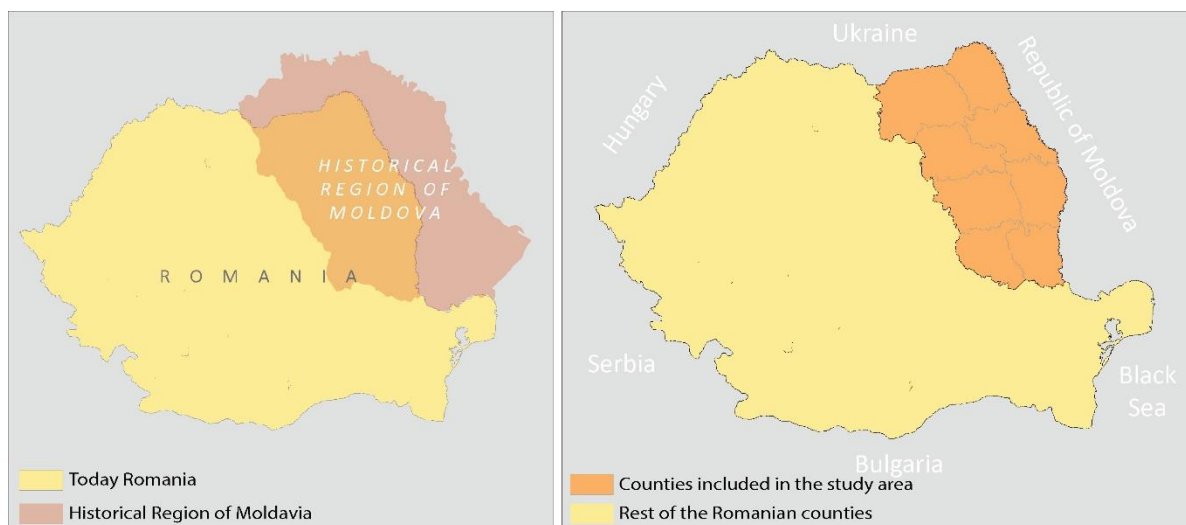


Figure 1: Position of the Study area

Despite of its peripheral role, Western Moldavia manages to constantly increase its share in the total number of tourist accommodation establishments of Romania, from around 4% in the early '90 to 6.8% in 2014 which is determined by an important tourism potential. On the other hand, one cannot find the same positive trend in regard to the share of bed-places, which fluctuated around 4.5% during the same period of time. Therefore we are witnessing a tendency towards investments in small tourist accommodation establishments, which is mostly explained by an increase of about 605% in the number of bed-places in touristic and agro-touristic boarding houses (for the 2000-2014 period) which explains a development of small to medium-sized establishments. For a more detailed presentation of touristic peculiarities of Western Moldavia see Iașu and Bulai (2011, p. 168–171). For other significant results concerning tourism phenomena within Western Moldavia see Iașu and Bulai (2010) or Bulai (2013) on the role of tourism resources and infrastructures in attracting tourists, Ibanescu (2012) on the functioning of western Moldavian tourism as an peripheral region, Manea (2013) on the valorisation of oenotouristic potential, Gârbea (2014) on urban tourism in major Moldavian cities, Ibanescu and Stoleriu (2014) on regions' rural tourism, or Pătrașcu (2013) on branding strategies in Moldavian cultural tourism.

3 DATA AND METHODS

The study of spatial accessibility of tourist destinations in Romania is a recent preoccupation, specific to the last 5-6 years (Munteanu 2010). One may also notice an exploratory direction, such as technical evaluation of spatial accessibility factors (Costache and Popescu 2013), as well as their integration into synthetic indicators of tourism development (Eva 2010) or in the analysis of the importance of accessibility for different types of tourism (Bulai, Ibănescu, and Munteanu 2011).

Our approach is to consider spatial accessibility from a more complex perspective, as element of a group of factors. As lack of statistical data is a big issue, we opted for quantitative and qualitative data obtained by an online survey.

Thus, we applied an online form with 21 questions (see the main 16 questions in Table 1) built in Google Drive module (submodule "Google Forms") which was sent to over 20.000 emails in Romania but also through social media during the period March – July 2011. Thus, 521 forms have been completed, out of which 489 have been retained as valid. As national tourists represent 83% of the total accommodated tourists in Romania, we retain them as representative for our study. In order to avoid misinterpretation of the terms "tourist" or "tourism", respondents have been asked about their previous "visits" in the target region and the destination has been narrowed to those where they "spent a night" in the past, as the overnight is included in all basic definitions of tourism.

Although there are certain disadvantages of this approach (online questioning may affect the accuracy of the information or the precision of data may be distorted by the fact that respondents will describe a travel that happened in the past), online survey represents a powerful tool from an operational perspective (as computer is part of the every day's life, easy to use). It enabled us to identify the main catchment areas, the main destinations and the relationship between distance and intensity of travel.

Table 1 Main questions of the survey

No	Question	Question type and choices
1.	In what Moldavian locality (destination) did you already spend a night?	Open (unique answer)
2.	What is your locality of residence (origin)?	Open (unique answer)
3.	In what period of the year have you been in the chosen destination?	Multiple choice - unique choice (religious and bank holidays, summer/winter holidays, other important dates, out of season)
4	How many days did you spend at the destination?	Open (unique answer)
5	How many days have you been travelling during that trip?	Open (unique answer)
6	In your opinion, how many kilometres there are between your place of origin and the destination?	Open (unique answer)
7	In your opinion, how many hours of travel there are between your place of origin and the destination?	Open (unique answer)
8	What was the main accommodation type at the destination?	Open (unique answer)
9	How much did you spend daily at the destination? (average expenses in accommodation, food and beverages, museums, entertainment etc.)	Open (unique answer)
10	How important was the weather in the decision to leave home for the chosen destination?	Scale from 1 to 10 (1 – unimportant, 10 – highly important)
11	Which main types of activities (main tourism types) did you perform at the destination?	Multiple choice – unique answer (leisure, health, business, education, sports, culture, social tourism)
12	How did you prepare your travel?	Multiple choice - unique answer (travel agency, corporate booking, self-booking, no booking – previous knowledge, no booking – no previous knowledge of the destination)
13	How many people there were in your group?	Open (unique answer)
14	How many times have you been in the past in that destination of the surrounding area (in a ray of 50km)	Open (unique answer)
15	What is your average monthly net income?	Scale from 1 (under 150 euros) and 6 (over 700 euros)
16	What is your age?	Open (unique answer)

Certain adjustments have been made– we eliminated those forms where respondent has been accommodated in a campsite as their logic of functioning is different of those with classical reception and the accommodation cost is very low (similar to social tourism). In the same time, tourists that slept at relatives, friends or at their own secondary residences have also been eliminated as their overnights are not registered and do not bring important benefits to destination.

Qualitative data has been transformed, where applicable, to quantitative data in order to assess certain trends. For example, the importance of the weather has been assessed from 1 (unimportant) to 10 (highly important), monthly income of tourists has been scaled from 1 (under 150 euros) to 6 (over 700 euros), the level of the organisation of travel has been scored from 1 (no previous organisation, looking for accommodation on the spot) to 5 (booking through travel agency).

4 RESULTS AND DISCUSSIONS

4.1. Main origins and destinations of tourists visiting Western Moldavia

When making a hierarchy of the destinations chosen by the number of respondents, we notice a preference for those with existing high attractiveness although they do not have a central or accessible position in the national territory (Figure 2). This shows a certain lack of direct relationship between centrality and dynamics of tourism. Three main zones or groups of destinations are noticeable here: north of Moldavia (including Bucovina), the mountainous region of Neamt and the city of Iasi, main city and former capital of the region. In general, the origins of tourists mainly explain the demographic potential of the big cities. The city of Iasi acts like an important destination but also as a great contributor, as main regional city, as it has a good accessibility to Northern Moldavia, the main dense attraction area and also by a lack of other opportunities towards south and east (the border with the Republic of Moldavia acts like an impermeable line). Despite a better position and a better centrality within the national system, the Southern Moldavia does not represent an attraction for national tourists.

When assessing the time-distance between origin and destination, we took into consideration the shortest travel time as there is an increased importance given to travel time (and less to physical distance) when choosing a destination. There is a noticeable finesse of perception of the travel time between close pairs of origin-destinations (under 5 hours of travel, respondents tend to fraction their travel time to halves of hour) and a loss of precision for remote pairs (time is often approximated over 7-8 hours of travel time and it mainly goes to round numbers – 10, 12, 14 hours). Thus we opted for moving averages of the values in order to obtain a more regulated slope of data in our synthesis chart.

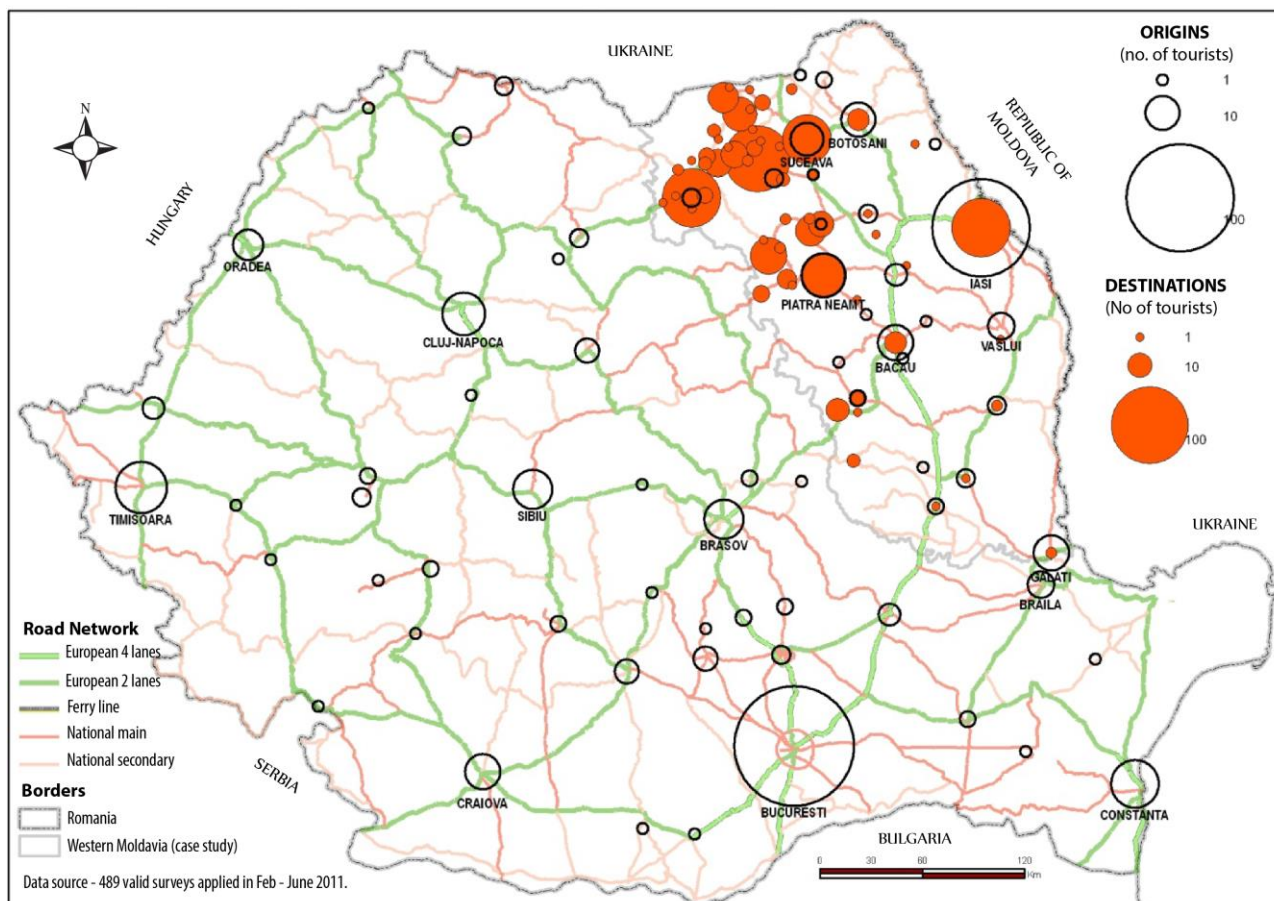


Figure 2 Origin of respondents (national tourists) and the destinations that they have visited in Western Moldavia

4.2. Tourist behaviour according to accessibility

Data obtained from the survey allows drawing behavioural trends in close connection with accessibility, expressed as a distance-time or travel time from the origins of national tourists and the destinations from Western Moldavia. The slopes described by the distribution of data suggest certain clear tendencies.

Thus, one may notice that the average stay (average number of overnights) at the destination increases with distance from origin; average stay at the same destination does not usually exceed 3-4 overnights. The global stay (the journey) increases as the tourist travels at more distant destinations, up to a maximum of 7-8 days.

Along with the increasing distance from origin, tourists tend to choose more destinations during their stay, their travel taking more and more the shape of a circuit, itinerary, tour. The average speed of travel lowers as tourist performs a longer tour; this may also indicate an increasing need of accessibility in the sense of more direct ways of access, performant and with a higher maximum speed.

The level of organisation of travel increases with distance. This is related to the access to a less known place, unfamiliar. Furthermore, a longer stay supposes more activities and consequently a necessity of increasing previous organisation. Thus, one may ask - is it more profitable for a destination to attract longer distance travellers?

The average daily budget describes a normal distribution. Tourists are usually more familiar with closer destinations, which allow them to maintain low expenses, often in connection with returning home at night. Also, access to a very remote destination is in connection with a longer stay which usually allows some discounts so daily budget diminishes along with the tendency to spend this money in more destinations along the way. But when projecting to a destination situated at an average travel time, around 5-8 hours of travel, tourists spend the most. For the region Moldavia this represents an excellent target group. The travel time of 5-8 hours is significant enough to require previous preparation and consistent involvement which leads to an excellent rate of travel length supported by a higher level of younger employee income, possibly car owners. Despite lower budget spent, destinations must not neglect the 3-4 hours distant potential tourists as they usually focus on only one destination during their journey and travel occurs more often.

Table 2: Relationship between the position of tourists in terms of travel to destination and some behavioural indicators

Behaviour indicator \ Travel time to destination (no of hours)	<1	1-2	3-4	5-6	7-8	9-10	11-12	>12
Number of respondents	0	28	105	85	82	40	21	12
Percentage of respondents (%)	0	7.5	28	22.5	21.8	10.9	6.4	3.2
Average stay at destination (no of overnights)	0	2.43	3.05	3.56	4.6	3.93	4.58	3.83
Average duration of entire journey (no overnights)	0	2.82	3.37	5.26	6.75	5.73	7.44	7.83
Percentage of days spent at indicated destination	0	86	90	67	68	68	62	49
Average distance to destination (km of one-way)	0	136	204	373	462	503	578	675
Average speed (km/h)	0	74	63	68	63	53	49	44
Importance of weather (1-min, 10-max)	0	6.3	6.4	4.72	5.8	4.8	4.2	3.5
Level of organisation (1-min, 5-max)	0	2.36	2.41	2.43	2.46	2.49	2.88	2
Average daily spent budget (RON)	0	106	120	174	158	136	108	97
Average daily spent budget (EURO)	0	24	27	39	35	30	24	22
Average of monthly income (1-min, 6-max)	0	2.7	3.8	4.3	3.9	3.6	3.5	3
Average age of respondents (years)	0	33	37	36	37	38	39	40
Percentage of respondents who travelled in low season (%) (no holidays, no special events)	-	46	46	46	35	48	25	23

The revenues of the traveller describe a distribution which is similar to that of the average daily budget or expenses ($r^2=0.72$). Tourists that usually go over 10 hours of travel are in connection with low cost means of transportation (usually train, along with important travel discounts). The same high average of revenues is noticed at tourists that travel between 5 and 8 hours to reach destinations in Moldavia (higher income people tend to minimize travel time). On another hand, younger people tend to travel more often in a closer area.

The period of travel is a good indicator of seasonality. Thus, as tourists travel further away from home, this mostly happens during holidays or important events of the year. The low season travel to Moldavia occurs less often and is usually performed by people from an area closer to destination. The lower proportion of low-season travel (under 40%, although it represents over 70% of the year, indicates a relatively high level of seasonality in the case study region.

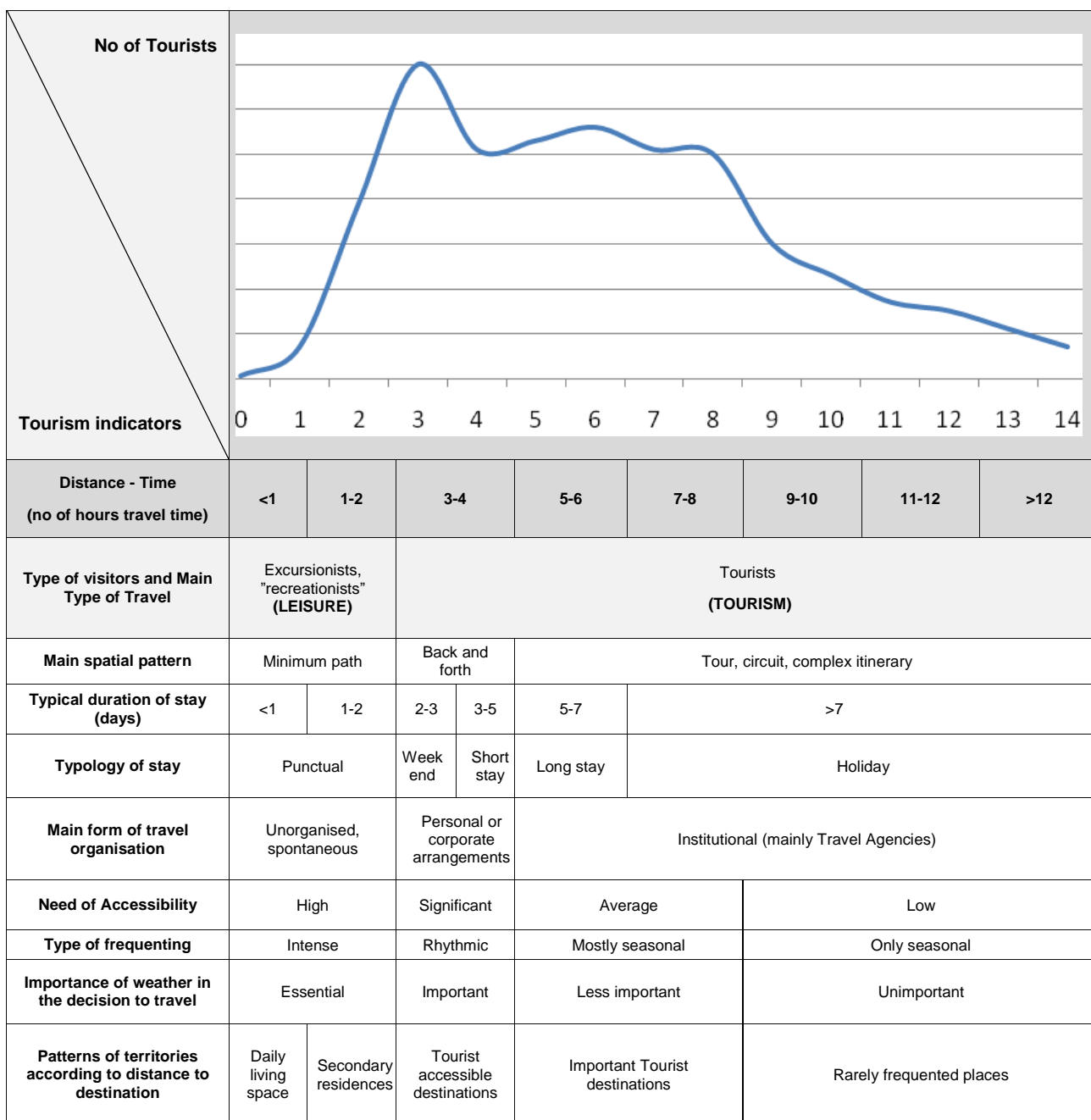
When analysing the trends, we noticed a significant connection between the travel time to destination and their global behaviour during travel and during stay at the destination. In other words, the cost of access (here, in terms of time spend in travel) has a strong influence over destination dynamics and development through lengths of stay, periodicity of travel, amount of money spent at the destination, stay organisation level, weather which may influence decision of travel etc. Thus, the impact is felt in the volume of expenditures and consequently in the global destination benefits.

In order to synthesise all these results, we created a reading grid which may serve as instruments to all interested actors (Table 2). This grid connects the general tourism indicators (more precisely tourist behavioural aspects) to a specific determinant indicator – travel time to destination from the origin. What

follows is a spatial interaction model between tourism areas in Western Moldavia and potential demand in Romania.

Table 2 shows that most tourists have their origin at 3-4 hours away from a frequented destination (28%), followed by those who spend 5-6 hours in travel (23%) and then 6-7 hours (21%). Under 7% of the respondents took accommodation at a distance of less than 2.5 hours away from home which confirms that high accessibility does not produce overnights (and consequently tourists) and their consequent benefits. In the same time, fewer than 10% of the respondents have travelled more than 10 hours to reach a destination in Western Moldavia. These results confirm the theory of a gradual accumulation of interaction potential towards a certain amount of distance-time (travel time) and then progressively diminishes to a point where travel becomes less likely. This confirms the pertinence of the model of Greer and Wall (1979) for the Romanian territory.

Table 3 Connection between travel time to destination, probability of travel and travel patterns



5 CONCLUSIONS

The main objective of the research was to better understand the relationship between spatial accessibility and tourism demand. In this regard, the methodology deployment involved an online survey aimed at extracting the role of temporal distance (both the real one and the perceived one) from within the set of factors influencing the tourists' behaviour at the destination. Western Moldavia was selected as a case study region and the survey was addressed to Romanian tourists visiting the destinations located inside this case study area.

The research concluded on the fact that the potential national tourism demand of destinations in Western Moldavia is very low in their proximity; then it increases rapidly at a travel time-distance of 2-3 hours and starts to decrease after a threshold of 8 hours of travel. The frequency of tourists according to the distance between their origin and their tourism destination follows a curve quite similar to a Gaussian function, although positively skewed. Furthermore, the analysis demonstrates that tourists coming from origins located at different distances have different behaviours (in terms of overnight stay, level of trip organisation, money spent etc.) Making a synopsis of these differences allowed us to define a reading grid that could help tourism planners and marketing specialists to better target their clients.

Further studies might assess a possible complex dependency between costs of travel (as expenses), travel time and behaviour of tourist demand. In addition, such studies could explore a possible important role of not only the distance between origins and destinations, but also of the distance between minor and major destinations, as the proximity of the latter may sometimes influence the development of the former.

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