Research Article

The study of the role of infrastructure connections which leads to the development of local tourism in cities

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ABSTRACT

Today, the development of tourism in all national, regional and international aspects is under the attention of the government, policy makers and private sector activities. This approach had an important role in developing road transport and increasing travels. Thus, roads are considered as the main infrastructure that can result in local tourism development. Field exploration of Kermanshah- Hamedan axis was the aim of this procedure. Transportation maps and random interviews with tourists were done by using Cochran formula descriptive statistics was used for data arrangement. Spearman and Pearson correlation test were used to evaluate the variables. The results indicated a significant correlation between expansions of roads and the growth of tourism which led to an increase in the number of road accidents.

Keywords: tourism, infrastructure, development, roads, transportation

INTRODUCTION

Scientists have introduced multipurpose tourism as an activity that has a key role in regional developments. Many countries have schematized new plans in order to improve their economic status, and also to find new ways for developing tourism in different areas. Road transportation in areas that can grab the tourists' attraction is one of the biggest problems in developing tourism.

Developing tourism destinations is based on the foundation of tourism and also the right chooses of available services. Hamedan, as an ancient western province and with its special geological place in Iran, is superior in comparing with other provinces. This great geological and historical place with a cultural background has led to the growth and development of tourism in this province in a remarkable scale. Hamedan, due to its historic position, has the potential to attract remarkable amount of tourists. This points the importance of connection between the number of tourists and the foundations of transportation.

Problem statement

Today, it is necessary to secure the full-scale development of required foundation in different levels. All fields of economic activities in the country should protect the foundations which can design the field expansions for future plans. Development of tourism also dependents on securing those foundations that can help improving the conditions and their status which

have important roles in this field. Connections of foundations in the field of transportation is one the most important indicators for the development of tourism. In this study, the place of foundations as an original problem, the role of roads in developing tourism, the importance of publicity and constant developing activities in Hamedan were studied. In the current study, the role of cultural cooperation, expedition in civil engineering and the road construction were discussed in order to attract more tourists and creating more jobs. Analyzing the foundations connection that leads to developing tourism in cities and whether it has any impact on tourism attraction is the main goal in this research. Also investigating the connection between developing roads and the number of tourists attracted to Hamedan has taken into consideration.

Research goals

General goal: study the impact of infrastructure connections that lead to the development of local tourism in cities.

Secondary goals

- The study of connections between development of roads and the number of tourists.
- The study of connections between development of roads and the number of tourists and accidents.
- Presentation of necessary solutions.

Theories

- There is a meaningful connection between development of roads and the number of tourists.
- There is a connection between installation and facilities of tourism development.
- There is meaningful connection between development of roads, the number of accidents and the number of tourists.

Research methodology

This research is applied in terms of purpose and in terms of methodology is research field for collecting needed data from the sample that was used by using questionnaire for collecting data. In this research, descriptive statistics were used for ordering and arranging the data and achieving central indicators and dispersion. In the inferential part, Spearman and Pearson correlation test was used to study the connections between variables. It is worth mentioning that a software (SPSS18) was used for analyzing and other software (EXCEL) was used for plotting the diagram. Significant level was considered 5%.

Identify the study of area

Hamedan province is allocated in western half and with an area of approximately 19491 square kilometer, and one-half percent of the total area of the country .this province has six neighboring provinces include: markazi, ghazvin, zanjan, Kurdistan, Kermanshah and lorestan.

In addition to the province's roads with its six neighbors, this province is located in the main connection of the western roads of the country and generally across the board from this way for cross landing for pilgrimage of Karbala. Also, Hamedan is the one of the western transit axis of the country.

Although, all of the passage ways do not have the same degree of importance, but today, the new construction way of Tehran-Hamedan that goes from Markazi province, is one of the most important ways with a lot of heavy traffic. Another important way is the road of Hamedan-Malayer that connects the Hamedan to Lorestan province and south provinces, and also the railway of Malayer that connects the west to the east of the county. In fact, if we want to divide it into three parts, north, south, central, we should say that the Hamedan city is placed at the central part with the best connection axis, while the north part was involved in the connection deadlock and this isolation cause to mustiness of this area. However, the south area that is in Malayer axis has a better situation. This cityhas more than five thousands antiquity, it's a historical city that by having 78 tourist attraction and more than 15 handicraft course which represents national identity and culture of Hamedan's people is as one of the most important cities of Iran to attract tourist.

Figure1: the map of divisions of the province

Figure 2: the map of provincial road network

Theoretical foundations

The concept of travelingis the creations of urban travelfor urban transportations (production and travel attraction),in the other words, the number of travel producta user, and the number of travels that can attract a user.The production of travel by one user and another user that is inside or outside

the area could be attractive. Thus, each user is a producer of one of the travel forms from one side and can be attracted by another form of travel in the other side. It is clear that every change in the user including functional changes (an increase or decrease in the compression of building) will affect the volume of generated travels and as well as the amount of traffic in one area (Mizban shaker, 2002:12). The importance of transportation can be debated by looking at the massive investments made in developed countries and the transportation of systems composed with "infrastructure" that is the underlie of using vehicles for movement and transportation of people (Torkan and Shahbazi, 2011 :9)

Infrastructures and its relationship with tourism:

• Infrastructures of Transportation

• infrastructures of residential places

• Infrastructures of food centers and entertainment facilities

• Connections of infrastructures

• The Infrastructure of passenger services providers and etc...Of these, the most important and efficient ways for attracting tourists can be the infrastructure of transportation.

In this article, the researcher will study the maps of road development and facilities in the way of Hamedan-Kermanshah:

Tourism: is a set of activities that someone does in a journey, in a place besides their normal environment for a while that isn't less than 24 hours and is not more than 1 year and is associated with entertainment, outing, rest, sport, meet relatives and acquaintances, business, take part mission in seminars or conferences, trap, study, research, religious activities and activities such this (Rezvani, 2008, 6).

Development: "sustainable development" is the strategic community in providing current and essential requirement of world's people, so that this process is explained by considering all economic, social and environmental aspects to provide the requirements of the next generations". According to this definition, all of the parts of the

society like transportation and energy, implementing strategies and policies should be managed (Ostadi and partners, 2011:8).

Transportation: transportation is a kind of product that is necessarybased on the stuffs' priority(stuffs and services) and its supplement has many impacts on supplies of stuffs and services(Jafari and Somieh, 2011: 1).

Infrastructure: the infrastructure system consists of "infrastructures" that are underlines and pre-needs of using vehicles to move and transfer people and stuffs. These components are tryingto interact with each other to provide possibilities for accessing the destination by the best and safest way possible in theshortest time for travelers and tourists (Torkan and Shahbazi, 2011: 9).

The effects of transportation spread on the process of tourism

Infrastructure takes as a key in economic and tourism development especially in transportation.

Development in the part of transportation and innovations and changes in the ways of moving cause to development of tourism and improvement of tourism infrastructure is presented especially the best transportation and more developed and more complete services.Some of the effects of transportation are fastest access and best services in arriving to destination (Goii, 2003: 22).

The role of transportation in developing tourism attraction

Because of the innovations in transportation industry, tourists want to visit places at the shortest time possible.

Innovation of transportation also provides more welfare for tourists when they are going to a trip.

Now Tourists can visit many places all over the world through spreading infrastructures of transportation and by increasing transportation's services all over the world.

In overview, the existance of tourism's destinations is in danger of destruction due to invasion of wasteful using of transportation's vehicle and effects cause by tourists and operators (Kowel, 1984: 65).

Analysis

Anglicizing road developmentsthat lead to Hamedan

In this section,the ways of road developments, except the existed axis which leads to Hamedan have been studied. One of the most important traffic axes in province is the axis of Hamedan-Tehran that has changed a lot in the few past years because of its importance. In the following table 1 and in diagram 1 the changes of roads in the axis of Hamedan-Tehran are illustrated, except years of 2007-2014.

Table1: road development of Hamedan-Tehran axis (except year 07-14)

Total	2014	2013	2012	2011	2010	2009	2008	2007	
0	0	0	0	0	0	0	0		2band
106	3	6	2	4	14	0	75	2	4band
11	0	0	0	0	0	11	0	0	Highway
117	3	6	2	4	14	11	75	2	The roads

Source: Hamedan's toll

Diagram1: road developments of Hamedan-Tehran axis, separate provision for each year.

According to the above table and the diagram, roads development of Hamedan-Tehran axis are totally 117 km among the year of 2007 to 2014. By studying the added data, it is reckoned that the length of roads added to this axis is almost 117 km in the year of 2007-2014.

This road whichis one of the roads connecting the western part of the country to other parts is an impassable road and is always into peoples'consideration and faced financial losses; as can be seen in diagrams 3 and 4, 2-4 during 2007-2014 there is a 63kmincrease in the length of roads leading to Hamedan

from this axis. This growth has been explored in its quality and width and is based on statistic and data for the 4 bands in this axis.

Table2: road developments of Hamedan-Kermanshah axis separate provision for each year.

total	2014	2013	2012	2011	2010	2009	2008	2007	
0	0	0	0	0	0	0	0	0	2band
63	8	10	4	15	12	7	5	2	4band
0	0	0	0	0	0	0	0	0	Highway
63	8	10	4	15	12	7	5	2	roads

Diagram2: road developments of Hamedan-Kermanshah axis,separate provision for each year.

According to the above table and diagram it is considered that the amount of road developments in Hamedan-Kermanshah axis is about 63km in total during 2007- 2014. The highest level of road construction in this axis occurred in 2011. Many tourists travel across the axis of Hamedan-Saveh to Qom and Tehran has the highest level of traffic. Table 4-4 shows that how this axis developed. The portion of Hamedan-Kermanshah axis has 63 kilometers length.

Analyzing touristentrance to the Hamedan-Kermanshahaxis

Hamedan province is the one of touristic districts with historical contexture and has many tourism attractions that can attract many tourists each year. In this part, we will study about the number of tourists that come to the city of Hamedanduring 2007 to 2014.

Table3: the number of tourists' entrance to the province separated from the main axes

Total	2014	2013	2012	2011	2010	2009	2008	2007	year
2552370	434351	347018	355825	256188	287281	296103	287233	288371	Kermanshah

Statistical yearbook of Iran

Diagram3: the number of tourists' entrance to province separated from the main axes

The connection between roaddevelopment and the number of tourists

According to the result of correlation test, the significant level between road development and the number of touristsin Hamedan-Kermanshah axis is calculated lower than the standard level (0.05) that its indicate the existence of connection between 2 variables. In the Hamedan-Kermanshah axis, coefficient of correlation is calculated 0.310. These coefficients indicate that the development of this axis has significant impacts on increasing the entrance of tourists from this axis.

The number of tourists has increased as a result of increasing road developments, and during these years, the number of tourists has decreased due to the reduction of road development. So we can concludethat there's a significantconnection between the amountsof road developmentand the number of tourists.

Table4: the connection between development of road and the number of tourist

Significant level	Coefficient of correlation	The source of change
0/000	0/310	Kermanshah axis

Source: analysis of questionnaire's data

Diagram4: the connection between development of road and the number of tourists

In this diagram,the number of tourists increasedby the rise of road developments and as the road developments decreased, the number of tourists felled too

The connection between development of roads, and the number of accidents and the number of tourists has been investigated in this study.

In this part, the connection between the numbers of accidents, the number of tourists and development of roads were explored by using existed statisticsin the previous parts.

Due to this work, we used coefficient correlation and significant levels in the table5. Due to analysis is used Pearson correlation test. Following table represents the test output.

Number of tourists	Number of accident	Development of road	The source of changes	Variables
0/310 0/000	_0/719 0/004	1 1	Coefficient correlation Significant level	Development of road
0/378 0/001	1 1	_0/719 0/004	Coefficient correlation Significant level	Number of accident
1 1	0/378 0/001	0/310 0/000	Coefficient correlation Significant level	Number of tourists

Source: analysis of questionnaire's data

Diagram5: connection between development road, number of accidents and number of tourist

As can be seen in the above diagram, there is significant connection between development road, number of accidents and number of tourists' entrance in Hamedan cityfrom Hamedan-Kermanshah axis during 2007-2014 based on statistic and available analysis.

Descriptive statistics of research variables

In this section, descriptive statistics of research variables expressed.This affair related to comment respondents to the questionnaires was designed. In table6 it is cleared that comments of samples mean of land roads is 2.84 from 5 and lowest score is 1.80 and highest score is 4.60, standard deviation is 0.56. This statistics gained the mean of installation among the roads 2.28, lowest score is 1, highest score is 3.60 and standard deviation is 0.55. Also, indicator of quality of roads is calculated, the mean is 2.67 and lowest score is 1.11 and highest score is 4.22 and standard deviation is 0.60. Other useful data mentioned in table6 and diagram 7.

Table6: descriptive statistics of research variables

Variance	Standard deviation	mean	maximum	minimum	numbers	variables
0/32	0/56	2/84	4/60	1/80	364	Development of road
0/31	0/55	2/28	3/60	1/00	364	Installation and facilities among road
0/37	0/60	2/67	4/22	1/11	364	Standard and quality of roads

Diagram6: the mean of scores of research variables

Normalization of distribution scores of variables

In this sectionthe normalization of distributing scores of research variableswillbe studied. The normal distribution is a distribution that is symmetric and has the maximum height in contract with mean. So that half of the scores distributed in the above the mean and another half of the scores distributed in the down of mean. The tail of skew of standard deviation is parallel with x axis(Saei, 2010). One of the tests that use for measurement of standard deviation is KolmogorovSmirnofftest.In this test if the significant level is higher than 0.05, it shows that data have abnormal distribution. The results shown in table 7;

Table7: Kolmogorov –Smirnofftestusedfor studying the normalization of distribution scores of the variables

Sig	Z	N	Variable
0/071	2/167	364	Development of road
0/138	1/406	364	Installation and facilities among road
0/199	1/074	364	Standard and quality of roads

According to the above table, distributionof all of the variables is normal, because, significant level is calculated higher than 0.05 for all of the variables. (P< 0/05)

Linearity relationship between variables

The result of diagrams indicated that connection between research variables is linear and positive.
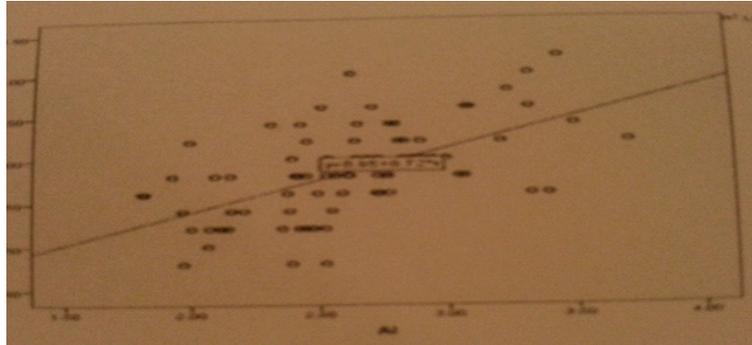
Diagram7: dispersion between land roads and tourism development

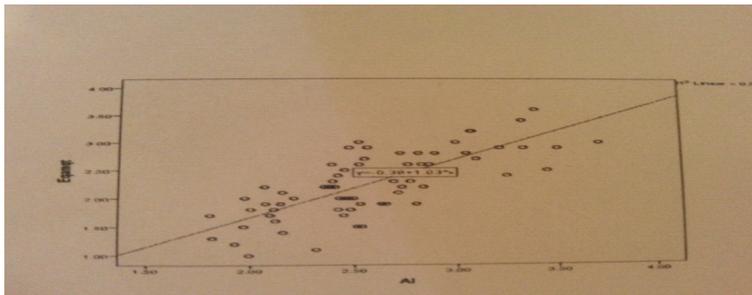According to the shape of the diagram 7, the connection of 2 variables of land roads and tourism development is linear and positive.

The first hypothesis: due to the normalization of distribution of research variables, used coefficient Pearson correlation coefficient. Pearson coefficient is the parametric method and used for data with normal distribution.

Table8: Pearson correlation coefficientbetween land roads and tourism development

Sig	Correlation coefficient	Number	Source of vary
0/0001	0/566	364	Road development

 Significant in 99% level

According to result of correlation test, correlation coefficient between land roads and tourism development is equal 0.566 (r= 0.566) that shows the positive significant connection between 2 variables. Also due to sig that is equal to 0.0001 and the level of the amount given is lower than 0.01 (p<α) concluded the connection between 2 variables possibility 99%. Result:there is the significant connection between land roads and tourism development (p=0.0001, r= 0.566).

Diagram 8: dispersion between installation and facilities among road and tourism development

According to the shape of diagram8 the connection between 2 variables installation and facilities is linear and positive.

Second hypothesis: due to the study of this hypothesis, Pearson correlation coefficientis used. The following table indicates the results of Pearson correlation analysis.

Table 9: Pearson correlation coefficient between installation and facilities among road and tourism development

Sig	Correlation coefficient	Number	Source of vary
0/0001	0/769	364	Installation and facilities among road

99%is the level of Significance

According to the results of correlation test, correlation coefficient between installation and facilities among road and tourism development is equal to 0.769 (r- 0.769) that shows the positive significant connection between 2 variables. Also, the significant level is equal to 0.0001 and this given level is lower than 0.01 (p<α).

Concluded that have connection between 2 variables possibility 99%. Result: there is connection between installation and facilities among road and tourism development (p= 0.0001, r= 0.769)
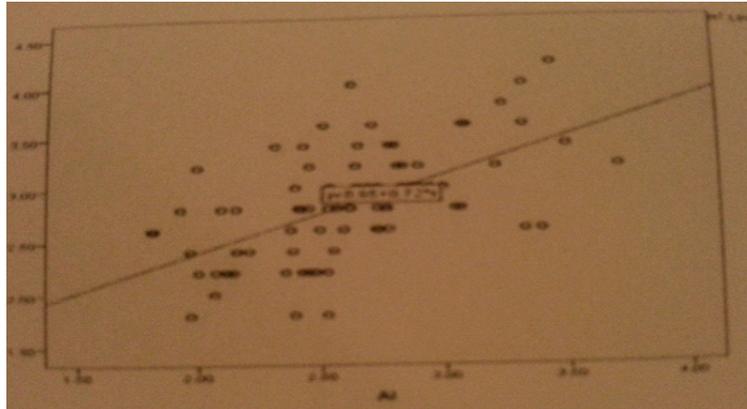
Diagram9: dispersion between quality and the standards of roads and tourism development

According to the shape of diagram9, the connection of 2 variables of quality and standard of roads and tourism development is linear and positive.

The third hypothesis: due to the study of this hypothesis used Pearson correlation test. The following table shows the result of analysis of Pearson correlation

Table10: Pearson correlation coefficient between the standard of roads and kind of tourism development

Sig	Correlation coefficient	Number	Source of vary
0/0001	0/744	364	Standard of roads and kind of its

99% is the level of Significance

Based on the results of correlation test, correlation coefficient between standard of roads and various kinds of it in tourism development is equal to 0.744(r= 0/744) that shows positive significant connection between 2 variables. Also, the significant level is equal to 0.0001 and this given level is lower than 0.01 (p<α) which can be concluded that there is a connection between 2 variables based on the 99%possibility. Result: there is a connection between quality and standard of roads and the kinds of it and tourism development (p= 0.0001, r= 0.744).

CONCLUSION

Connected channels and the road quality are among all those factors that can affect tourists. Tourists and travelers always consider the quality of roads and existence facilities on the way. Not only the existence of narrow roads can increase the traffic but the possibility of accidents can also increase the traffic load and as a result, tourists will not attempt to pass through those paths.

In this research, the results of the study play the role of a connected infrastructure that lead to Hamedan tourism city and show that the new road construction of Hamedan-Kermanshah axiswill increase the credit of the road.

First, from the latest facilities of roads like a warning signs, best asphalt, appropriate lighting, bandwidth and other standards of roads, second, the best and the more quality of installation and facilities among roads and the result of this choose the city and provinceas a destination that leads to that city. Thus, if tourism industry of this city provides other backgrounds, it would growth remarkably.

Recommendations

Based on the proposition that tourists prefer to pass through the safest ways, it's suggested that in this regard more actions should be done for road construction to increase the number of tourists which attract to the province and also the standardization of installing facilities in roads can make healthy and suitable environment for tourists to encourage them to use this places and helps them to become familiar with Hamedan city and the tourism attractions of it by giving out the brochure.

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