Measuring the Influence of Residents' Attitude and Empowerment for Intelligent Decision Making to Improve Heritage Tourism; A Case of Mardan, Pakistan

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Abstract

This paper explores the influence of residents' attitude and empowerment on heritage tourism development in UNESCO declared destinations in Mardan; Khyber Pukhtoonkhwa, Pakistan. The three destinations of Jamal Garhi, Shahbaz Garhi and Takht Bhai are studied using statistical approaches. To measure the perception of local people, 384 self-administered questionnaires were filled from the local people. 5-point Likert scale ranging from strongly disagree to strongly agree was used to collect data. In order to conduct this research; KMO and Chronbach alpha tests were used to measure validity and internal consistency of questionnaire respectively. Correlation and regression statistical tools were used to measure the relationship. Moreover, ANOVA is used to measure the significance of relationship. The residents' attitude is measured in terms of emotional solidarity. On other hand residents' empowerment is evaluated using; psychological empowerment, social empowerment and political empowerment. The results show that residents attitude and empowerment have overall positive significant relationship with heritage tourism development.This paper aims to raise the voice of the local people to the higher authorities. Artificial intelligence and neural networks can be applied as decision making tool.For policy consideration, attention from the provincial and federal government is required to involve the local people in decision making.

Keywords: Emotional Solidarity, Psychological Empowerment, Social Empowerment, Political Empowerment, Heritage Tourism Development, Artificial Intelligence, Neural Network

1. Introduction and Background

Tourism refers to the business and non-business activities of the people other than the usual life for a time span of less than one year (World Tourism Organization, 1994). Heritage tourism comes into consideration whenever certain cultural and historical places are explored to the world (Boyd, 2000). There exist a considerable number of the heritage places in Mardan; Khyber Pakhtoonkhwa, Pakistan. These places are included in UNESCO declared heritage destinations. In the past the three destinations of Jamal Garhi, Shahbaz Garhi and Takht Bhai in Mardan have been religious places for Buddhists (Ali, 2009). The heritage remains of Gandhara civilization in Jamal Garhi are located on thirteen kilometer distance from Mardan city. This site was established during Gandhara civilization. In 1848, Sir Alexander Cunningham discovered this place. All these remains in Jamal Garhi represent the ancient Gandhara civilization (Khan, 2015). The second heritage destination is Shahbaz Garhi, which is located on Swabi road. There are certain Ashoka writings in this place explaining that the prosperity of life is dependent on; respecting the parents, relatives and friends, helping the poor people and avoiding spending money on illegal deeds (Jan,2015). The third important destination is located in Takht Bhai, the Northwest side of Mardan. Because of complete signs of Buddhist civilivization, it is considered to be the most inspiring heritage destination in Mardan (Cornish, 1995). Heritage places are of pivotal importance for both the developed and developing countries (Pacifico, 2012).
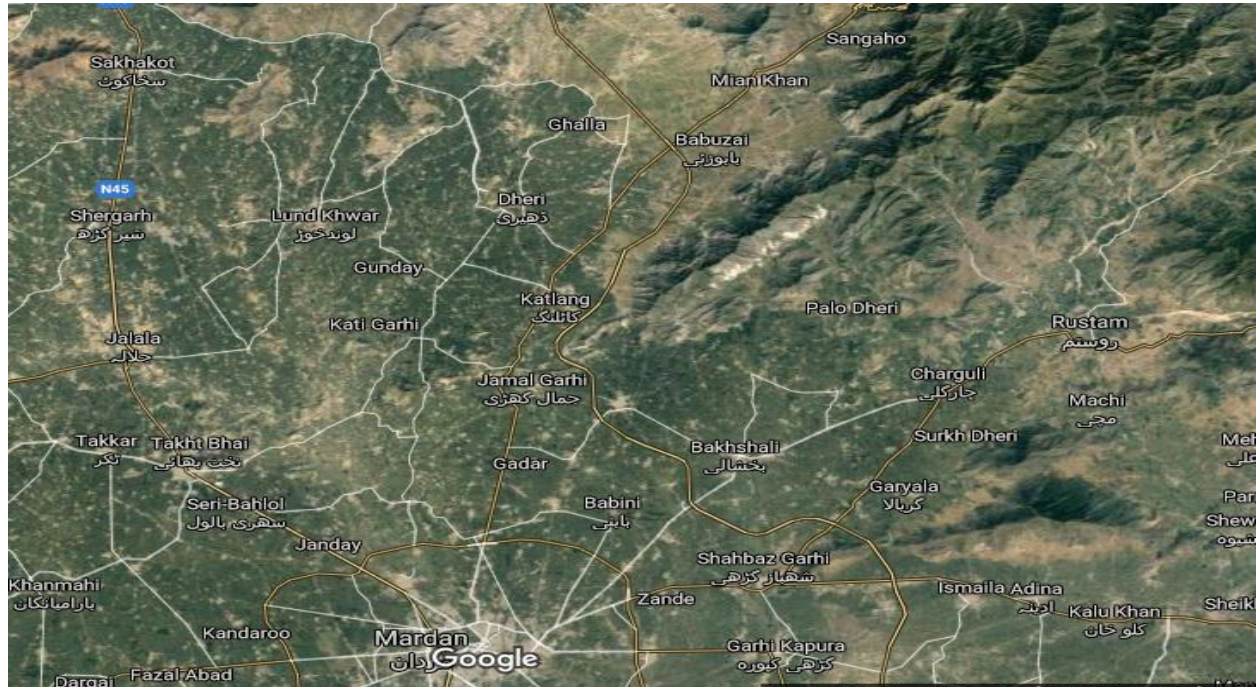
Ap (1992) precisely conducted a study to explain the positive or negative perception of the residents towards the tourism. The length of time spent by the tourists with the local community also enhances the tourism. Davis (1988) divided the residents on the basis of attitude, interests, and perception about tourism in Florida. Because of the shared characteristics of the variables, clustering technique was followed to test the data for future analysis.

McCool (1994) measured the relationship between local residents and their attitude towards tourism keeping in mind the factors: community attachment and length of residency, community attachment and attitude for tourism development, the length of residency of the community and, community attachment and the amount of tourism. Ambroz (2008) studied the attitude of the local people for the tourism development in three regions of Solvenia. Regression analysis was used to test the relationship between the emotional response of the local people and tourism development.

Andriotis (2003) conducted a study in four cities of Crete coast. Job creation, increases in income and infrastructure development were found to be the positive outcomes from the tourism. KMO test was used for the validity of the study. SPSS was used for statistical analysis of the data. The results show that local people are in favor of tourism development in their localities.
Canizares (2014) found in Cape Verde (Africa) that attitude and perception of the residents are the two utmost important factors for the tourism development. Furthermore, the results show that creations of the economic opportunities in the destinations are the positive outcomes from the tourism.
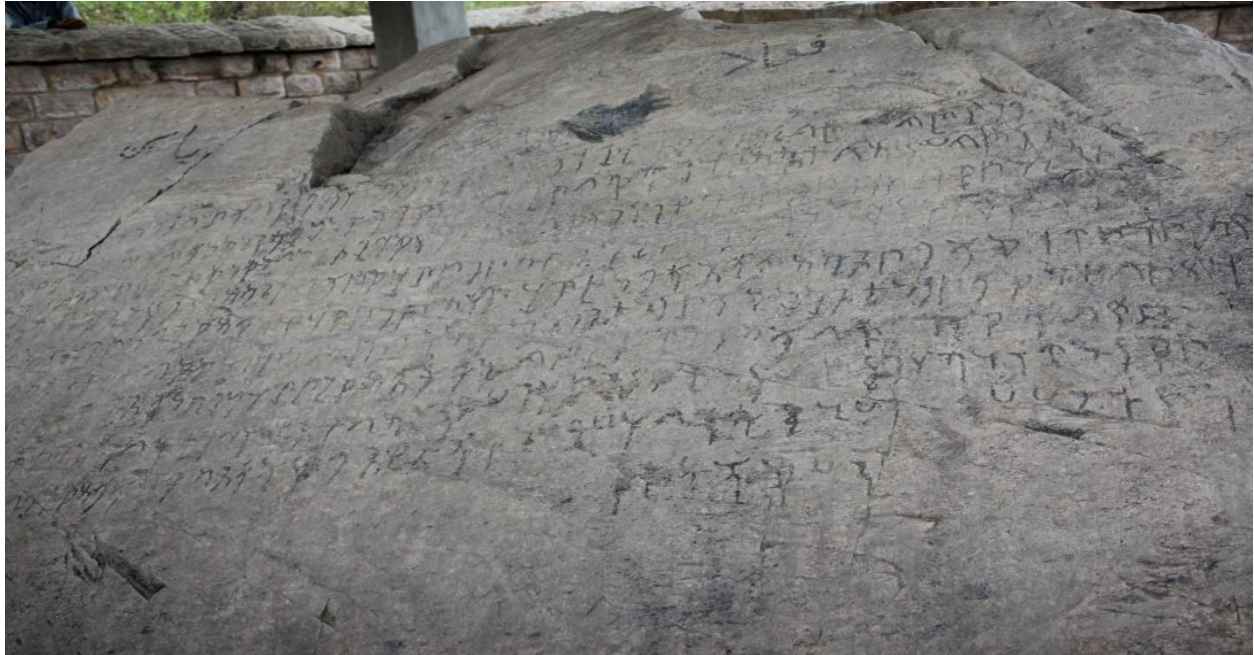
Source: http://www.maplandia.com/pakistan/n-w-f-p/mardan/shahbazgarhi/

Picture 1: Map covering heritage destinations in Mardan

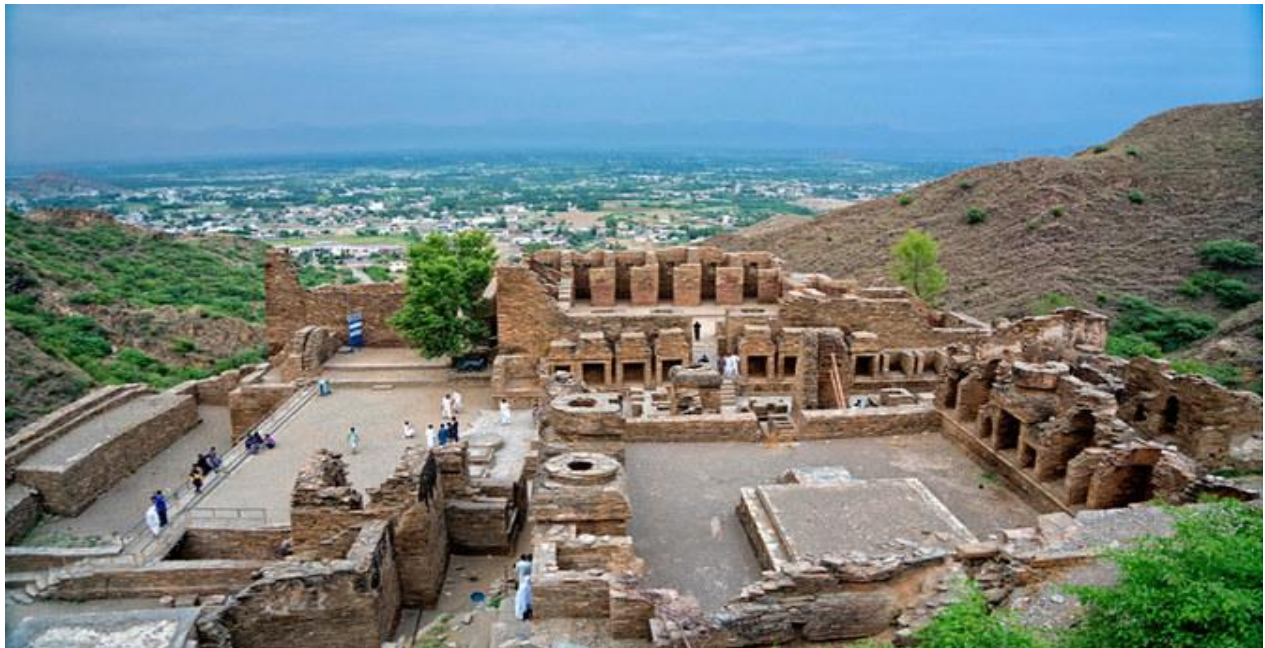
Source: https://content.pk/kpk/mardan/travelling-to-mardan-here-are-top-places-to-visit-in-the-city/

Picture 2: Jamal Garhi Heritage Destination

Source: http://harpalpk.com/ashoka-gat-asoka-rock-edicts-shahbaz-garhi-mardan-kpk-pakistan/

Picture 3: Ashoka writings at Shahbaz Garhi

Source: https://www.arabnews.pk/node/1595881/pakistan

Picture 4: Takht Bhai heritage destination

2. Literature Review

Social exchange theory explains that the relationship between the individuals is compulsory for the society (Emerson, 1976). The researchers have found that tourism has some positive and negative outcomes on the societies as well as the tourists. Some of the researchers believe that the social exchanges are for the betterment of the tourism while others believe that exchanges are not meant to tourism development (Ap, 1992).

Attitude means the perception of the individuals with respect to the environmental factor (Bogardus, 1931). Attitude is the mental disposition of the human to act in favor of or against a particular object(Droba, 1933). Within the heritage tourism context there exist relationship between the residents and the tourists with respect to attitude and empowerment. The factors of emotional solidarity, shared beliefs, common behavior and interaction between the residents and the tourists need to be considered within residents' attitude (Hasani, 2016).Attitude and empowerment are the two vital factors to be determined for the heritage tourism development. Within attitude, emotional solidarity of the local people is measured. It is the feeling of difference of one individual from the other to establish relationship between them (Wallace, 2006). Emotional solidarity is required for determiningthe demographics like economic position and the tourists' behavior of the society (Harril, 2004).Whenever tourist visit a particular place and make a conversation with the local people, an emotional closeness is developed between them. (Woosnam, 2009). The welcoming nature, emotional closeness of tourist and residents and emotional solidarity are important factors for heritage tourism development (Hasani, 2016).

The other factor is the empowerment of the local people; which means the personal and social status of the individual in the society (Rappaport,1987). Empowerment is the process of developing the lives of the people through their capabilities (Solomon, 1976). Self-esteem, self-efficacy, competency and locus of control are psychological constructs within empowerment (Zimmerman, 1984).

Psychological empowerment, social empowerment and political empowerment of the residents are measured in heritage tourism context. Psychological empowerment is the internal belief of an individual to have control on his future, ability and making preferences of the routine life(Conger and Kanungo, 1988). Within heritage tourism connection, psychological empowerment happens when an individual feels self-pride because of the uniqueness of the destination (Scheyvens. 1999). Psychological empowerment is the important psychological state required for the individuals to feel power about the work they are doing in an organization (Spreitzer, 1997).Furthermore, it is the cognitive state of individuals for the obtained control, competence and goal achievement (Oladipo, 2009). Psychological empowerment, inside a tourism connection, happens when an individual's pride and self-regard are improved by the responses of untouchables who perceive the uniqueness and estimation of a group (Scheyvens,1999).

Social empowerment is the development of autonomy and self-confidence for building relationship for the collaboration of the community (Blomkvist ,2003). Social empowerment is one of the important factors for determining the impact of the tourism in the society (McGehee, Lee, O'Bannon, and Perdue, 2010). Empowering people within social context means to collect the people for the shared interests (Castri, 2004). Social empowerment in tourism context leads to enhance the quality of life and building the bonds between the people

of the community(Perkins and Zimmerman, 1995). It is also a gateway for social capital and local economic development (Kay, 2006).Social empowerment is an important factor for determining the impact of tourism in the society (McGehee, Lee, O'Bannon, and Perdue, 2010).

Political empowerment is the ability to speak about and speak for gaining the right to be involved in political process (Pettit, 2012). Political empowerment focuses on the involvement of the local residents in the decision making process (Scheyvens, 1999). Local people play an important role in the tourism development of the particular region (Ryan, 1988).Political empowerment within the tourism context has also a great impact on the tourism development (Choi, 2005). It works as a ladder for community development (Arnstein's, 1969).

The literature shows that there is no such study which covers the residents' attitude and empowerment in heritage destinations in Mardan. This study is of utmost importance because these UNESCO declared destinations are declining with the passage of time (Matsuura, 2004). The attention of the decision makers is required to bring the heritage destinations of Jamal Garhi, Shehbaz Garhi and Takht Bhai under consideration. This study focuses on the role ofattitude and empowerment of the local people in developing the heritage tourism development.

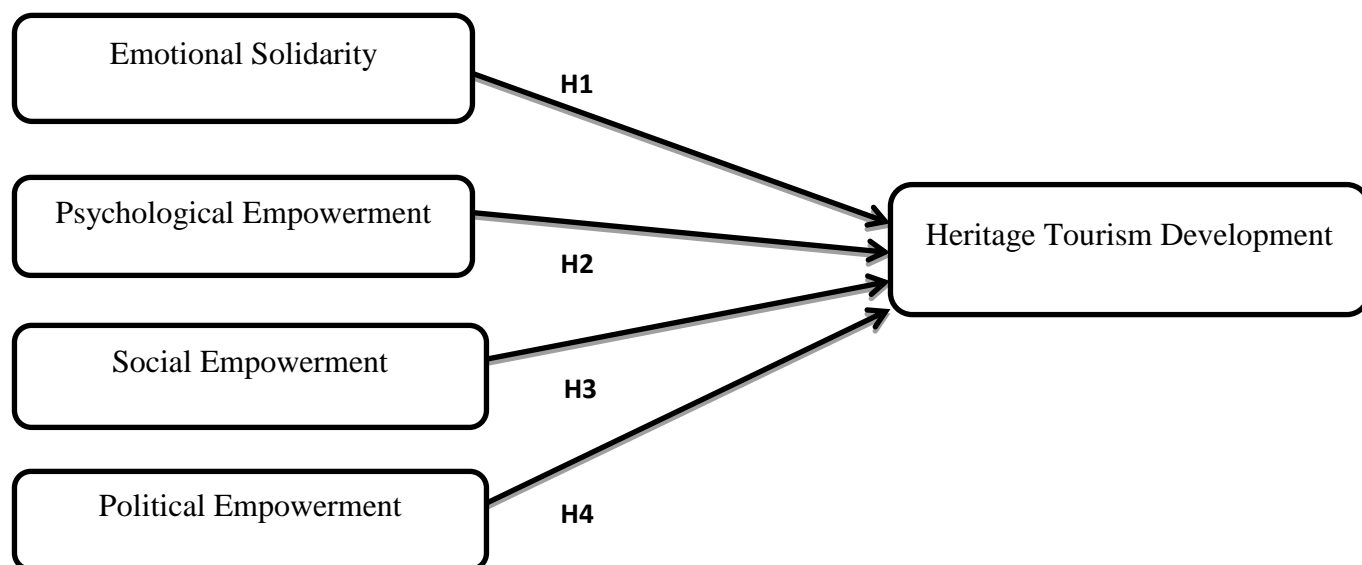

Fig 1: Conceptual Framework

2.1 Hypothesis

H1: Emotional solidarity affects heritage tourism development.

H2: There exists a significant positive relationship between psychological empowerment and heritage tourism development.

H3: There is a significant positive relationship between social empowerment and heritage tourism development.

H4: Political empowerment of residents influences the heritage tourism development.

3. Research Methodology

3.1 Sampling technique and Data Collection

384 self-administered questionnaires including 234 males and 150 female respondents were considered for collecting data in the three heritage destinations. (Krejcei and Morgan, 1970) method was used for selecting adequate sample size from Jamal Garhi, Shahbaz Garhi and Takht Bhai. Respondents included; college students, university students, general public and shopkeepers. The data collection method was cross sectional in nature, it took approximately seven weeks. 135 questionnaires from age range 15-25, 105 from 25-35, 90 from 35-45 and 54 from the age group above 45 were filled from the local residents. As for the frequency distribution in destination is concerned; 127 questionnaires were filled in Jamal Garhi, 123 in Shahbaz Garhi and 134 in Takht Bhai.

The items of the questionnaire for emotional solidarity and tourism development are taken from (Woosnam, 2009). The items of psychological empowerment, social empowerment and political empowerment have been taken from(Boley, McGehee, Perdue and Long, 2014) Five point likert scale ranging from strongly disagree to strongly agree is used in this study (Wang, Pfister, 2008). Likert scale is an appropriate method in order to ensure the relationship between the residents' attitude and empowerment with the heritage tourism development (Beritelli, 2011).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-25	135	35.15	35.15	35.15
	25-35	105	27.34	27.34	62.49
	35-45	90	23.43	23.43	85.92
	Above 45	54	14.06	14.06	100

Table 1: Age group of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Jamal Garhi	127	33.07	33.07	33.07
	Shahbaz Garhi	123	32.03	32.03	65.10
	Takht Bhai	134	34.89	34.89	100
	Total	384	100	100	

Table 2: Destination Frequency Distribution

3.2 Descriptive Statistics

Mean is the average value for the variables. Their value lies above 3.0 for all the variables. Also the standard deviation shows minimum spread which is indicator for satisfactory results(Abdollahzadeh, Sharifzadeh, 2012).

	Mean	Standard Deviation	Analysis N
Emotional Solidarity	3.64512	0.43518	384
Psychological Empowerment	3.34561	0.41705	384
Social Empowerment	3.41011	0.45532	384
Political empowerment	3.56458	0.49583	384
Heritage Tourism Development	3.61376	0.41076	384

Table 3: Descriptive Statistics

3.3 Validity of Questionnaire

SPSS 20 is used to test the data for finding the relationship between the variables (Diedrich, 2007). KMO test of sample adequacy is used to measure the validity of the questionnaire (Andriotis, 2003). It ranges from 0 to 1. The value near to 1 show that the validity is strong. The value below 0.50 shows that the questionnaire is not valid. Here KMO value is 0.747 which shows a good validity measurement.

Kaiser- Meyer-Olkin Measure of Sample Adequacy		0.747
Bartlett's Test of Sphericity	Approx. Chi-Sqaure	131.052
	Df	10
	Significance	0.00

Table 4: KMO and Bartlett's Test

3.4 Reliability of data

Cronbach alpha is used to determine the internal consistency of the data. Its value ranges from 0 to 1. The nearer the value to 1, the reliable the data is (Gliem and Gliem, 2003). In this study Cronbach alpha is 0.721 which is quite adequate for significant analysis. The reliability of the data is confirmed because Chronbach alpha is above the required value.Chronbach alpha for a similar kind of study was found 0.6008 for the enhancement of tourism (Andriotis.2003).

Cronbach Alpha	No. of items
0.721	29

Table 5: Overall reliability

Variable	Cronbach Alpha	No. of items
Emotional Solidarity	0.725	6
Psychological Empowerment	0.702	7
Social Empowerment	0.783	6
Political empowerment	0.692	5
Heritage Tourism Development	0.714	5
Overall summary	0.721	29

Table 6: Reliability of each variable

3.5 Communalities

It is the total variance shared by original variables with all other variables of the analysis (Walde, 2000).The value of extraction determines the proportion of each variance to each variable of the factors. Here, these values are good enough for a considerable analysis.

	Initial	Extraction
Emotional Solidarity	1.00	.556
Psychological Empowerment	1.00	.639
Social Empowerment	1.00	.712
Political empowerment	1.00	.501
Heritage Tourism Development	1.00	.542

Table 7: Extraction Method: Principal Component Analysis

The following table illustrates that heritage tourism development changes with the perception of the local residents. The local people respond positively to the questions which are in favor of heritage tourism development. On the other hand, the items which are against the favor of heritage tourism development are answered negatively. Generally, the respondents' positive attitude shows higher means then the negative.Hence, the local residents want considerable positive outcomes from heritage tourism in Mardan.

Statements	Mean rating of importance
Emotional Solidarity	4.10
I am proud to have visitors come to Mardan	3.45
I feel the community benefits from having visitors in Mardan	2.01
I feel close to some visitors I have met in Mardan	1.45
I feel affection towards visitors in Mardan	3.23
I have made friends with some visitors in Mardan	1.09
I treat visitors fair in Mardan	3.94
Psychological Empowerment	
Makes me proud to be a Mardan resident	4.23
Heritage tourism embarrasses me	3.32
Makes me feel special because people travel to see my district	3.62
Makes me want to tell others about what we have to offer	3.43
Makes me want to hide the fact that I live in Mardan	2.12
Reminds me that I have a unique culture to share with visitors	3.86
Makes me want to work to keep Mardan special	3.37
Social Empowerment	
Makes me feel more connected to my community	3.98
Fosters a sense of 'community spirit' within me	4.13
Disturbs me	2.09
Provides ways for me to get involved in my community	3.74
Destroys my community's ability to work together	2.34
Discourages me from working closely with other Mardan	1.98
Political Empowerment	
My voice is excluded from the tourism planning process.	3.67
I have a voice in Mardan tourism development decisions	3.05
I have access to the decision making process in heritage tourism	2.52
Those in positions of power disregard my concerns about tourism.	2.91

My vote makes a difference in how tourism is developed in Mardan	2.81
Heritage Tourism Development	
In general, the positive benefits of tourism outweigh negative impacts in Mardan	3.98
I believe tourism should be actively encouraged in Mardan	4.02
I support tourism and want to see it remain important to Mardan	3.37
Mardan should remain a tourist destination	3.71
Mardan should support the promotion of tourism	3.09

Table 8: Descriptive statistical summary of the perception of the respondents

3.6 Regression

It is a statistical tool for measuring the strength of relationship between the dependent and independent variables. Furthermore, it is used to refine the hypothesis (Sykes, 1998). As for as this study is concerned; multiple regression is regression is used because of one dependent and four independent variables (Wang, 2006).

$Y = a + b1x1 + b2x2 + b3x3 + b4x4$ (Eraqi, 2007

H1 is accepted because it leads to positive weak relationship between the emotional solidarity and heritage tourism development. Here the value is 0.214.

H2 suggests a positive strong relationship between the residents' psychological empowerment and heritage tourism development. The value of beta is 0.753 almost similar to another study showing a strong relationship (Dada, 2012).

H3 identifies that there is a strong relationship between social empowerment of the local people and heritage tourism development. Its value is 0.812, quite related 0.784 (Dada, 2012).

H4 is about the relationship of the political empowerment of the residents and heritage tourism development. The value of beta is 0.865, which also shows a significant relationship just like a similar study showing beta value 0.687 (Dada, 2012).

Model		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
		B	Std. Error	Beta		
1	Constant	.723	.354		2.042	.000
	Emotional Solidarity	2.431	0.654	0.214	3.717	.001
	Psychological Empowerment	1.543	1.502	.753	1.027	.002
	Social Empowerment	3.125	1.643	.812	1.902	.000
	Political Empowerment	2.325	1.132	.865	2.053	.001

Table 9: Regression Coefficients

3.7 Correlation

The Durbin Watson statistic value is 1.765. From the table it is clear that R-Square is 0.328 which shows that 32.8% of the variance in heritage tourism development can be explained. On the same time, 57.3% of the variance are explained by

the factors of emotional solidarity, psychological empowerment, social empowerment and political empowerment

Model	R	R-Square	Adjusted R-Square	Durbin Watson
	0.573	0.328	0.341	1.765

Table 10: Model Summary

a. Predictors (Constant): psychological empowerment, social empowerment, political empowerment.

b. Dependent variable: heritage tourism development

The overall significance is 0.004 which shows that heritage tourism development is dependent on emotional solidarity, psychological empowerment, social empowerment and political empowerment to a significant level.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.473	7	0.115	0.859	0.004
	Residual	27.096	109	0.134		
	Total	27.498	384			

Table 11: ANOVA

a. Dependent Variable: Heritage To_ Dev_

b. Predictors: (constant) Emotional So_, Psychological Emp_, Social Emp_, Political Emp_

The relationship between the variables is measured using correlation (Sekaran, 2003). Pearson's correlation identifies the strength and direction between the two variables (Liang, 2011). Its value ranges from 1.0 to - 1. 0. Positive values show that there is significant relationship while negative values identify negative relationship. 0 values incorporate no linear relationship between the two variables.

applied to generalize automatically the intelligent decision of unknown cases from

		Emotiona_So	Psychologica_Em	Social_Em	Politica l_Em	Heritage_To_Dev
Emotional _So	Pearson Correlation	1				
	Sig.(2-tailed) N	.000				
		384				
Psychological_Em	Pearson Correlation	0.429	1			
	Sig.(2-tailed) N	.000				
		384	384			
Social_Em	Pearson Correlation	0.392	0.452	1		
	Sig.(2-tailed) N	.000	.000			
		384	384	384		
Political_Em	Pearson Correlation	0.415	0.386	0.329	1	
	Sig.(2-tailed) N	.000	.000	.000		
		384	384	384	384	
Heritage_To_Dev	Pearson Correlation	0.466	0.342	0.339	0.421	1
	Sig.(2-tailed) N	.000	.000	.000	.000	.000
		384	384	384	384	384

Table 12: Correlation is significant at the 0.01 level (2-tailed)

3.8 Intelligent decision making

Data analysis, knowledge engineering and intelligent decision support scheme; are integrated to analyze the data. First, explorative statistical analysis methods from multidimensional factor analysis is used (Benzecri, 1992) which is aimed to clarify multivariate non-linear relations among variables, the breakdown of complex phenomenon into various factors and the distinctive characteristics of the sample. Secondly, the Neural Network component is applied to generalize automatically the intelligent decision of unknown cases from the known cases (Morajda, 2003). Thirdly, the Knowledge Modeling portion is applied as a machine understandable format to identify the results in a Knowledge-Base System (KBS) (Schreiber, 2008). Constructed from knowledge extraction and engineering, these three parts consist of a Tourist Marketing Decision Support System (TDSS). The data analysis part plays a character of knowledge extraction; the exploratory analysis is performed to provide the results and then analyzing of data using explorative factor analysis method in a combination of Multiple Correspondence Analysis (MCA) and Hierarchical Clustering

(CAH)(Benzecri, 1992). These methods are selected to reveal the fundamental patterns such as customer profiles, market segments and products features acquired from questionnaire. The most serious part in the Knowledge Engineering portion is the Knowledge Model (KM) for defining the structure of knowledge, terminology and formalism so as to make the model expressive for the whole logic and content in order to solve problems using intelligent engine (Guarino, 1995). The KM is implemented within a Knowledge Base, which works as a container of produced knowledge and the operational component. Knowledge elicitation is another important element which is performed by experts, the selection of findings used for decision supporting the meaningful and rejecting those which are not meaningful and transferring process of findings into syntax defined by KM.

A constituent for classifying and recognizing pattern based on neural network (NN) has been established and linked with data analysis. The aim is to automatically categorize unknown cases like visitors or services from the data analysis. In order to mechanize the process, the ability of NNs is used to obtain a limited training set and generalize the knowledge of unknown problems (Simpson, 1990).

Intelligent decision making in managing tourists destinations is a stimulating area because of the involvement of different factors like culture, branding and communication (Kavoura & Bitsani, 2013, Chatzithomas, et al, 2014). On other hand, fruitful information is obtained from efficacious destination marketing approaches (Kiráľová and Malachovský, 2014). Along with statistical forecasting(Haiyan, Bastian & Vera, 2010), in tourism sector a substantial strive based on information technologies have been examined in order to develop decision

support systems (Prantner et al, 2007). The expected benefits can be significantly used without gaining knowledge and expertise to solve marketing decision making complex problems (Stalidis & Karapistolis, 2013).

The usage of artificial intelligence in Neural Networks has an antiquity from numerous periods (Rosenblat,1958). Due to enthusiasm and maturity, Neural Network technology has the capability to be applied as a knowledge extraction and illustration instrument in an extensive range of fields, comprising business intelligence (Lisboa, 2001), economics (Morajda, 2003) and biomedical engineering (Morajda, 2003). Neural Networks are used to imitate the function of human brain and generalizing directed and undirected training. Practically, Neural Networks are non-linear statistical data modeling or decision making instrument used to measure the relationships between inputs and outputs irrespective of the underlying phenomenon (Simpson, 1990). NNS are applied in almost all problems where the associations of dependent and independent variables are involved. Irrespective of human understandable rules, NNs are able to learn through examples and to model non-linear relations among numerous variables.
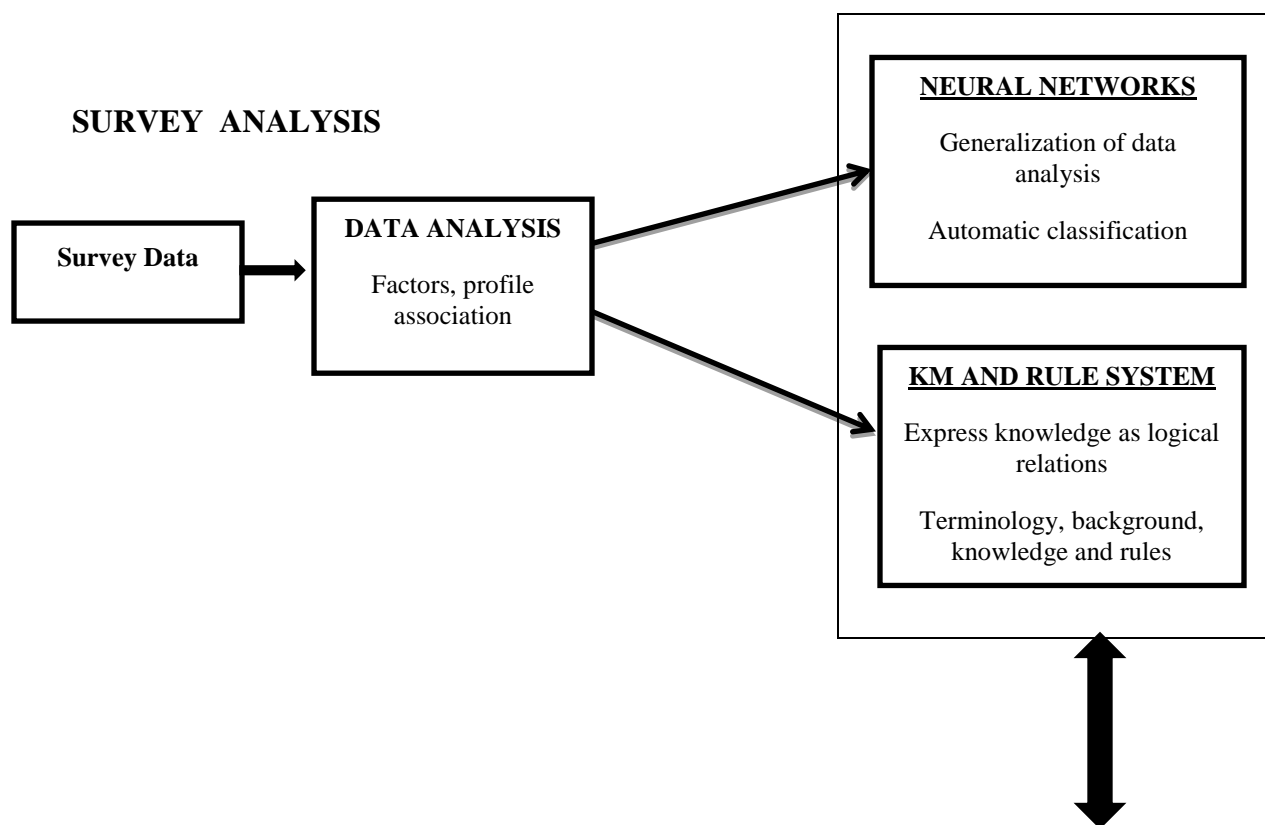
KNOWLEDGE BASE

SURVEY ANALYSIS

| Survey Data |

DATA ANALYSIS

Factors, profile association

NEURAL NETWORKS

Generalization of data analysis

Automatic classification

KM AND RULE SYSTEM

Express knowledge as logical relations

Terminology, background, knowledge and rules

Fig 2: Overall data analysis, data engineering and decision making

5.   Conclusion   and Recommendations

As per the findings from hypothesis; emotional solidarity, psychological empowerment, social empowerment and political empowerment have a strong significant positive impact on heritage tourism development in the three destinations. These outcomes can be used to find ways to empower the residence in accordance with their mental strength, social relationship and involvement in the decision making process. As these destinations are listed on UNESCO heritage declared list, the residents' attitude and empowerment are the vital factors for exploring them to the world.

Similarly, the residents need to be involved in the decision making process in order to put these places on path of sustainability. These heritage destinations can only be developed if the provincial and federal government listen the voice of the local people. National and international tourists come to see these heritage places, therefore these places need to be facilitated with daily life needs. Government need to install water facilities for the national and international tourists. The voice of the local people residents need to be reached to the higher authorities. The government also needs to focus on the infrastructure to make these places suitable for tourism. There is also need of the well-educated travel guides to

assist the national and international tourist. The need of the host-guest relationship is of pivotal importance for both the residents and tourist. Some intelligent decision making startups can also be recommended for local people to enhance the heritage tourism development. Furthermore, the research can also be extended to examine the residents' attitude and empowerment in sport places, cultural sites and beaches. Also, the economic factors can also be added to measure numerous indicators of the local residents with reference to heritage tourism development.

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