# ECONOMIC ANALYSIS OF HERITAGE TOURISM AT OLD TOWN AREA SURABAYA

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## ABSTRACT

*This study is an application of cultural heritage valuation using non-market methods. Contingent Valuation Method used to measure the amount of economic value by estimating willingness to pay from Surabaya residents. The economic value of the Old Town Area of Surabaya if there were improvement and development of heritage tourism is Rp. 1.471.764 billion. This value is greater than before improvement and development that is only Rp. 3.914.892.240. Multinomial logit regression was used to identify factors that affect the interest to visit and willingness to pay for the respondent. Results indicates that age, education, income, and knowledge significantly influence the interest to visit and willingness to pay. Therefore, it is necessary to encourage the development of heritage tourism, having regard to the determination of stakeholder and policy priorities. The method used in the determination of stakeholder and policy priorities is the Analytic Hierarchy Process.Overall, the use of three methods provide complete results so it can be a reference in the field of cultural heritage research and advice in the development of heritage tourism, especially in the old city area of Surabaya.*

*Keywords: economic valuation, multinomial logistic regression, contingent valuation method, analytical hierarchy process.*

*JEL Classification: A130, D10*

## (1)  1. INTRODUCTION

The development of a city will not separate from the presence of the old town area. An old city within a city is positive and as a point of reference. An area of the city needs to consider the historical legacy as efforts to use resources in the dimension of space to achieve better city region (Bedate, et al., 2004). The old city area in an area of town is not a man-made environment that's built in a short time, but the environment formed in a relatively long time (Bedate, et al., 2004). One of the old city area in Indonesia is Surabaya, which stand at around the 13th century. The origin of the founding of Surabaya is diverse and full of historical value. A Humanist Surabaya German named Von Faber stated that Surabaya established in 1275 *Masehi* as a new settlement for the soldiers who managed to quell the rebellion "Kemuruhan" in 1270 *Masehi* by King Kertanegara derived from Singasari kingdom.

History Surabaya is also related to trading activities. Geographically Surabaya created as a market town and harbor. Surabaya is the main gateway port Majapahit Empire in the 14th century. In the Dutch colonial period, the geographical location is very strategic Surabaya making it

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positioned as a major port that acts as a collecting center in the 19th century (Purwono, 2006). During the Dutch colonial period, Surabaya has appeal as a port city, trade and administrative center of the Dutch East Indies region so that many immigrants come to Surabaya both from Java, outside Java, Arabic, Chinese, India and some European countries (Purwono, 2006), Wealth of history owned Surabaya causing their ethnic diversity, ethnicity and culture.

In the Dutch colonial era, there are provisions of the Act Territory Dutch colonial government in 1841-1910 to facilitate the control and supervision of the ethnic underwater city (Beneden Stad) Surabaya divided into several areas of residential clusters based on ethnicity. European settlement on the west side Jembatan Merah or Kali Mas, while human settlements Orientals (Brand Oosterlingen) located on the east side Kali Mas consisting of Chinatown Chinese (Chineesche Kamp) or Kembang Jepun, the Arab region (Arabische Kamp) or an Ampel and settlement of indigenous people who spread around residential community and the Arab (Widodo, 2002).Ethnic diversity creates uniqueness dwelling or building is different in each group of settlements. This added to the number of cultural heritage in the Surabaya region that needs protecting, preserved and developed as a heritage tourism.

This study wanted to examine three main issues related to the protection, preservation and development of heritage tourism area of the old city of Surabaya. First, the estimate magnitude of the value of willingness to pay (willingness to pay) of Surabaya society towards heritage tourism in the old town area of Surabaya means to determine the value of benefits (benefits) economy inherent in this historic city. econd, determine the factors that affect the interest and willingness to pay (willingness to pay) Surabaya community of the existence of the old city area of Surabaya. Third, do the prioritization of specific policies to defend the existence of the historical district and develop the potential of heritage tourism especially the old town area of Surabaya.

## 2. LITERATURE REVIEW

### 2.1 The Concept of Heritage Tourism

Some agencies have defined the concept of heritage tourism with different views. The World Tourism Organization (World Tourism Organization) defines heritage travel as activities to enjoy history, nature, human cultural heritage, the arts, philosophy and institutions from other regions. Preservation Agency of American History (The National Trust for Historic Preservation) interprets it as a way to enjoy the places, artifacts and activities that authentically represent the stories or the history of the past or at present.

According Boiface, et al., (1993), heritage tourism is a form of travel that brings together educational activities, travel, culture and nature conservation and economic activities. Heritage tourism done in the historical district in the form of the building, area or object as man's work of the past. Heritage sites are not only limited to the physical form, but also includes the social aspect of the community.

## 2.2 The concept of Economic Value of Cultural Resources

Value is the price given by a person with something at a certain time that based on the perception of each individual. Usability, satisfaction and pleasure are other terms are acceptable and connotes price. Size determined by the price of time, goods, or money sacrificed for someone to possess or use goods or services wanted. Economic values contained in a resource is both natural resources and cultural resources referred to as the Total Economic Value or the Total Economic Value (TEV) (Lee, 2014).

TEV is the sum of use value and non-use value (Lee, 2014). Values of use associated with the use of a physical building. The value of non-use can be the first is the value of options (option value) value to individuals who have yet to visit the site but would like to have the opportunity to do so in the future. Second, the value of existence (existence value) value associated with people who do not have plans to visit the site or plan to do so, but still want to see the existence of the site in a positive outlook. Third, the value of heritage (Bequest value) that is the value of knowledge of the history of cultural heritage can preserve for the benefit of future generations. Use value and functional value should take into account in drawing up the policy so that the allocation and alternative use can determine correctly and on target.

Valuation is an activity related to the development of the concept and methodology to estimate the value of goods and services (Davis and Johnson, 1987). The theory of consumer demand can the basis for the calculation of economic valuation. According to Lancaster (1966) is a utility consumer against cultural heritage sites are commonly called cultural resources based on characteristics. The nature and characteristics of cultural resources with natural resources have much in common (Baez and Luis, 2012). The similarity of characteristics that are in division two groups, namely renewable and can not be updated. In addition, high uncertainty or uncertainty properties owned by the cultural resources together with natural resources. This creates ease in applying the same method.

Based on neoclassical methods can be classified into two, namely preferences Stated Preference and Revealed Preference (Baez and Luis, 2012). Stated Preference include Contingent Valuation, Conjoint Analysis, Experiments Choice, Choice Contingent Ranking and Rating. Stated Preference method simulates market conditions using questionnaires and hypothetical scenarios and can be used to measure the value of each the historical legacy without the need to observe the behavior. Methods Revealed Preference include the Travel Cost, Hedonic Pricing and Avertive Behaviors that reflect the behavior of individuals linked to the cultural ecosystem services assessed for Heritage tourism destination.

Contingent Valuation Method (CVM) is a calculation method directly, in this case directly ask the willingness to pay (WTP) to communities with emphasis preferences of individuals assessed public body which emphasis on the standard value for the money (Hanley and Spash, 1993). This method allows all commodities that are not traded in the market can be estimated economic value. CVM questionnaire includes three parts, namely: 1. Writing details about the object that assessed, the perception of ratings, the type of ability and means of payment; 2. The question of WTP studied;

3. The question of social-demographic characteristics of respondents such as age, income level, education level and others. Before drawing up the questionnaire, first created the scenarios required in order to construct a hypothetical market public body which becomes the object of observation. Furthermore, the evidence related to the hypothetical question if there is a change in environmental quality sold or purchased.

## 2.3 Demand for Heritage Tourism

According to Sinclair and Stabler (1997) tourism demand based on a basic budget expenditure roommate owned by someone, this is the key in tourism demand. Someone Will Consider Whether the budget will be used for travel or to meet other consumer needs. Travel activity will create demand for tourist activities that travelers do by itself would require services in both goods and services. In some cases, a combination of tourist activities and the fulfillment of other consumption depending on the preferences of each person. Among the different conditions, the combination of tourism and other need it is possible to happen. All possible combinations depending on the budget limit are held with the intention to maximize satisfaction.

## 2.4 Determination Techniques Policies - Policy Priorities Analysis

Ananda and Herath (2003), decision-making in forest management are often characterized by complexity, irreversibility and uncertainty. Most of the complexity arises from the nature of the use of some forest goods and services, difficulties in monetary valuation of ecological services and the involvement of various stakeholders. Analytic Hierarchy Process (AHP) can be useful in planningregional forest because it can accommodate conflicts, multidimensional and destination can be compared. The purpose of this paper is to examine the scope and feasibility of combining AHP with preference stakeholders in regional forest planning. There are several criteria that lead to the three main objectives, namely in the fields of economic, environmental and social. The results showed that AHP can formalize public participation in decision-making and enhance the transparency and credibility of the process.

Choi and Sirakaya (2005) conducted a study to develop indicators to measure the sustainable development of community tourism. This study used a modified Delphi technique. A panel from 38 academic researchers in the field of tourism providing input to develop the indicators. After three rounds of discussion, panel members reached a consensus as much as 125 indicators: political (32), social (28), ecology (25), economics (24), technology (3), and cultural dimensions (13). Further study will develop a set of indicators of sustainable society depends on the specific characteristics and indicators employs experts from all stakeholder groups.

## (2)  3. RESEARCH METHODS

### (3)  3.1 Data source

The data used in this study based on the classification divided into two types, namely:
   (1) Primary data in this study are a cross section data obtained from respondents through questionnaires. The data shows the gender, age, education, income, knowledge, marital

status, status of resident respondents and respondents' opinions about the quality of the heritage area in the old town area of Surabaya.

(2) Secondary data are the data time series and cross section are obtained from the relevant agencies and literature studies. Badan Pusat Statistik Surabaya, Badan Perencanaan Dan Pembangunan Surabaya, Dinas Kebudayaan Dan Pariwisata Surabaya, the journal of economic, environmental, social and cultural, as well as other literature that discussed the research material and other data that are considered to support this research.

Data collection procedures conducted by collecting data from sources that have been mentioned earlier. Samples were taken using accidental sampling method in which all elements of the population have an equal opportunity to be selected as members of the sample. Members of samples selected by chance (accidental). Respondent is a resident of both native and transient Surabaya encountered at any location within the scope of Surabaya. Respondents were selected according to the desired requirements aged over 15 years. This ageconsidered to have been able to understand and fill out a questionnaire as well as own activities independently travel.

The primary data collection done by selecting a sample of the population of the total population of respondents in Surabaya both temporary resident or native of Surabaya. The number of samples determined by the formula Slovin (Sevilla, et al., 1960: 182), as follows:

n=N/(1+$Ne^2$) ..................................................................................................(5)

Where, n: number of samples; N: the number of population; e: fault tolerance limit (error tolerance).

Researchers used two ways in the search for criteria, sub-criteria, and a suitable alternative for structuring the hierarchy. The first way is to find a good source of previous studies based journal or thesis which have the same purpose and context. The second way is to discuss with some key persons from both academia (professors of history), lovers of culture and history (community), and policy makers (Bappeko and Disbudpar). In addition, key persons were also asked to fill out questionnaires AHP in determining appropriate policy priorities in addressing the development of heritage tourism in the old town area of Surabaya. Profile of four key person or expert, the informant in the preparation of AHP and questionnaires contained in Table 1.

**Table 1.Key Person Profile for AHP**

| No. | Name | Information |
|---|---|---|
| 1. | Ikhsan Rosyid M.A | - Lecturer in History of Science at Airlangga University |
| | | - Authors Books About Urban Economics |
| 2. | Edi Samson | - Members of the Cultural Property Advisory Team Surabaya |
| | | - Chairman of the Community De Indo Club |
| | | - Chairman of the Community Von Faber Surabaya |
| | | - Sources at the Some History Books Surabaya |
| 3. | Permatan Trimurti | - Staff at the Economy Surabaya City Development Planning Board |
| 4. | S. Nursyamsiah | - Head of Tourism Destination Development at The Section Culture and Tourism Surabaya |

## 3.2 Analysis Methods

The approach used in this study is a quantitative method in researching an object of research in certain populations. In accordance with the first problem formulation used contingent valuation method (CVM) to determine the amount of the benefits of cultural heritage. To answer the problem formulation both then used regression method named Multinomial Logit Regression. Finally, to answer the problem formulation third then use Analytic Hierarchy Process (AHP) to determine policy priorities in the preservation and development of heritage tourism in the old town area of Surabaya. Sampling on a quantitative approach is generally carried out independently or accidental (accidental), data collection and analysis using research instruments are quantitative or statistical (Sugiyono, 2010). Mathematical analysis used in the valuation of the economic value and the benefits of cultural heritage. Descriptive statistics were used for the processing and presentation of data obtained from the research.

From the data that has been obtained by questionnaire, performed data processing so that data into pairwise comparisons for AHP. To unify the values obtained from the three experts used an average measure (geometry). On the average geometry proves to be better for a series of numbers that are ratio or as a scale of AHP model. In addition, the average geometry also able to reduce the effects of one of the numbers that are too large or too small. Then calculate the total score of each criteria, sub-criteria and alternatives. Having obtained a total score of the entire alternative, then compiled from the alternative with a total score has a score of largest to smallest.

## 3.3 Model Analysis

Analysis model used in this study is twofold Regression models based on CVM and AHP. Methods Contingent Valuation Method (CVM) is used to derive the value of the economic benefits of preservation and development of cultural heritage. Variations in individual compensation for improvements can be shown in the following formula:

U (Y,$Q_0$) = U (Y −WTP,$Q_1$) ....................................................................................(1)

Where U is the indirect utility function of the individual, Y is the level of income, $Q_0$ is the current condition of historic sites, $Q_1$ is to improve site conditions and WTP interpreted as the maximum amount of the individual's willingness to pay for the realization of improvements.

Empirical estimation is commonly used to determine the WTP welfare is measured by:

$WTP_i = X_i\beta + \varepsilon_i$...................................................................................................(2)

Where $X_i$ is a vector of explanatory variables, β is a vector of parameters and $\varepsilon_i$ is the error term. The parameters of this equation can be estimated by the maximum likelihood method (Sellar, et al., 1986).

The total estimated aggregate WTP depends on both the type of benefit that is per person or household and the number of beneficiaries. The benefit gained from the preservation of the cultural heritage area by a certain number of groups of respondents. Benefit aggregate can be estimated as follows:

$B_{total} = \sum_{j=1}^{m} n_j \times B_j$.................................................................................................(3)

Where, j = 1 ... m is the group of respondents, $n_j$ is the number of individuals or households in a group and $B_j$ is the average WTP group j.

Late model statistics on CVM contains WTP of respondents as the dependent variable expressed on a questionnaire. Determination of the most influential factors (independent variables) of the votes or the willingness to pay WTP by the people of Surabaya either permanent residents or are not fixed in the CVM can be estimated using multinomial logit regression. The basic model used in this method is expressed as follows:

$WTP_{ij} = \alpha + \beta_1(Gi) + \beta_2(Ai) + \beta_3(Si) + \beta_4(Ei) + \beta_5(Ki) + \beta_6(Yi) + \beta_7(Exi) +$

$\varepsilon_i$........................................................................................................................(4)

Information :

$WTP_{ij}$ = WTP individual i in group j respondents; α = constant; $\beta_i$ = parameter each independent variable; Gi = sex; Ai = age; Si = resident status; Ei = education; Ki = marital status; Yi = income; Exi = knowledge of the region's cultural heritage; $\varepsilon_i$ = error term.

The problem of multi-criteria decision making (MCDM) is Often solved by using AHP. It comes from the Saaty at the University of Pittsburgh. This method is actually quite easy to do and is Able to evaluate alternatives. Forms simple AHP hierarchy in enabling decision makers to solve

complex problems with quantitative or qualitative data is (Mustafa, et al., 2005). The stages in the process AHP through a hierarchical structure, pairwise comparison, the synthesis of priorities, and measuring the consistency (Shyjith, et al., 2008). Decision-making in this method is through comparisons of each alternative, sub-criteria and the criteria in the form of a matrix. Comparisons will be considered by the decision maker or so-called expert based on the fact that already exist.

**Figure 1. Hierarchical Structure Determination of Heritage Tourism Development Policy Priority (Ngamsomsuke, et al., 2011)**
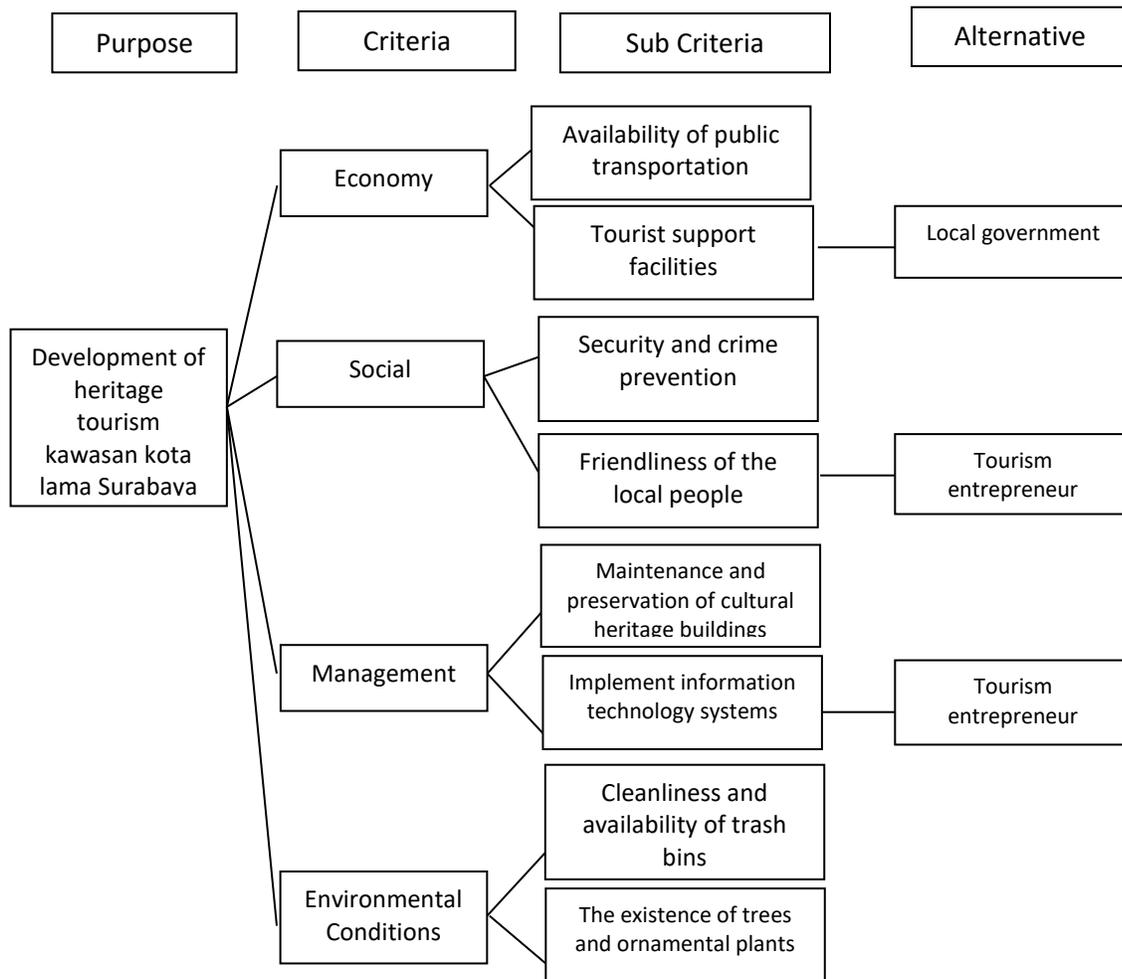


Making the hierarchical structures that describe the problems in the form of multi-criteria into a hierarchy as shown in Figure 1. In Figure 1 shows that there are three levels in the hierarchy basic structure. The level or levels in the hierarchy can be up to three Depending on the complexity of the problem. The general objective is at the top level, the criteria used for the evaluation process at the level of the middle and lower-level alternative to the basic structure of the hierarchy. Pairwise comparisons were made between the elements in each the same level relative to the level of other

uses Saaty scale (1-9) in accordance with Table 2. Synthesis priority gained from using the priority vector eigen vectors at each level and element.

**Table 2. Pairwise Comparison Scale**

| Score | Definition | Explanation |
|---|---|---|
| 1 | Common Interest | Two elements have the same contribution to the objectives |
| 3 | Moderate Interest | One of the elements a little more important than others |
| 5 | Strong Interest | One of the elements more important than others |
| 7 | Very Strong Interest | One of the elements very important than others |
| 9 | Extreme Interest | One of the elements is absolutely more important than others |
| 2, 4, 6, 8 | Value between two adjacent comparison | Sometimes the need for interpolation of a grading scale because there is no proper scale to describe it |

AHP discount of strengths and weaknesses in their applicability. According to Saaty (1999), the advantage of AHP is a model of easy to understand, it can be used on complex issues and unstructured, dependencies Between the elements without imposing were thought linearly, through the hierarchical structure is Able to describe the natural tendency, a scale of measurement used is worth, the unit is not measurable (intangible), calculates a logical consistency in the assessment of priorities, and the overall estimation Allows Choosing the best alternative based on the destination. In addition to excess, AHP also has the disadvantage of only frequently used in the manufacture and selection decisions will be almost certainly (crisp), the scale of estimation is not balanced, not considering the risks and uncertainties (uncertainty) in the calculation process, the ranking is not so precise, and their subjectivity in the evaluation, selection and preferences of the decision maker (key person).

### 3.4 Operational Definition

An operational definition is the identification of the variables used in the study in order to avoid confusion for the purpose of understanding the variables.

(1) Gender (JK)

Sex (gender) of the respondents around the site of cultural heritage (cultural heritage). This variable was measured by using a dummy variable "0" to "women" and "1" for "man".

(2) Age (US)

Age is one indicator of socio-economic characteristics that are used to see a linear relationship between the magnitude of the effect of age on willingness to pay. This data is available at the

individual selected as respondents. The age of respondents was calculated based on the last birthday with units in the year.

(3) Education (PDiKN)

The education level of the respondents have been taken around the site of cultural heritage, measured using continuous scale in terms of years. Old school in a matter of years will show the highest education level is elementary, junior high, high school, or college.

(4) Revenue (PDPTN)

The average monthly income of the respondents around the site of cultural heritage. Income is not only sourced from the main job, but overall the total income received by the respondent. This variable was measured by using a continuous scale in units rupiah (Rp).

(5) Knowledge of Respondents (PGTH)

This variable is measured by a dummy variable "0" to "Do not Know", "1" to "Know". It is related to the knowledge of the existence of the old city area of Surabaya and its present condition. Moreover into consideration if the respondents followed the history lover community for knowledge will be greater.

(6) Marital Status (KWN)

Status married or unmarried respondents around the site of cultural heritage. This variable was measured by using a dummy variable "0" to "unmarried", "1" to "married".

(7) Status Population (PDUK)

Status of the respondent population around the site of cultural heritage were the original inhabitants and migrants living in Surabaya. Surabaya both native inhabitants and visitors have an equal role in contributing to develop the tourism potential Surabaya. This variable was measured by using a dummy variable "0" to "Native", "1" to "Resident Arrivals".

(8) Willingness to Pay (WTP)

The willingness of the respondents to pay the heritage tourism in the old town area of Surabaya conducted through the willingness of respondents estimated the cost to ticket travel packages by using the questionnaire technique. Great estimation in units rupiah (Rp) for the improvement and preservation, especially in the old city area of Surabaya as heritage area tourist development.

(9) Bidding (BID)

Bidding or bid values given to respondents who are Surabaya community around cultural heritage sites. These variables were measured using a scale in which the rupiah value used in scenarios bid (bidding game) starts from the highest value and then drops to a lower value. The aim is to avoid the low starting point bias.

## 4. Results of Research

### 4.1 The Regression Model

The estimation results for scenario 1 can be seen in Table 3 while the second scenario can be seen in Table 4. Before interpreting the model, it must be ensured that the value of these parameters can be estimated statistically. Thus, the multinomial logit model can be used to look at the factors that influence the willingness of respondents.

In Table 3 the scenario prior to the improvement and development of heritage tourism, it appears that the variables that significantly influence the choice of the respondent's willingness to follow and pay for travel packages heritage is education and knowledge. The variables of education and knowledge of respondents statistically significant influence selection and willingness to follow the pay packages heritage tourism. Last education who are or have been taken by a statistically significant influence preference of respondents interested to follow the tour in the old city area of Surabaya but are not willing to pay for tickets heritage tour packages. Meanwhile, the age of the respondents is statistically significant influence preferences of respondents interested to follow the tour in the old city area of Surabaya and are willing to pay for tickets heritage tour packages.

Simultaneous test is also done in Table 3 to see the value of chi-square probability. Probability $Chi^2$ shows the mean value of0.000 multinomial logit model in scenario 1 statistically significant. This shows that all independent variables in the model simultaneously significantly affects the dependent variable. Based on the pseudo $R^2$, the model used in Scenario 1 shows that the diversity of preferences willingness of respondents to participate and pay a heritage tourism can be explained by the variables in the model by 25.6% while the remaining 74.4% is explained by variables outside the model.Variable latest Surabaya education community, showing the results is adversely preference selection, but is not willing to pay the interest in heritage tourism packages with the present conditions. Value RRR indicates that respondents who have low education to interested but not willing to pay is 0.506 times the respondents who have a higher education. This trend may be due to education affects one's judgment in the decision making.

The Surabaya community knowledge variable has a value of greater relative risk ratios Compared to other variables. It relationship is positive for selection preferences interested and willing to pay travel packages heritage with present conditions.The tendency of respondents who have a high knowledge for interested and willing to pay is 5.241 times the respondents had low knowledge. This can be caused by high knowledge about the condition of heritage attraction in the old city area of Surabaya someone will raise awareness on cultural heritage.

**Table 3. Scenario 1: Results of Multinomial Logit Model Estimation**

|  | Not Interested | Interested but not | Interested and |
|---|---|---|---|
| Gender |  | -0.793 (0.246) RRR = 0.453 | 0.424 (0.505) RRR = 1.529 |
| Age |  | -0.22 (0.741) RRR = 0.978 | 0.021 (0.685) RRR = 1.022 |
| Residence status |  | -0.486 (0.528) RRR = 0.615 | 0.36 (0.6) RRR = 1.436 |
| Education |  | -0.68 (0.003)* RRR = 0.506 | -0.014 (0.947) RRR = 0.985 |
| Marital status |  | 0.539 (0.675) RRR = 1.714 | -0.709 (0.454) RRR = 0.492 |
| Income |  | -3.74 x $10^{-7}$ (0.51) RRR = 0.999 | 3.06 x $10^{-7}$ (0.326) RRR = 1 |
| Knowledges | Based Outcome | 0.557 (0.463) RRR = 1.75 | 1,656 (0.01)** RRR = 5.241 |
| Prob> $Chi^2$ | 0.000 | | |
| *Pseudo $R^2$* | 0.256 | | |

Different from the first scenario, in the second scenario assumed that there were improvements and the development of heritage tourism in the old town area of Surabaya. In Table 4 shows that the variables that significantly influence the choice of the respondent's willingness to not be interested in participating in heritage tourism although there were improvements in the quality of education is the status of residence and the last. Meanwhile, there are several variables that significantly affect the respondent's interest and are willing to pay for travel packages heritage is gender, residence status, education, and income.

Simultaneous test is also carried out in Table 4 to see the value of chi-square probability. Probability $Chi^2$ shows the mean value of 0.000 multinomial logit model in Scenario 2 was also statistically significant. This shows that all independent variables in the model simultaneously significantly affects the dependent variable. Based on the pseudo $R^2$, showing the variety of preferences willingness of respondents to participate and pay a heritage tourism can be explained by

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the variables in the model amounted to 51.2% while the remaining 48.8% is explained by variables outside the model. This shows the model is much better to use the second scenario as compared to the application in the first scenario. This result may be due to the seriousness and focus of the respondents in filling out questionnaires so much better in the second scenario.

Based on Table 4, the variable last residence status and education communities Surabaya equally negatively related to the preference options are not interested in participating in heritage tourism although there were improvements in quality. Residence status person usually reflects a concern for the region. As described in the previous section, low education will cause a person to pay less attention to many aspects of decision making. This indicates that respondents who have residence status as a temporary resident and take a low education level, the tendency of it not interested in participating in the larger heritage tour.On the choice of preference but are not willing to pay the interest in this second scenario, there are four variables that have a negative relationship, namely gender, residence status, recent education and income. Gender women typically have smaller adventurous spirit than men. Status as migrants have a smaller concern to new areas. Low education will usually lead to lower income. Low income also affects one's spending money included for travel.

Based on the value of RRR, the tendency of respondents who have the status of migrants and low education not to be interested in participating in heritage tourism is 0,009 and 0,478 times the respondents who have the status of indigenous peoples and higher education. The tendency of the four variables that significantly influence the choice of respondents are interested but not willing to pay. First, the tendency of respondents who have a female gender to interested but not willing to pay a heritage tour package is 0,156 times the respondents who have sex men. Second, the tendency of respondents who is a newcomer to interested but not willing to pay a heritage tour package is 0,037 times the respondents with the status of indigenous people. Third, the tendency for the less educated respondents were interested but not willing to pay for travel packages heritage is 0.415 times higher educated respondents. Fourth, the tendency of respondents with low incomes to the selection but is not willing to pay the interest in heritage tourism package is 0,999 times higher-income respondents. This tendency may be a basic consideration in determining policy priorities at a later stage.

**Table 4. Scenario 2: Results of Multinomial Logit Model Estimation**

|  | Not Interested | Interested but not willing to pay | sted and willing to pay |
|---|---|---|---|
| Gender | -1,129 (0.269) RRR = 0.323 | -1,856 (0.055)*** RRR = 0.156 | *Based Outcome* |
| Age | -1.78 (0.249) RRR = 0.837 | 0.112 (0.359) RRR = 1.118 | |
| Residence status | -4,621 (0.002)* RRR = 0.009 | -3,283 (0.002)* RRR = 0.037 | |
| Education | -0.738 (0.022)** RRR = 0.478 | -0.879 (0.003)* RRR = 0.415 | |
| Marital status | 1,437 (0.49) RRR = 4.209 | -1,547 (0.435) RRR = 0.212 | |
| Income | $-2.98 \times 10^{-7}$ (0.58) RRR = 0.999 | $-1.27 \times 10^{-6}$ (0.066) RRR = 0.999 | |
| Knowledges | 1,526 (0.205) RRR = 4.602 | 0.931 (0.39) RRR = 2.536 | |
| Prob> Chi$^2$ | 0.000 | | |
| *Pseudo R$^2$* | 0.512 | | |

## 4.2 Estimated Economic Value

Alleged average value of community respondents WTP Surabaya on heritage tourism in the old town area of Surabaya is Obtained based on the ratio of the number of respondents WTP value given by the total number of respondents were willing to pay. Distribution of respondents WTP values shown in Tables 5 and 6. Based on the Data in Table 5 the average values Obtained WTP of respondents in the first scenario, amounting to Rp 1.330. In Table 6 the average values Obtained by the respondent WTP second scenario is Rp 10.600. The average value of the respondents WTP can be used as a reference in the pricing of Tickets heritage when travel packages before and after the improvement of the quality and development of the old town area of Surabaya. Paying ability of respondents in the second scenario is much more than the first scenario. This Suggests that if there

is improvement and development of heritage tourism Surabaya, the community would be willing to pay more to enjoy sightseeing in the old town area of Surabaya.

**Table 5. Distribution of WTP Value on Scenario 1**

| No. | WTP1 (Rupiah) | Total Respondents (Person) | Percentage (%) | WTP1 x Total Respondents (Rupiah) |
|---|---|---|---|---|
| 1. | 0 | 82 | 82 | 0 |
| 2. | 2000 | 5 | 5 | 10000 |
| 3. | 6000 | 4 | 4 | 24000 |
| 4. | 8000 | 3 | 3 | 24000 |
| 5. | 10000 | 3 | 3 | 30000 |
| 6. | 15000 | 3 | 3 | 45000 |
| | | 100 | 100 | 133000 |

**Table 6. Distribution of WTP Value on Scenario 2**

| No. | WTP2 (Rupiah) | Total (Person) | Percentage (%) | WTP2 x (Rupiah) |
|---|---|---|---|---|
| 1. | 0 | 38 | 38 | 0 |
| 2. | 5000 | 10 | 10 | 50000 |
| 3. | 10000 | 11 | 11 | 110000 |
| 4. | 15000 | 9 | 9 | 135000 |
| 5. | 20000 | 17 | 17 | 340000 |
| 6. | 25000 | 10 | 10 | 250000 |
| 7. | 30000 | 3 | 3 | 90000 |
| 8. | 35000 | 1 | 1 | 35000 |
| 9. | 50000 | 1 | 1 | 50000 |
| | | 100 | 100 | 1060000 |

The total value WTP (TWTP) of respondents are calculated based on data from respondents WTP distribution. WTP value in each class multiplied by the relative frequency is then multiplied by the population of each class WTP. The results are then added together so that multiplication value obtained TWTP respondents. Total population used is the population of both native and immigrant Surabaya in 2015 were sourced from the Department of Population and Civil Registration Surabaya. Value TWTP respondents tickets heritage tourism package for the first scenario is Rp. 3.914.892.240 while the second scenario is Rp. 31.201.396.800. Total WTP for the second scenario is greater than the first scenario. This suggests that the benefits or benefits that would be obtained if there is improvement and development of heritage tourism will be much larger than the present conditions

that need improvement and development of heritage tourism in the old city area of Surabaya in order to increase the economic value that reflected the benefits to be gained.

### 4.3 AHP Methods

Testing the value of consistency ratio (CR) is necessary to keep the level of data inconsistency is still within reasonable limits or still acceptable. According to Saaty (1987), the value of CR that can be tolerated is less than 0.1 or 10 percent. Value consistency combined ratio in the questionnaire are below the limit values consistency of 10 percent which is 0.07 for the criteria. In addition to the assessment of the sub-criteria and alternatives are also consistent which is less than 0.1. The consistency value ratio is at Ho, meaning the value of the variable has a positive relationship with the value factor, or can be said to be consistent. Valid questionnaires from the fourth expert is used to determine the value or weighting Tourism development policy priorities Heritage Old Town area of Surabaya.

Based on Table 5, the results of the calculation of the combined priority criteria indicate that there are four criteria were assessed using paired comparisons, namely economic, social, management, and the environment. Seen that the priority criteria are considered very important and affects the development of heritage tourism in the old town area of Surabaya is a weight management by 0.693. Management or management of the old town area of Surabaya as heritage tourism is considered important given the existing cultural heritage needs to be managed well in order to be sustainable and not lost by time.

**Table 7. The Results of The Joint Priority Values Criteria**

|  | Economy | Social | Management | Environment | Weight |
|---|---|---|---|---|---|
| **Economy** | 0.25 | 0.915 | 0.25 | 0.284 | 0.425 |
| **Social** | 0.068 | 0.25 | 0.043 | 0.226 | 0.147 |
| **Management** | 0.25 | 1,446 | 0.25 | 0.827 | 0.693 |
| **Environment** | 0.220 | 0.277 | 0.075 | 0.25 | 0.206 |

Based on Table 6, the order of the policy aspects of development (criteria and sub-criteria) of importance based on the assessment key person is the management system (ICT), the economy (transport and accommodation), the environment (cleanliness and availability temoat garbage) and social (service and hospitality local people). Meanwhile, based on the total score was calculated based on the weighted sub-criteria and alternatives so stakeholders, which plays an important role in the realization of the policy are the regional governments (4.918), community leaders (3.626) and tourism entrepreneurs (1,79). The score value varies depending on the opinion by the experts.

**Table 8. The Results of The Joint Priority Values Sub-Criteria**

| | Transportation and Accommodation | Attractive travel packages | Weight | | Security | Service | Weight |
|---|---|---|---|---|---|---|---|
| **Transportation and Accommodation** | 0.5 | 0.707107 | 0.603553 | Security | 0.5 | 0.415351 | 0.457675 |
| **Attractive travel packages** | 0.353553 | 0.5 | 0.426777 | Service | 0.601901 | 0.5 | 0.55095 |
| | Technology System | Preservation | Weight | | Greening Area | Cleanliness | Weight |
| **Technology System** | 0.5 | 0.537285 | 0.518642 | Greening Area | 0.5 | 0.483584 | 0.491792 |
| **Preservation** | 0.465302 | 0.5 | 0.482651 | Cleanliness | 0.516973 | 0.5 | 0.508487 |

The total score is the basis for the ranking can be seen in Table 7. The local government is an alternative with the highest total score is 4.918. Respectively, the highest total score obtained by the second and third public figure of 3.626 and tourism entrepreneurs of 1.79. The results of this ranking can be taken into consideration for local governments who have the greatest roles and responsibilities in the realization of the development of heritage tourism. Nevertheless, still takes the role of community leaders and businessmen to support and enhance tourism policies and programs heritage tourism development in the old town area of Surabaya.

**Table 9. Results of The Policy and Alternative Priorities Stakeholders**

| | Local Government | Tourism Entrepreneurs | Community Leaders |
|---|---|---|---|
| **Economy** | 1,955 | 0.66 | 0.397 |
| **Social** | 0.657 | 0.365 | 1,778 |
| **Management** | 1,227 | 0.477 | 0.716 |
| **Environment** | 1,079 | 0.288 | 0.735 |
| **Total Score** | 4,918 | 1.79 | 3,626 |
| **Ranking** | 1 | 3 | 2 |

**(4) 5. CONCLUSION**

Based on the research that has been discussed in previous chapters, some conclusions can be drawn.

(1) Based on the calculation of economic value CVM known heritage tourism Old Town area of Surabaya if there were improvements and the development of heritage tourism is Rp. 31.201.396.800. This amount is greater than it was before the improvement and development that is only Rp. 3.914.892.240.

(2) Based on the results of multinomial logit found that jointly age, gender, education, population status, marital status, income, and knowledge of the people of Surabaya affect the preferences of visitors to heritage tourism development aspects. One by one variable that is proven to significantly affect a visitor's preferences are education, income, population status and community knowledge Surabaya.

(3) Based on analytical hierarchy process sequence of values obtained an interest in heritage tourism development aspects consistent. Sequence aspects of development policy (criteria and sub-criteria) of importance based on the assessment key person is the management system (technology, information and communication), the economy (transport and accommodation), the environment (cleanliness and availability garbage dump) and social (service and friendliness of local residents). Meanwhile, based on the total score was calculated based on the weighted sub-criteria and alternatives so stakeholders (alternative), which plays an important role in the realization of the policy are the regional governments (4.918).

This study focuses only on the economic value of non-use of the stated preferences approach. Economic valuation study next Old Town Area, is expected to receive the amount of economic value to the revealed preferences and capable of adding the proposed program or policy. Future studies are also expected to be able to estimate the total economic value derived from the production function of the Old Town Area of Surabaya.

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