Analysis Of Tourism Preferences In Choosing Online-Base Travel Agents In Indonesia

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Abstract: The high demand for tourism is one of the triggers for the mushrooming of e-commerce based on travel. The high competition of online-based travel agents requires each provider to improve its features and services. Based on this background, it is important to further research the preferences of tourists in choosing a travel agent. The study involved 112 samples (Time Linear Period), by comparing 3 providers namely Traveloka.com, Tiket.com and Pegipegi.com. Analytic Hierarchy Process (AHP) is used as a data analysis tool, while the valuation aspect is related to product completeness, price, promos, service quality. The results showed that Traveloka is the most preferred provider by tourists; this is because Traveloka offers many promos, and services that are considered quite fast compared to other providers.

Index Terms: E-commerce, Analytic Hierarchy Process (AHP), travel, Indonesia, online-based travel agents, e-business, tourism

1 INTRODUCTION

TRAVEL preferences began to shift from luxulary needs to primary needs, where information regarding tourist destinations and tourist attractions is now very easy to obtain [2]. Technology, information and communication are increasingly developing to encourage human needs for information that is fast and accurate. As in the field of tourism, fast and accurate information is needed to make it easier for tourists to reach the destination of the destination [2][12].

The tourism sector raises various business opportunities, one of which is the e-commerce business. One type of technology implementation in terms of increasing business competition and product sales is to use electronic commerce (e-commerce) to market a variety of products or services, both in physical and digital form [3]. A travel agency is a commercial business activity that regulates, and provides services for, a group of people, to travel with the primary purpose of traveling [4][11]. The high demand for tourism has led to a variety of travel agencies that are trying to meet the needs of the tourism market. Along with the development of e-commerce, there are many online-based travel agenciesAdvances in communication technology also play a role in increasing the intensity of business competition. Today's business competition is quite tight, especially in businesses engaged in tourism services [5],[6]. The higher competition gives a signal that each company must strengthen itself by improving and creating new concepts in managing its business so that the company can survive and develop [7]. With the high competition in online travel agent business, every company must be able to map its target market appropriately, so that every policy related to the business strategy undertaken will be right on target. Based on this, it is important to maping the preferences of tourists to choose the online travel agents so that the positioning and excellence of each online travel agent can be seen from the perspective of tourists.

2 LITERATUR REVIEW

2.1 ANALYTICAL HIERARCHY PROCESS (AHP)

Analytical Hierarchy Process (AHP) is one of the special methods of Multi Criteria Decision Making (MCDM) introduced by Thomas L. Saaty. AHP is very useful as a tool in the analysis of decision making and has been widely used well in various fields such as forecasting, employee selection, product concept selection, and others. AHP is a measurement theory used to derive ratio scales from both discrete and continuous pairwise comparisons [8]. In defining problems and pairwise comparisons, a hierarchy is required in the application of AHP to determine the relationships in the structure. The hierarchical structure is depicted in a tree diagram that contains goals (problem objectives to be sought for a solution), criteria, sub-criteria, and alternatives. AHP method which is done by modeling the problem is described in stages consisting of criteria and alternatives. Besides Saaty, other authors suggest that the AHP method has been widely used to determine the priority of choices with many criteria but its application has expanded as an alternative model of the benefits of costs, forecasting and others [10]. The AHP approach offers problem solving decisions that involve all sources of complexity as defined above.

2.2. Basic Principles of AHP

In solving problems with the AHP Method, there are some basic principles that must be understood, namely:

a) Decomposition (the principle of compiling a hierarchy) The definition of decomposition is to solve or divide a whole problem into its elements into a hierarchical decision-making process, where each element or element is interconnected. To get accurate results, the solution is carried out on the elements until it is not possible to do further solving, so we get several levels of the problem to be solved. The decision hierarchy structure can be categorized as complete and incomplete. A decision hierarchy is complete if all elements at one level have a relationship to all elements at the next level, while in the incomplete decision hierarchy not all elements at each level have a relationship. In general, real problems have incomplete structural characteristics.

b) Comparative Judgment Comparative Judgment is carried out with an assessment of the relative importance of two elements at a certain level in relation to the level above it. This assessment is the core of AHP because it will affect the priority order of the elements. The results of this assessment are more easily presented in the form of a pairwise comparison matrix, which is a pairwise comparison matrix containing the level of preference of several alternatives for each criterion. The preference scale used is scale 1 which shows the lowest level (equal importance) up to scale 9 which shows the highest level (extreme importance).

c) Synthesis of Priority Synthesis of Priority is done by using the eigen vector method to get the relative weight for the elements of decision making.

d) Logical Consistency Logical Consistency is an important characteristic of AHP. This is achieved by impressing all the

eigen vectors obtained from various levels of the hierarchy and subsequently a weighted composite vector which results in a decision making sequence.

2.3. AHP stages

The stages of decision making with the AHP Method are as follows:

a) Define the problem and determine the desired solution.

b) Create a hierarchical structure that starts with general objectives, followed by criteria, sub-criteria and alternative choices you want to rank.

c) Form a pairwise comparison matrix that illustrates the relative contribution or influence of each element to each objective or criterion at the level above it. Comparisons are made based on the choice or judgment of the decision maker by assessing the level of importance of an element compared to other elements.

d) Normalize data by dividing the value of each element in the paired matrix with the total value of each column.

e) Calculate the eigenvector value and test for consistency, if the data taker (preference) is inconsistent it needs to be repeated. The eigen vector value in question is the maximum eigen vector value obtained using matlab or manually.

f) Repeat steps c, d, and e for all levels of the hierarchy.

g) Calculate the eigen vector of each paired comparison matrix. The eigenvector value is the weight of each element. This step synthesizes choices and prioritizes elements at the lowest level of the hierarchy to the achievement of objectives.

h) Test the consistency of the hierarchy. If it does not meet with CR <0.100, the assessment must be repeated [9].

2.4. Setting Priorities

The first step in determining the priority of elements in a decision problem is to make a pairwise comparison, ie the elements are compared in pairs against a specified criterion. This pairwise comparison is presented in the form of a matrix. The scale used to fill this matrix is 1 to 9 (Saaty scale) with the explanation,

Scale for Pairwise Comparison of Interests

Number	
1	Equally important
3	Moderately more important
5	Strongly more important
7	Very strongly more important
9	Extremely more important
1, 4, 6, 8	Intermediate values

After the entire pairwise comparison process is carried out, the pairwise comparison matrix form. If in an operating sub-system there are n operating elements namely A1, A2, ..., An then the results of the comparison of these operating elements will form a matrix A size n × n

3. RESEARCH METHOD

In this study the authors used the analytical hierarchy process (AHP) method. This method is used to determine the criteria that are important to consider to support stakeholders in making decisions based on the results of the questionnaire in the form of a pairwise comparison matrix. From the results of the questionnaire that has been prepared and processed can determine the percentage (weight) of the criteria used. The next calculation uses the index consistency formula to determine the validation of the data used. There are four variables in the study, namely attitudes, subjective norms, interests, and behavior. Data collection in this study is to use a combination of primary and secondary data. Primary data consist of surveys, interviews with experts and questionnaires. While secondary data consists of library research by reading books and comparing with previous research. Related to the research subjects are Traveloka, Pegipegi.com, Tiket.com and booking.com. And the criteria used in this research are web design (X1), reputation (X2), product information (X3), and ease of transaction (X4)

4. RESULTS AND DISCUSSION

The first step in the AHP model is to calculate the hierarchical weighting factor for all criteria based on recapitulation of the questionnaire results using the paired comparison method, where the lower triangle matrix results from the comparison of the upper triangle matrix. The results of the calculation produce a Vector Eigen value which then as a multiplier of the total value of each criterion to produce the maximum Eigenvalue (maximum λ). Table 1 contains the results of the Vector Eigen of all the criteria in the study.

The next step is to calculate the evaluation factors for each of the criteria in Table 2, explaining about Web design, table 3 about the reputation of an online-based travel agent, table 4 completeness of product information sold, and table 5 about the ease of transaction of each online-based travel agent. and table 6 explains the recapitulation of each criterion

Table 6. *Matrix of Relationships between Criteria and Alternatives*

	Vector Eigen			
	X1	X2	X3	X4
Y1	0.51	0.26	0.28	0.36
Y2	0.13	0.14	0.34	0.30
Y3	0.10	0.31	0.17	0.22
Y4	0.26	0.29	0.22	0.12

The next step is to find the total ranking for each online based travel agent by multiplying the evaluation factors of each alternative by the weight factor, resulting in the following table 7 values, Traveloka, Pegipegi.com, Tiket.com and booking.com

Table 7. *Weight metrics for each criteria for each online-based travel agent*

	Web Desain	Reputation	Product information	Transaction	Total score
Traveloka	0.51	0.26	0.28	0.36	1.41
Pegipegi.com	0.13	0.14	0.34	0.30	0.91
Tiket.com	0.10	0.31	0.17	0.22	0.8
Booking.com	0.26	0.29	0.22	0.12	0.89

From the results of Table 7 it can be concluded that the priority order of shopping at online-based travel agents is based on communal considerations (all criteria) with the AHP method in sequence, Traveloka, Pegipegi, com, Bookin.com and finally, Tiket.com. Each online based travel agent has its own advantages. Traveloka is considered to be embraced in two ways, web design and ease of transaction. This is supported by the many discounts held by Traveloka both in collaboration with credit card providers and paylater banks. Tickets, com are

considered to have advantages in terms of reputation. This is because according to the traveler in general (research respondents) transacting tourism on pegipegi.com is relatively safe and rarely found complaints. While pegipegi.com has advantages related to product information provided.

5. CONCLUSION

Tourism has become one of the mandatory needs of the community, especially in the Big City. Technological advances make it easier for travelers to gather information about tourist destinations and find accommodation and transportation facilities. Researchers examined specifically on the four online-based travel agents which were then ranked based on the perceptions and preferences of tourists, successively considered communal considerations (all criteria) with the AHP method in sequence, Traveloka, Pegipegi, com, Bookin.com and finally Ticket. com. Traveloka has quite a lot of advantages compared to others, especially related to web design and ease of transactions. This can be a reference for competing companies and start-up companies that specialize in the field of business with travel agents, other online based.

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