Model Optimization of The Role of The Internet in Developing Literature History of Islam in Students in Bandar Lampung: Implementation of The Analytic Hierarchy Process Method

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Abstract:
The operationally the objective of the research is to determine the priority weight of the goals of using the internet by using the Analytic Hierarchy Process method. There are three variables in the study, namely: Attitude (X1); Subjective norm (X2); and Interests (X3). The study involved a total of 90 students, where the classification consisted of; of 30 Diploma students; 30, undergraduate students; 30 Postgraduate students. Then each is referred to as an alternative in the study. Then on the variable interest, postgraduate students are the group that has the highest score, this is because postgraduate students are required to know and explore theories and knowledge in greater depth, especially related to journals so that they can strengthen their research, both theses and dissertations. The study concluded that the order of priority for internet use is based on communal considerations (all criteria) with the AHP method sequentially, Diploma students (41%), Post graduate students (38) and undergraduate students (21%).

Keywords: Optimization. Internet, Students, History of Islam

INTRODUCTION

The internet has become an easily accessible source of information. In its development, the internet has replaced the role of libraries in literacy activities. Libraries are currently one of the most expensive sources of information, considering that access to the internet is still very difficult for people in some areas. Internet media, allows someone in Indonesia to access libraries at universities at home and abroad (digital libraries) and obtain unlimited information. Currently millions of people around the world use the Internet (Ahadzadeh, 2017). Internet access users continue to increase, along with the development of communication technology. Overall e-Marketer predicts the number of internet users in the world to reach 3.8 billion in 2018. Meanwhile in Indonesia the netter population reached 112 million people in 2017, making Indonesia the 6th country with the most Internet users in the world, where Indonesia has five top countries in internet users in order; China, America, United States of America, India, Brazil and Japan (www.emarketer.com).

The internet has an important role in life in today's era of technology and information, ease of access using extensive information technology through email, chat, and social networking sites. Of the several activities carried out by accessing social networking sites,

the internet is the most popular site, especially for teenagers. These sites include Facebook, Twitter, Path, Instagram, Waze, Ask.fm, Tumblr, Pinterest, LinkedIn, and Google+ (Untari, 2019). Indonesia has 49 percent of the total population and has active use of social networks with more than 90 percent of them using mobile phones (Half of Indonesia's Active Population on Social Media http/www.Bisnis.com Accessed on January 31, 2018. Duwi Setiya Ariyanti). It is unfortunate if the internet is only used to access social networks, while on the other hand there are many benefits that can be used, one of which is as a learning medium (Untari, 2014; Hamka, 2015; Kaliky, 2013; Schmar and Dobler, 2003; Dogruer et al, 2011; Untari et al, 2017.). Social Networking Sites (SNS) are some of the most popular sites on the web. According to the latest ranking from Alexa.com, 1 of the top 500 sites on the web, Facebook is ranked second from the top followed by YouTube in third place and Twitter in ninth place (Al-Saggraf, 2017; Untari, 2020). students to support their literacy. Literacy is multidimensional, consisting of broad content knowledge and influence and behavior (Chen et al, 2015; Untari, 2021) and scientific literacy is considered a measure of the high and low quality of science education in a country (Rubini et al, 2016).

With the internet as a learning medium in the world of education, it brings changes in the teaching and learning process. There are at least five movements in the learning process, first from training to performance, second from classroom to anytime and anywhere, third from paper to online, four physical facilities to network facilities, five from real time cycle time (Rosenberg, 2001) . While previous research on the internet as studied, was taught traditionally (Benoit et al, 2006), thus the government should consider adjusting or reducing the proportion of inputs and outputs Peng et al, 2017), it is necessary to stimulate the use of the internet in education in Bandar Lampung A city in Sumatra with a fairly complex function; center of social and cultural activities, making Bandar Lampung one of the areas with high cultural and religious interaction (Untari et al., 2017). The majority of the population of Bandar Lampung is Muslim. Many Islamic cultures adorn most of the history of the development of tribes and regions in Indonesia, including Bandar Lampung.

The history of the development of Islam is one of the knowledge that must be understood by the younger generation as the next generation. Related to the need for knowledge about the development of Islamic history in the younger generation in Bandar Lampung, and the role of the internet in urban community life such as in the people of Bandar Lampung, especially students as a reflection of young scholars, it is important to further examine how high the level of student ability in using the internet as a tool is. media literacy knowledge of Islamic history. The results of this study are expected to provide an overview of the level of student preferences in finding sources of literacy through internet media. With the background mentioned above, operationally the objective of the research is to determine the priority weight of the goals of using the internet by using the Analytic Hierarchy Process method.

LITERATURE REVIEW

The Concept of Literacy and Its Development

Literacy is very important for social and human development in order to increase the ability to change life for the better. At first, literacy was only defined as literacy. However, this is a wrong perception. Interpreting literacy as literacy can result in literacy anomalies. Where literacy is meant only revolves around literal and technical literacy. Not culturally and deeply. Therefore, literacy is more appropriate to be interpreted as literacy. As stated by Irkham in (Gong, 2012) that literacy is literacy. So literacy has meaning and implications

from basic reading and writing skills to the acquisition and manipulation of knowledge through written texts, from metalinguistic analysis of grammatical units to the structure of spoken and written texts, from the impact of human history to the philosophical and social consequences of western education (Goody & Watt, 1963).). Even changes in human evolution are the impact of literacy thinking (Donald, 1991; Dharmanto et al, 2020).

The study of literacy in this paper focuses more on reading skills. As the main activity of literacy besides writing, reading has also undergone a paradigm shift. This makes reading experts realize that reading is a complex activity. As stated by Caldwell (2008) that "reading is an extremely complex and multifaceted process". Readers are actively involved in various processes that occur simultaneously. First, the reader encodes both perceptually and conceptually (perceptual and conceptual decoding). This process involves interpreting words and relating them to units of ideas or propositions. Then the reader connects the idea units, interprets the detailed information, and builds the microstructure and macrostructure or what is termed "the mental representation that the reader constructs of the text". Understanding of microstructure and macrostructure allows readers to identify important ideas which are then integrated with prior knowledge and build model situations. The situation of this model is idiosyncratic for each reader who is used to study at other times and contexts (Fadhli et al, 2019)

Concept of Analytical Hierarchy Process (AHP) and Its Implementation

The Analytical Hierarchy Process (AHP) is a special method of Multi Criteria Decision Making (MCDM) introduced by Thomas L. Saaty. AHP is very useful as a tool in decision-making analysis and has been widely used in various fields such as forecasting, employee selection, product concept selection, and others. AHP is a measurement theory that is used to derive ratio scales from discrete and continuous pairwise comparisons (saaty, 1993). In defining problems and pairwise comparisons, a hierarchy is needed in the application of AHP to determine the relationship in the structure. The hierarchical structure is depicted in a tree diagram that contains goals (problem objectives to be solved), criteria, sub-criteria, and alternatives. The AHP method which is done by modeling the problem is described in stages consisting of criteria and alternatives. In addition to Saaty, other authors suggest that the AHP method has been widely used to prioritize options with many criteria but its application has expanded as an alternative model of cost benefits, forecasting and others (Latifah, 2005). The AHP approach offers the solution of decision problems involving all sources of complexity as defined above.

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

a) Decomposition (principle of compiling a hierarchy) Understanding decomposition is solving or dividing a complete problem into its elements into a hierarchical form of decision-making process, where each element or elements are interconnected. To get accurate results, solving is done on the elements until it is impossible to do further solutions, so that several levels of the problem to be solved are obtained. The decision hierarchy structure can be categorized as complete and incomplete. A decision hierarchy is called complete if all elements at one level have a relationship with all elements at the next level, while in an 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 by assessing the relative importance of two elements at a certain level in relation to the level above it. This assessment is the core of the AHP because it will affect the priority order of its elements. The results of this assessment are more easily presented in the form of a pairwise comparison matrix, namely a pairwise comparison matrix containing the preference levels of several alternatives for each criterion. The preference scale used is a scale of 1 which indicates the lowest level (equal importance) to a scale of 9 which indicates the highest level (extreme importance).
c) Synthesis of Priority Synthesis of Priority is carried out using the eigenvector method to obtain the relative weights for the decision-making elements.
d) Logical Consistency Logical Consistency is an important characteristic of AHP. This is achieved by aggregating all the eigenvectors obtained from various hierarchical levels and then obtaining a weighted composite vector that results in a decision-making sequence.

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

a) Define the problem and determine the desired solution.
b) Creating a hierarchical structure that begins with a general goal, followed by criteria, sub-criteria and alternative choices that you want to rank.
c) Forming a pairwise comparison matrix that describes the relative contribution or influence of each element on each goal or criterion level above. 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 the data by dividing the value of each element in the paired matrix by the total value of each column.
e) Calculate the eigenvector value and test its consistency, if it is not consistent, the data taker (preference) needs to be repeated. The eigenvector value in question is the maximum eigenvector value obtained using matlab or manually.
f) Repeat steps c, d, and e for all levels of the hierarchy.
g) Calculate the eigenvector of each pairwise comparison matrix. The eigenvector value is the weight of each element. This step synthesizes the choice and prioritization of elements at the lowest level of the hierarchy until the goal is achieved.
h) Testing the consistency of the hierarchy. If it does not meet the CR < 0.100 then the assessment must be repeated.

The first step in determining the priority of the elements in a decision problem is to make a pairwise comparison, where 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 in this matrix is 1 to 9 (saaty scale) with the explanation in Table 2.1

Table 1 . Scale for Pairwise Comparison of Interests

Definisi	
1	Equally important(sama penting)
3	Moderately more important (sedikit lebih penting)
5	Strongly more important (lebih penting)
7	Very strongly more important (sangat penting)

9	Extremely more important (mutlak lebih penting)
1, 4, 6, 8	Intermediate values (nilai yang berdekatan)

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

RESEARCH METHODOLOGY

In this study, the author uses 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 completed and processed questionnaire, it is possible to 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 three variables in the study, namely:

1) Attitude (X1); Interaction with the Internet, Information from the Internet and sharing of Information on the Internet, Distractions/pleasures of using the Internet, Communication and friendship using the Internet.
2) Subjective norm (X2); Opinions on referenced information from the internet, Opinions on sharing personal information on the Internet, Opinions on the pleasures that come from the Internet, Opinions on Security of transactions, Opinions on friendship on the Internet, Opinions on the responsibility of Internet Information
3) Interests (X3); Desire to learn using the Internet, Learning using the internet, Learning with materials that can be accessed via the Internet, the Internet is a must, Doing assignments with the help of the Internet, Exchanging information on assignments

The study involved a total of 90 students, where the classification consisted of; of 30 Diploma students; 30, undergraduate students; 30 Postgraduate students. Then each is referred to as an alternative in the study.

Y1 = Diploma Student
Y2 = Undergraduate Student
Y3 = Graduate Student

RESULTS AND DISCUSSION

The first step in the AHP model is to calculate the hierarchical weighting factor for all criteria based on the recapitulation of the questionnaire results using the pairwise comparison method, where the lower triangular matrix is the result of the upper triangular matrix comparison. The calculation results produce the Vector Eigen value which is then used as a multiplier from the total value of each criterion to produce the maximum Eigen value (maximum). Table 2 contains the Eigen Vector results from all criteria in the study.

Tabel 2. Vector Eigen per-criteria

	Vector Eigen
X1	0,588
X2	0,221
X3	0,132

Source: Data processed, 2021

The next step is to calculate the evaluation factor for each criterion in table 1, an explanation of attitudes, table 2 about subjective norms, table 3 about interests.

Tabel 3. Vactor Eigen According to Attitude

	Vector Eigen
Y1	0,162
Y2	0,409
Y3	0,290
a max = 4,253	
CI = 0,084	
CR = 0,094 (CR < 0,100 means the respondent's preference is consistent)	

Source: Data processed, 2021

Table 4. Vector Eigen According to Subjective Norm

	Vector Eigen
Y1	0,601
Y2	0,262
Y3	0,081
a max = 4,148	
CI = 0,049	
CR = 0,055 (CR < 0,100 means the respondent's preference is consistent)	

Source: Data processed, 2021

Table 5 Vector Eigen according to Interest

	Vector Eigen
Y1	0,621
Y2	0,180
Y3	0,121
a max = 4,208	
CI = 0,069	
CR = 0,077 (CR < 0,100 means the respondent's preference is consistent)	

Source: Data processed, 2021

Tabel 6. Matrix of Relationships between Criteria and Alternatives

	Vector Eigen		
	X1	**X2**	**X3**
Y1	0,162	0,601	0,621
Y2	0,409	0,262	0,180
Y3	0,290	0,081	0,121

Source : Data processed, 2021

The next step is to find the total rank for each criterion by multiplying the evaluation factor of each alternative by the weight factor, resulting in the following table 6 values,

Tabel 7. The weight matrix of options according to the criteria table

	Y1	**Y2**	**Y3**
X1	0,11	0,08	0,09
X2	0,23	0,12	0,18
X3	0,07	0,01	0,11
Total	0,41	0,21	0,38

Resource : Data processed, 2021

From the results of Table 7 it can be concluded that the order of priority for internet use is based on communal considerations (all criteria) with the AHP method sequentially, Y1 (41%), Y3 (38), Y2 (21%).

CONLUTIONS

Based on the results above, it can be concluded that in general the subjective attitudes and norms of Diploma students in using the internet as a literacy medium are better than others. This is because Diploma students whose notes are vocational-based indeed find a lot of technical references related to the field they are engaged in via the internet, compared to the practice held by the campus. In addition, this pandemic has made lectures and practice very minimal, so it is very natural for Diploma students in these two variables to be very high. Then on the variable interest, postgraduate students are the group that has the highest score, this is because postgraduate students are required to know and explore theories and knowledge in greater depth, especially related to journals so that they can strengthen their research, both theses and dissertations.

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