

# Media Transformation of Local Wisdom to Empower Cultural Literacy

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**Abstract**—Technological sophistication accompanied by fast access to information makes it easy for the public to know all information. The limits of the information obtained can no longer be controlled. This phenomenon has an influence on knowledge of traditional culture which is increasingly faded and eroded by modernization. On the other hand, the existence of technology can be utilized to preserve local wisdom information. This paper aims to explain the role of information technology in supporting cultural literacy and to explain database design for local wisdom information, especially in Minangkabau customs and culture. This research employed research and system design using an information system development model called the Database Application Lifecycle which includes: investigation, analysis, design, implementation, and maintenance. The main data was the information elements about Minangkabau in the newspaper. The results of the study revealed the following issues. First, technology does not always have negative impacts on traditional cultural knowledge. The wise use of information technology can actually maintain local wisdom information which is a major part of traditional culture. Second, there are efforts to preserve local wisdom in traditional culture, one of which is by utilizing information technology through database creation. The database design explains the information system content which is the result of the transformation of information media in the form of newspaper articles about Minangkabau. Through this research, it can be concluded that information technology through access to databases can be utilized to support public cultural literacy.

**Keywords:** *cultural literacy, database design, information transformation, local wisdom*

## I. INTRODUCTION

Sophisticated information and communication technology facilitates access to various information. The public can access information wherever and whenever they are. This condition has an impact on the occurrence of a flood of information known as 'information overload' which in turn results in uncontrolled information material accessed by the public. Especially in the younger generation, the information accessed tends to influence their social behavior. Some of the information accessed has negative impacts that affect their lifestyle. This is supported by research conducted by Ngafifi (2014) which suggests the negative impact of technological progress on the socio-cultural community, namely: 1) the occurrence of moral decline, especially among adolescents and students, 2) increasing delinquency and deviant acts among

adolescents and weakening the authority of the tradition of tradition-traditions that exist in society, and 3) patterns of interaction between people that change and tend to be individualistic. The thing that needs to be underlined from the results of this research is the weakening of the authority of tradition in the community that is associated with local cultural values and knowledge.

Judging from the source of the dissemination of information, technology is the base of the emergence of these problems. Although it cannot be denied, besides the negative impacts, there are also many positive impacts of the presence of technology in the dissemination of information. Saputra (2006) states that documents that cover information about local wisdom not only stored in books produced by publishers but also stored as gray literature in various institutions such as archive institutions, museums, research institutions, universities, broadcasting institutions, non-governmental organizations even as a private collection that is likely not, entirely covered in bibliography. The presence of information technology can be used to maintain and preserve information sources in printed media, one of which is information in printed newspaper articles. Information in this media is very fast passing so that the potential information disseminated is not read by the public. In addition, a lot of important information is also potentially missed because the public nowadays tends to access information through internet sources. Sunarti (2013) argues that newspapers and magazines are one of the written sources that become treasures of cultural wealth and "treasures" of knowledge that can be used to the maximum extent in order to dig up information stored in it. Like, information about a particular era that can be utilized by other disciplines. In his research Sunarti also stressed the importance of newspapers and magazines as sources of written information and rare collections.

Specifically, information about Minangkabau content in newspaper articles, so far no systematic documentation has been found to make it easier for information seekers to quickly find the topic in printed newspapers. Relevant research on cultural documentation, conducted by Pojoh, Sulistyowati, Fardhyan, Nugraha, and Caesario (2015) which creates an online database called Archeology Information System that contains data on pottery and ceramics in Jambi. For this reason,

it is necessary to transform the information of Minangkabau newspaper articles into media that makes it easy for information seekers to find Minangkabau article content. Furthermore, Normah (2016) designed a Betawi culture website information system to preserve local culture by utilizing technological advances. Next, Danang, Febryantahanuji, and Maryati (2018) created a web-based tourism and cultural information system design for tourism information in Blora Regency. Hamalik (1993) explains that information transformation is a component of the process in managing information systems that function to process data into information, so that information products that are needed for information users can be produced.

More simply, information transformation is processing data as input processed by the system, becoming output in the form of information products. The object of the transformation of information in this study is the Minangkabau newspaper article. Publication of articles on local culture, especially Minangkabau culture, in the mass media is important as a form of community awareness of local culture. This media is one of the means used to maintain and preserve a variety of knowledge about local Minangkabau culture. This paper aims to explain the role of information technology in supporting cultural literacy and to explain database design for local wisdom information, especially in Minangkabau customs and culture.

## II. METHOD

This research method is research and system design using an information system development model called the Database Application Lifecycle which includes: investigation, analysis, and design (Indrajani, 2017). The main data is the information elements about Minangkabau in the newspaper. In this study, the population is all articles published in printed newspapers. In this study, the sampling technique used was a purposive sampling technique. Margono (2004) argues that the selection of a group of subjects in purposive sampling is based on certain characteristics that are considered to have a tight connection with previously known population characteristics, in other words, the sample units contacted are adjusted to the criteria certain that are applied based on research objectives. In accordance with this, the sample of this study is the Minangkabau content article contained in the printed newspaper. Search for information on a Minangkabau newspaper article carried out for two months. From random search results from newspapers owned by the Universitas Negeri Padang Library, obtained 127 articles in four newspapers, namely *Singgalang*, *Padang Ekspres*, *Haluan*, and *Pos Metro*.

## III. FINDINGS AND DISCUSSION

The discussion of this research is explained by the scope of the role of information technology in supporting cultural literacy and database design for the preservation of local wisdom information which includes information investigation, analysis of system development plans, and Minangkabau database design.

### A. *The Role of Information Technology in Supporting Cultural Literacy*

The use of the concept of information transformation in cultural literacy is intended to preserve and maintain the value of Minangkabau cultural information contained in newspaper articles. The process carried out in accordance with this concept is to adopt the opinions of Hamalik and Indrajani, namely information investigation, information analysis, and assessment, and information presentation design. The results of information transformation are expected to support the cultural literacy of the people. Literacy is an ability that a person has in finding, and using the information to overcome various problems. Desmond (2011) explains that cultural literacy is knowledge of the history and perspectives of different cultural groups, for reading, writing, and other activities that require interaction with culture and reflect on that culture. Information relating to cultural knowledge contained in newspaper articles is very diverse in topics, one of which includes information on local wisdom. So far, there is no database that documents local wisdom information that is published through newspaper articles, specifically the content of the Minangkabau.

Local wisdom is the knowledge that is accumulated through life experiences and noble values that apply in the life order of the community and is learned from various situations around human life in an area. One characteristic of local wisdom is being able to integrate elements of outside culture into native culture. In line with technological developments, the culture of local communities has also shifted, but in some communities, these cultural values are still maintained. Through information technology, the public can access all information about a culture. This shows that information technology can be utilized to preserve the cultural values that develop in a region.

### B. *Information Investigation*

Information in the Minangkabau newspaper articles was investigated with the initial stage of article collection. Articles are randomly collected through various newspapers published in West Sumatra. The investigation found 127 articles in four newspapers, namely *Singgalang*, *Padang Ekspres*, *Haluan*, and *Pos Metro*. To facilitate the process of gathering information, the article is presented in the form of clippings. In addition to the contents of the article, the information that accompanies the clippings includes the title of the article, the author, the title of the newspaper, the time of publication, and the article page in the newspaper. One example of the article clipping results can be seen in Figure 1 below.



Fig. 1. Example of a Minangkabau Loaded Article Clipping

Figure 1 contains a Minangkabau article contained in one of the newspapers published in West Sumatra. The clippings are transferred from printed form to digital form. Based on data collected, there are several topics discussed in the article, namely about Minangkabau customs, history, traditions, women in Minangkabau, Islam in Minangkabau, language and literature, social society, and tourism in West Sumatra. In general, these topics discuss the following.

First, the Minangkabau custom sub-subject which includes information about the kinship system, the community system of traditional clothing, “*ninik mamak*”, “*ulayat*” land, and customary law. The Minangkabau tradition is discussed the most in articles, including the existence of “*ninik mamak*” in life in Minangkabau as a leader who regulates and oversees all aspects of life both in terms of religion and law. In addition, there is also a discussion on shared parenting, namely men and women in matrilineal kinship. Most discussion on this sub-subject is about traditional clothing in Minangkabau which includes traditional clothing in several areas in Minangkabau, women's traditional clothing, and parts contained in Minangkabau traditional clothes.

Second, the Minangkabau historical sub-subject which includes the Minangkabau history, the *gadang* house, the *nagari*, and cultural relics. The topic of cultural heritage is the subject of many studies in this sub-subject. In this discussion, among others, obtained information about the origin of the name Minangkabau which began with a big buffalo fight from Java with a small buffalo belonging to the native Minangkabau people. In addition, there is also a discussion about urban

heritage as a cultural heritage that is widely available in the Bukittinggi region.

Third, sub-subject traditions that include traditional traditions, community traditions, and traditional arts. Tradition in the context of culture develops as a blend of the application of customs and thought patterns and culture that develops in the community. The tradition survives and develops for generations. Information obtained from this article, among others, about the *marantau* tradition as a tradition known as the Minangkabau people. The tradition of wandering is divided into three objectives to make *nagari*, wander around, and wander *Cino* to control trade. There is also a discussion about the evening tradition that began with the development of Islam in Minangkabau.

Fourth, female sub-subjects in Minangkabau. This discussion has its own sub-subject because Minangkabau custom with a matrilineal kinship system is an attraction for many people to discuss, both in terms of custom and social life of Minangkabau women. Articles on this topic include the Minangkabau women's mindset that is explored through behavior, language, and literature, as well as the values held for various periods of time (past, present, and future). Another article discusses the implementation of the customary *basandi syarak*, the *syariah basandi Kitabullah* (ABS-SBK) as a dilemma for Minangkabau women living today. Fifth, the Islamic sub-subject in Minangkabau is also used as a separate group in the classification of articles with the consideration that Minangkabau is very identical to Islam. Minangkabau custom was made and developed based on Islamic teachings. In addition, there are also quite a lot of articles covering this topic. Among these articles discuss the teachings of Islam for the Minangkabau community which is implied in the proverbial “*Adat basandi syarak, syarak basan Kitabullah*” which means Islam speaks about the rules completely and clearly, while the custom in its application is accompanied by policies. In addition, there are also articles about three great Minangkabau scholars, namely: Dr. Hadji Abdul Karim Amrullah, Sheikh Taher Jalaluddin, and Sheikh Daud Rasjidi. The topics in this article can add to the reader's knowledge about the history of the development of Islam in Minangkabau.

Sixth, language and literature sub-subjects. Articles that discuss language, in general, examine the phenomenon of the transition of the meaning of a Minangkabau term from the past to the present. For example, there are two articles that discuss the term '*balimau*'. The first discussion examines in terms of linguistic expression where the term aims to cleanse the heart and the human body in order to prepare themselves to carry out fasting worship. The second article discusses the transformation of the term '*balimau*' which used to be carried out on a river but now moves to Waterboom at the same time to travel. In addition, discussions about literature one of them examine *Kaba Cindua Mato*, which is very well known in Minangkabau as a classic story that reveals the mythology of the Minangkabau community, the role of Minangkabau women in socio-cultural life, and to study the history of Minangkabau.

Seventh, social sub-subjects related to the activities of a group of people who interact with each other in a group that describes or creates norms that develop in the community. There are several articles that discuss the topic of the existence of the term Minangkabau which reflects the behavior of a community group. For example, the term 'buffalo fighting' which describes the statement of a child today that cannot be trusted completely, must be clarified because his behavior has been influenced by television viewing or other media. 'Buffalo fight' in this context refers to the history of the origin of the name Minangkabau, where there is a fight between a large buffalo with a small buffalo or a buffalo child. Other articles discuss myths and taboos that are used as norms in society. Eighth, tourist sub-subject in West Sumatra which informs various tourist objects contained in newspaper articles.

The above description contributes to the naming of categories of articles that are entered into the database as a form of transformation of information from printed newspaper articles to digital forms that are more accessible to Minangkabau information seekers.

### *C. System Development Plan*

The transformation of information media begins with the information system development plan. This development plan was carried out through four activities, namely technology availability analysis, task analysis, content analysis, and user analysis.

First, analysis of technology availability. Technology is an intermediary that connects humans with information and knowledge. Technology provides learning experiences that currently affect almost all aspects of life. No exception for cultural knowledge that can be accessed from the availability of information technology. The technology in question is a computer along with various applications contained therein. Technological sophistication from time to time can be controlled to meet a variety of human needs, especially the information needs of profitability. Computer applications provide facilities that are used as aids and media in learning. Second, task analysis. In the process of searching for *keminangkabauan* information, especially in printed newspaper articles, information seekers identify all newspapers by speeding through the entire contents of the newspaper. This activity requires a long time and is not efficient in finding the desired article. The frequency of newspapers that are published every day, makes it difficult for information seekers to find certain information in newspapers that have long published. There are not many information centers that provide direct access to printed newspaper articles.

The information product that will be produced, is designed to facilitate the search for *keminangkabauan* information, especially about local wisdom. The information finder sets the desired topic, then the application will display a list or index of related topics. If it is in accordance with the purpose of the information seeker, then it will be directed to the desired document. Articles that have been transferred in digital form, can be accessed by users directly or indirectly by downloading

the desired document. Third, content analysis. Facilities for access to newspaper articles printed with Minangkabau content to date have not been made in the form of a database. The database provides information that has been organized through the concept of information organization. In this concept, information is classified based on the accompanying bibliographic data and based on the subject matter in the document. Information on Minangkabau content contained in many internet sources presents very diverse information. Information seekers generally search for information through search engines and get information from the database randomly, in the sense of having to direct the information they want to find to the destination of information search. Hopefully, in the future, there is a Minangkabau cargo information database that makes it easy for information seekers to find various things about *keminangkabauan* through an integrated database to facilitate the search for *keminangkabauan* information.

Fourth, user analysis. Today's society is faced with dependence on technology. In terms of life, dependence on technology fades the traditional and cultural values inherent in Indonesian society that has cultural diversity. Especially the younger generation, very busy with technology that is always in his grasp. The flood of information often makes people unable to sort and choose which information can be accessed. This indirectly enters into people's lifestyles so that the values of local wisdom, as well as the indigenous knowledge and culture of the local community, begin to be obscured by the information that is widely circulating in the community which is sometimes unclear.

Based on the results of the above analysis, it is very necessary to have an application that can provide information about local wisdom that comprehensively helps the community, especially the younger generation, to be able to know and re-implement the traditional and cultural values of the local wisdom owned by the local community. This application can be accessed by users without restrictions on place and time. In addition, this application can be developed to accommodate all information about local customs and culture.

### *D. Design of the Minangkabau Database*

The knowledge base developed was bibliographic data and the contents of Minangkabau newspaper articles. Each article is grouped according to the bibliographic data contained in the newspaper, namely the subject, the title of the article, the name of the author, the title of the newspaper, the time the article is published, and the page where the article is in the newspaper. The database design process starts with defining the entities in the database system. An entity is a collection of data that will be presented to information users and entered into a database. Entities contained in the Minangkabau database include five entities, namely articles, newspapers, authors, keywords, and groups (subjects). The relationships between the five entities are described in the following Entity Relationship Diagram.

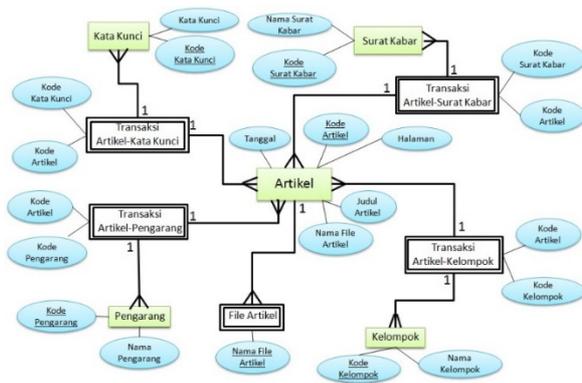


Fig. 2 Entity Relationship Diagram (ERD)

In Figure 2, you can see that each entity has attributes (entity identifier). Article entities have the attributes “date”, “article code”, “page”, “article title”, and “article file name”. Newspaper entities have the attributes “newspaper code” and “newspaper name”. To facilitate information retrieval, there are Group entities that have the attributes “article code”, “group code”, “group name”, and “group code”. To download digital articles there is an Article entity with the attribute "article file name". The database design is implemented to be accessible to people seeking information specifically about Minangkabau. ERD produces a database of newspaper article indexes as shown in the following figure.

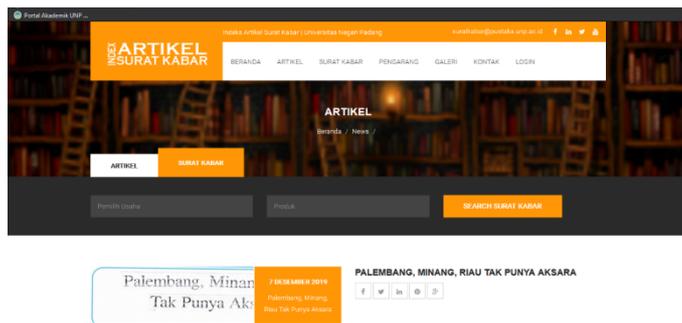


Fig 3. Homepage of the Newspaper Article Index Database

Figure 3 shows the database homepage display, where there is a choice for users to access information contained in the system based on articles, newspapers, or authors. In the gallery section, information users can download the document attached to each article. Users can access articles through the “Search” button for articles or newspapers. The use of these features is done to search for articles based on terms desired by the user. On the front page also displayed a list of articles that were recently uploaded by the admin or database manager. In addition, there is also a time to upload the article. There are also images that are related to articles in the database to further provide an attraction to the front page of the database.

IV. CONCLUSION

Information technology can be utilized to preserve cultural values in local wisdom. One of them is through the preservation of information contained in the Minangkabau newspaper articles, some of which information is published again about local wisdom owned by the Minangkabau people. The means made by utilizing technology for this are by creating a database containing information on newspaper articles on Minangkabau. This database design will later be implemented for the wider community, as one means of retrieval of representative Minangkabau content information as a reference.

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