

The Information Behavior of Researchers on the Culture of the Greater Mekong Subregion

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Abstract

The purpose of this paper was to present the results of an empirical investigation into the information behavior of researchers focusing on cultural issues in the Greater Mekong Subregion (GMS). The ultimate goal is to establish a solid foundation for the development of a semantic search system. To accomplish this objective, Wilson's information behavior theory, which comprises three elements: defining information needs, seeking information, and the utilization of knowledge, was employed. A qualitative research method was adopted for data collection, which involved conducting interviews with 23 key informants. The results showed that researchers' purpose of using information was divided into three categories: education, work, and personal interests. In regards to browsing behavior and accessing information, it was found that most of the informants used web search engines to access general information, followed by databases of academic and research institutes to obtain information for research or reference. When personal information resources were necessary, archives or specific locations were employed. The information used most frequently by key informants and considered valuable for searching was categorized into tradition name, location, content classification, abstract, and ethnic group. This study's outcomes provide insights into the behavior of information needs and cultural accessibility of the Mekong countries among researchers as well as the browsing behavior issues and obstacles encountered by the users. The findings and recommendations can be used as a basis for developing a semantic search system that meets the needs of researchers.

Keywords: information behavior, Mekong Subregion, cultural information

Introduction

The Greater Mekong Subregion (GMS) consists of the Kingdom of Cambodia, People's Republic of China (especially Yunnan and Guangxi Zhuang Autonomous Region), Lao People's Democratic Republic, Republic of the Union of Myanmar, Kingdom of Thailand, and the Socialist Republic of Vietnam. It is a group of countries with long-standing international relations. Both economically, socially, politically and culturally, there has been a development and expansion of cooperation in various fields continually. Especially the GMS project started from 1992 to the present (Greater Mekong Subregion Secretariat, 2020).

The GMS has an important feature that is cultural homogeneity or cohesion. Although there have been developments in various fields due to environmental factors, history, politics, and governance, but identity, selfness, ethnicity are still firmly established (Khambunruang, 2003). This cultural cohesion affects people's way of life, wisdom, and valuable expressions of art and culture which is what establishes the foundation of regional identity (Prasertsuk et al., 2016). Culture is not only a symbol of the prosperity of a society in each locality only but also it is the cornerstone of the cultural overview in today's cultural trends that are

being internationalized which is a world of standards and attempting to express "similarities" and reflect the diversity of local cultures. Therefore, "differences" are crucial tools for adaptation, charm and the true identity of each society and culture. Recognizing and realization the value of this diverse local culture thus leading to sustainable social and cultural development in all aspects consistent with the conditions of the era (Toemchoem, 2003). Moreover, the significance of this cultural cohesion create projects related to cultural cooperation on an ongoing basis, such as cross-border tourism cooperation between Thailand and Laos in order to achieve economic benefits for the people of both sides and to promote cultural exchange and going and coming between each other (Department of International Cooperation, 2018). Cultural cooperation under the Lan chang-Mekong cooperation framework. The Mekong Cultural Relations Project is to promote tourism and exchange arts and culture among countries in the Mekong Subregion as while strengthening relations with neighboring countries. This will benefit the tourism industry, economic connection between international trade, and the achievement of good results both in the present and in the future (Tantayakul, 2017).

Despite the fact that there are numerous cooperation policies and cultural cooperation frameworks. However, the study of data collection and knowledge management of the shared cultures of the Greater Mekong Subregion does not have an apparent and generally recognized international organization responsible for it. Access to cultural information is provided through each country's implementation, which includes organizations that collect cultural information of that country, such as the Thai Cultural Information Center, under the responsibility of the Ministry of Culture. It is responsible for collecting and disseminating Thai cultural information such as traditions, local arts, cuisine, clothing, language, literature, occupation, beliefs and rituals (Ministry of Culture, 2018). In addition, there is also a geographic information system on, cultural heritage sites, and the southeast Asian socio-cultural database of the Princess Maha Chakri Sirindhorn Anthropology Centre which collects social and cultural information of Southeast Asia from various sources, including to the Mekong Subregion by including information from books, journals, various publications as well as the website to be compiled into a short exposition to understand the overall condition of each country. According to a study of cultural knowledge resources in Laos and Cambodia, it was discovered that information on Lao culture is under the supervision of the Ministry of Information Culture and Tourism. The information presented is not updated and cannot be retrieved, nor display links to other sources or related content. Although currently, there are now a number of institutions collecting information on culture, which are culturally valuable and useful for the development and conservation activities of other heritage sites. However, most of them are in paper form used in conditions that can deteriorate. Although database systems have been developed, the majority of them are single operating systems (stand-alone). This results the data unable to be shared effectively. (Sithirath et al., 2007). Similarly, to Cambodia, access to cultural information about Laos is available at the Ministry of Culture and Fine Arts. There is a website providing information from the Heritage and Arts Center. However, the presentation of the information is not organized into a knowledge structure and cannot be connected and searched for content (Čopić and Dragićević Šešić, 2018). As a result,

in order to support the researchers' seeking information related to the culture of the Mekong countries, there should be the development of cultural information retrieval systems in the Mekong Subregion countries. This will be a systematic collection of cultural knowledge by explaining the scope, knowledge structure, and cultural characteristics. The cultural information retrieval system developed from the real needs of users will solve the problem of semantic gaps in cultural characteristics concepts for information access and retrieval. Which contains valuable information for researchers and domain experts. Finding cultures of interest among unstructured materials requires a laborious and time-consuming search process. Therefore, understanding user information behavior is essential. This study will lead to the development of system search effectiveness. To cut down on the time wasted in browsing and searching, and reduce associated user frustration, much more selective user access is needed to support the research involving domain experts.

In order to develop the system effectively, it is necessary to study the information needs of users in order to understand the needs of information in depth. The results of the need analysis will be beneficial to information system developers to be able to design a system that can search for information that meets the needs of users truly (Courtright, 2007). This is in accordance with UNESCO's policy of establishing the Memory of the World Programme, to encourage all countries to seek better conservation practices, build a system for storing, disseminating, and promoting wider access and utilize of knowledge in the memory legacy (UNESCO, 2008). Information systems are more the factor of ultimate interest and value. Technology is an important tool for facilitating human information behavior. Therefore, understanding human information behavior is critical to developing information systems.

This article aims to present the results of a study on the behavior of information needs and cultural accessibility of the Mekong countries among users by researching the purpose of the user browsing behavior problems and obstacles that arise and expectations and recommendations for the search engine to be utilized as the basis for developing a semantic search system that fulfills the needs of users.

■ Literature Review

The majority of information behavior and information-seeking theories, which have their roots in library and information science, concentrate on task-based scenarios in which users attempt to meet their information demands. (Spink and Park, 2005)

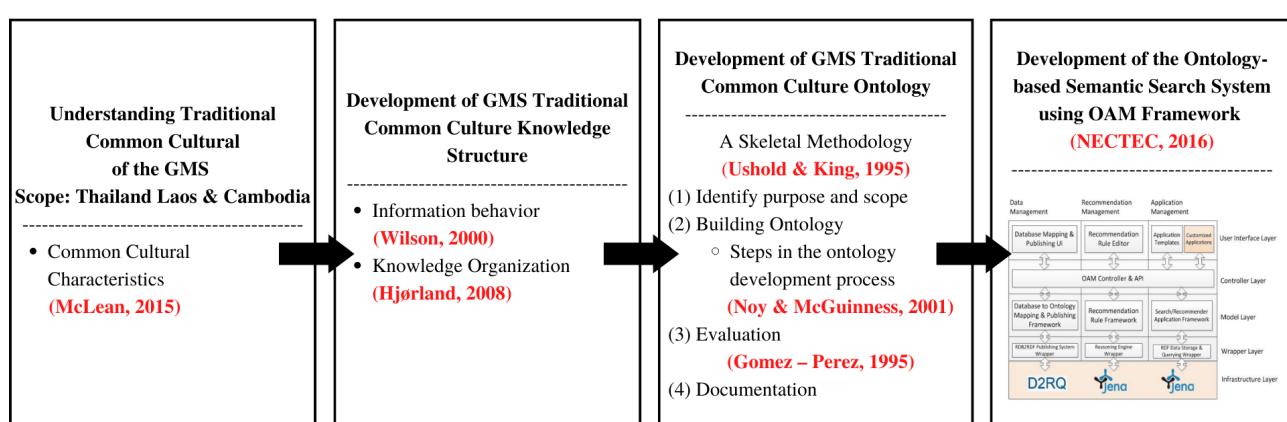
According to the concept of information behavior which has been studied since 1948 (Paisley, 1968), it refers to the whole behavior of a person which connects that person to access various information sources by using channels for disseminating from various media and obtaining the required information starting from a study information need, information use, information seeking behavior, and information search behavior of each individual which will be different and "Individual information needs lead to different behaviors" (Wilson, 1997). The information search process of users in information-seeking situations suggests a gap between the users' natural process of information use and the information system and intermediaries' traditional patterns of information provision. (Kuhlthau, 1991).

Behavior informatics is a challenging and highly rewarding task. Especially, the study before the development of information systems because it will enable service providers or information system developers to understand what users want and be

able to design a system that can communicate with users understandably and work together effectively. Especially, in today's highly competitive world. Having an information system that responds to the user's search for information and satisfies the needs of the user has a greater probability of success. It is also beneficial in terms of saving time, investment, cost, and manpower.

Information behavior can be defined as the totality of human behavior in relation to information sources and channels, including both active and passive information seeking and information use (Wilson 2000). Which has an effect between information channel and information source on researcher information search behavior. Therefore, Information behavior is an important process. It is a process that must study before the development of information systems because information systems are related to human education and learning. Information and technology are relevant and affect every aspect of human life. Studies to understand information behavior are so important for information system developers (Burnett & Jaeger, 2011). This study is part of research to develop a cultural information retrieval system based on the conceptual framework shown in Figure 1.

Figure 1
The Research Conceptual Framework



■ Objective

The purpose of this paper is to study the information behavior of researchers on cultural issues in GMS by analyzing through Wilson's information behavior theory which includes defining information needs, seeking information, and use of knowledge.

■ Methodology

The study of Information Behavior of Researchers on Cultural Issues in the Mekong Subregion utilized a qualitative research methodology to determine the nature of the data's usage, data needs, and browsing behavior to be used as the basis for the development

of a tailored search system that will benefit the users as much as possible.

Research Participants

The researcher selected the key informants using the Criterion Based Selection method by determining the selection criteria based on the history and works related to the culture of the Mekong Subregion countries. The qualifications of the key informants are individuals who have experience in using information and knowledge related to the cultures of the Mekong Subregion countries for employment, conducting research, studying in a course, or for personal study of interest. The researcher considered from authors who have research results published in the Thai-Journal

Citation Index Center database. The interview will be conducted until the information is stable and the researcher will terminate the interview. The study consisted of 23 participants, including 17 teachers (73.9%), 3 academics (13%), 1 researcher (4.3%), 2 students (8.6%). The key informants can be classified by graduated field of study as follows: 1) Thai studies 2) Cultural science 3) Public administration 4) Art and Culture Research 5) Information management 6) Regional development strategy 7) Thai language 8) Buddhism 9) Vernacular architecture 10) Interior design 11) Higher education 12) Thai inscription 13) Curriculum and Instruction 14) Product design 15) Geography 16) Social development.

Figure 2
Characteristics of Research Participants: Education

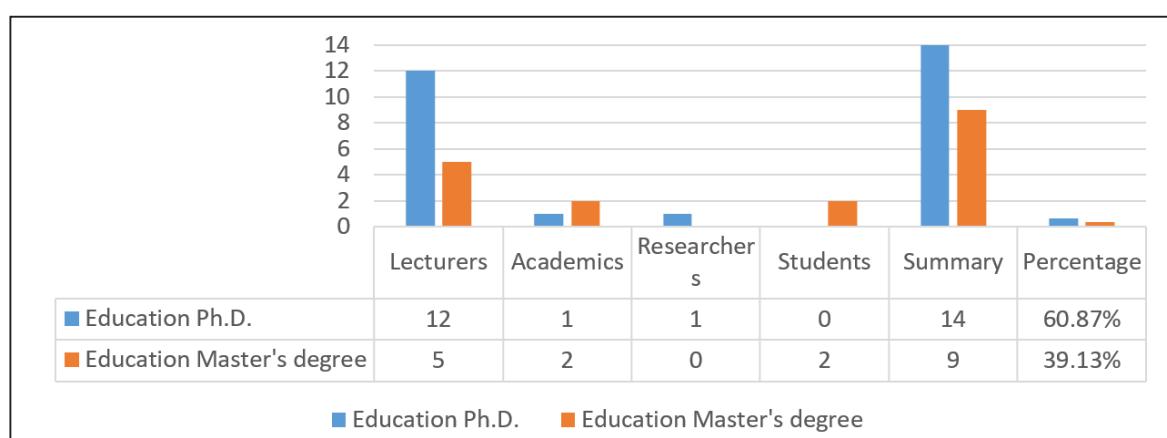
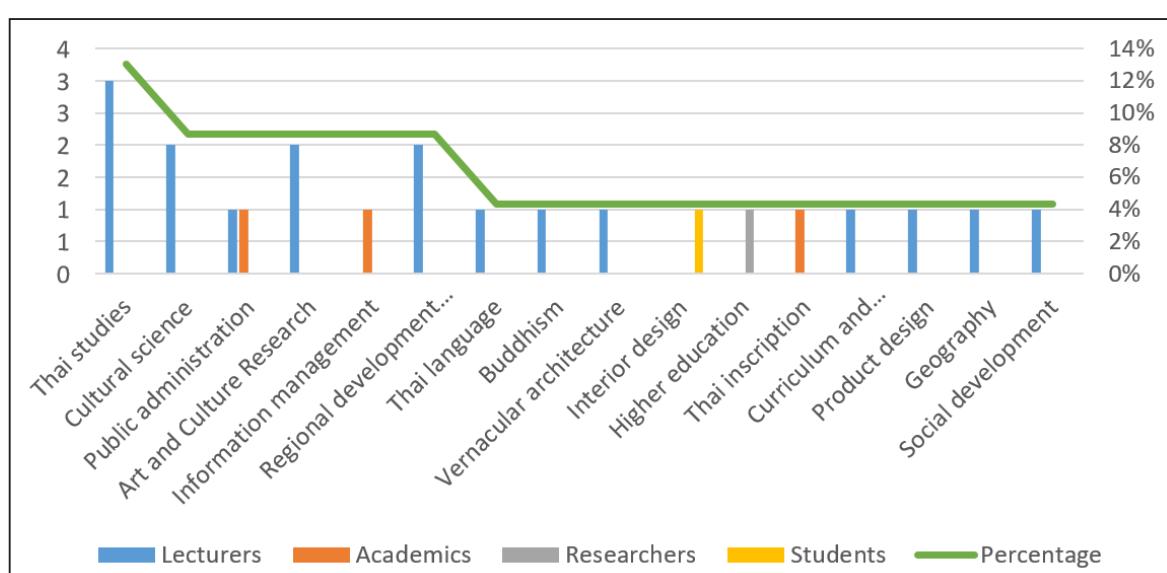


Figure 3
Characteristics of Research Participants: Graduated Field of Study



A comparison of researcher's graduation data by field is relevant to this study. This data shows its importance and the field of cultural heritage management is one of the growing areas of research. Researchers hold different academic backgrounds but are interested in cultural research issues and have academic work related to culture.

Data Collection

The instrument applied in this research is the structured interview, developed by the researcher based on the concept of information behavior (Wilson, 2000). The structured interview questions were created from the sequence of behavioral information, 1) information needs determination, 2) information seeking, and 3) information acquisition. The consisted of questions about the purpose of using the data, the search process, opinions about the research tools currently used by the researcher, the information required from the search system, and problems and obstacles that arise in the use of search systems. The questions consist of the purpose of utilizing the information, retrieval process, how to retrieve information, tools which assist in searching information, the necessity for search tools Information required from the search, and problems and obstacles in searching for information.

Data Analysis

This research paper applies a qualitative data analysis method and a qualitative description and presents the results of the data analysis in the accompanying tables, as appropriate, which can be summarized as follows: the purpose of using the data; frequency of data usage; search experience problems and obstacles in searching for information; and expectations and recommendations for further improvements in search tools in the future.

■ Results

1. Objectives of Using Information About Cultures and Traditions of the GMS

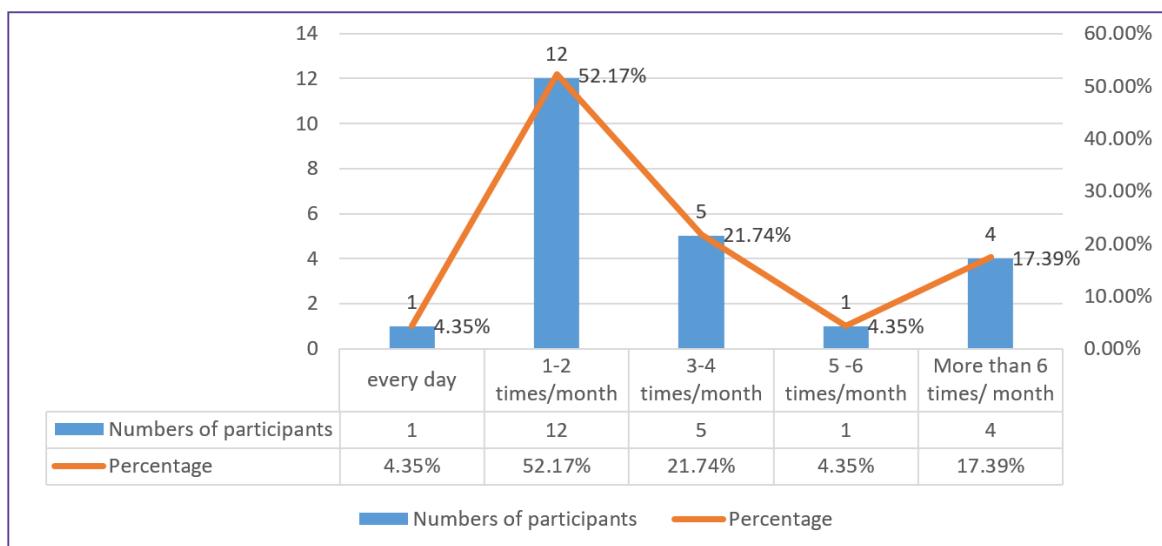
Interviews with the key informants on the purpose utilizing information about the cultures and traditions of Mekong Subregion countries, all informants are experienced in all data usage as it is an important criterion for selecting key informants to be those who have utilized information about the cultures and traditions of the GMS in order to be able to answer data usage questions about data usage experiences and according to the interview, the objectives for using the data can be divided into 3 types as follows: 1) a group that uses data for teaching and works with the student to develop the project or thesis; 2) a group that uses data for research and writing academic articles, groups that uses data for work purposes such as exhibitions; 3) a group that uses data for personal interest.

2. Frequency of Utilizing of Information on Cultures and Traditions of the GMS

The key informants conducted the Mekong culture and traditions with frequencies ranging from daily searches, 1 to 2 times per month, 3 to 4 times per month, 5 to 6 times per month to more than 6 times per month. According to the results, it could be concluded that all informants continued to study, research, and seek knowledge about the culture and traditions of the Mekong particle countries on a periodic basis on issues of interest or on issues requiring work during the period any time. For instance, the key informant is a master's degree student, they seek knowledge about the culture and traditions of the Mekong particle countries by studying the identity of the Mekong River basin to develop into interior design for utilize in the thesis work only for a period of time, whereas instructors and researchers have a more consistent and frequent utilize of data. The results of the study reflect the issue of cultural research as an issue that researchers continue to research.

Figure 4

Frequency of Research and Information Seeking on the Culture of the GMS



3. Information About the Cultures of the GMS That the Researchers Needed

Interviews on the question of the need for information on cultures of the Mekong Subregion countries, the respondents discovered that the researchers needed the following information:

3.1 Information regarding the history of culture, such as from historical facts about culture and the transmission of culture.

3.2 Information about beliefs related to culture
Whether it is the belief that causes the behavior in the same way, such as beliefs about ancestors. The spirit of a relative who has passed away who are still protecting their offspring. However, if the offspring behaves inappropriately, the ghost will become angry and cause sickness. The descendant must perform a ceremony to ask for forgiveness or when it comes to the day of the Buddha or the occasion of making merit, there must have a large merit. Therefore, various traditions were born under such beliefs. For instance, the tradition of merit-making in the tenth month and merit-making in the ninth month in which the descendants must make merit and make merit for the deceased ancestors. This tradition takes place in Thailand, Laos and Cambodia. It is known as Boon Khao Pradub Din in Thailand and Laos. The Cambodian tradition is known as of Pra Jum Bin (Sumetharat, 1992). Information about culture-related literature, such as folk songs folk tales, legends, etc., and issues related to the ancient characters of the GMS.

3.3 Information about literature related to culture, such as folk songs folk tales, legends, etc., and issues related to the ancient characters of the GMS.

3.4 Information about prohibiting various activities or rituals such as when visiting to temples, in Buddhism should dress modestly. Shoes are allowed to walk around the ubosot or church. However, shoes must be removed before entering the ubosot or church and any area where a sign is shown.

3.5 Information about the purpose of the event or ritual, for example Songkran Festival. During the hot weather, there is a culture of watering the elders to match the atmosphere and has the belief of warding off the bad and taking in the good, etc.

3.6 Information about the equipment used in the ritual means materials or items used in cultural activities such as Boon Khun Lan in the Heet Sip Song tradition in Thailand, Laos, and Cambodia must prepare equipment such as Sai Sin thread, perfumed water, holy water, flowers, incense sticks, candles, carrying rice, paddy, etc.

3.7 Information about the location used to carry out the activity. For example, to make merit Khun Khao or Bun Khun Lan must be arranged at the threshing ground. If it's a great merit, usually the the venue is taken at a temple, village area, or pavilion.

3.8 Information regarding the timing of the activity or ritual. The time specified in the lunar calendar pattern, such as the first day of the third

month, and the duration or number of days that cultural events are held.

3.9 Information regarding the name of the tradition. That is to say, the cultures of the Mekong

Subregion are commonly called in two ways, namely the official name used to refer to that culture or tradition and other names used to refer to traditions which may be words in dialects.

Table 1

Information Requirement of Researchers on the Culture of the Mekong Subregion

(n = 23)

Information requirement	Numbers of participants	Percentage
Knowledge of the history of culture	19	82.61%
knowledge of cultural-related beliefs	18	78.26%
Knowledge of literature related to culture	15	65.22%
Knowledge of prohibitions in carrying out an activity or ritual	14	60.87%
Knowledge of the purpose of the activity or ritual	9	39.13%
Knowledge of the sequence or method of performing rituals	14	60.87%
Knowledge of the equipment used in the ritual	14	60.87%
Knowledge of places used in activities	14	60.87%
Knowledge of the timing of an activity or ritual	10	43.48%
Knowledge of the names of tradition	14	60.87%

4. Experience in Retrieving Information About Cultures of the Mekong Subregion

The researcher interviewed informants on the procedures and methods of searching for information about cultures of the Mekong Subregion countries. The researcher then analyzed the data and grouped it according to Wilson's (2000) concept of information behavior, which could summarize the behavioral information as follows:

4.1 Information need

The majority of users agree that the need for information arises from work means when given assignments or when it is necessary to find information to use, whether for teaching, research, thesis work, or personal interest's searches, information behavior will occur and when the user needs to seek information by using various information systems or services.

The scope of user needs is often determined by analyzing keywords from the title, purpose, and content scope to be searched through the web search engine by specifying the scope of searching and searching for the name of the owner of the cultural culture, name of ethnic group, and name of cultural area.

4.2 Information seeking

The majority of users agree that they search the internet for fundamental information by categorizing data sources into 3 groups. Firstly, online resources or general information on the website. These data are frequently utilized as preliminary studies such as data before geospatial targeting or general information related to that culture or tradition that appear on the website generally accessible. Secondly, database of academic institutes or research institutes. It is often used for research purposes or references such as searching for Thai articles related to culture and traditions from the website of the Central Electronic Journal Database System of Thailand; and searching the full document of the thesis, instructors research report collected from various universities from TDC or Thai Digital Collection, which is a project of ThaiLIS. Thirdly, library database to be used to search for books and used as information for research or reference. Finally, in cases where preliminary evidence is required therefore, gradually use the service of the archives or targeting spatial or individual information sources in order to travel to the area to meet, talk, interview, collect information, for instance, questioning the village philosopher, the village headman, etc.

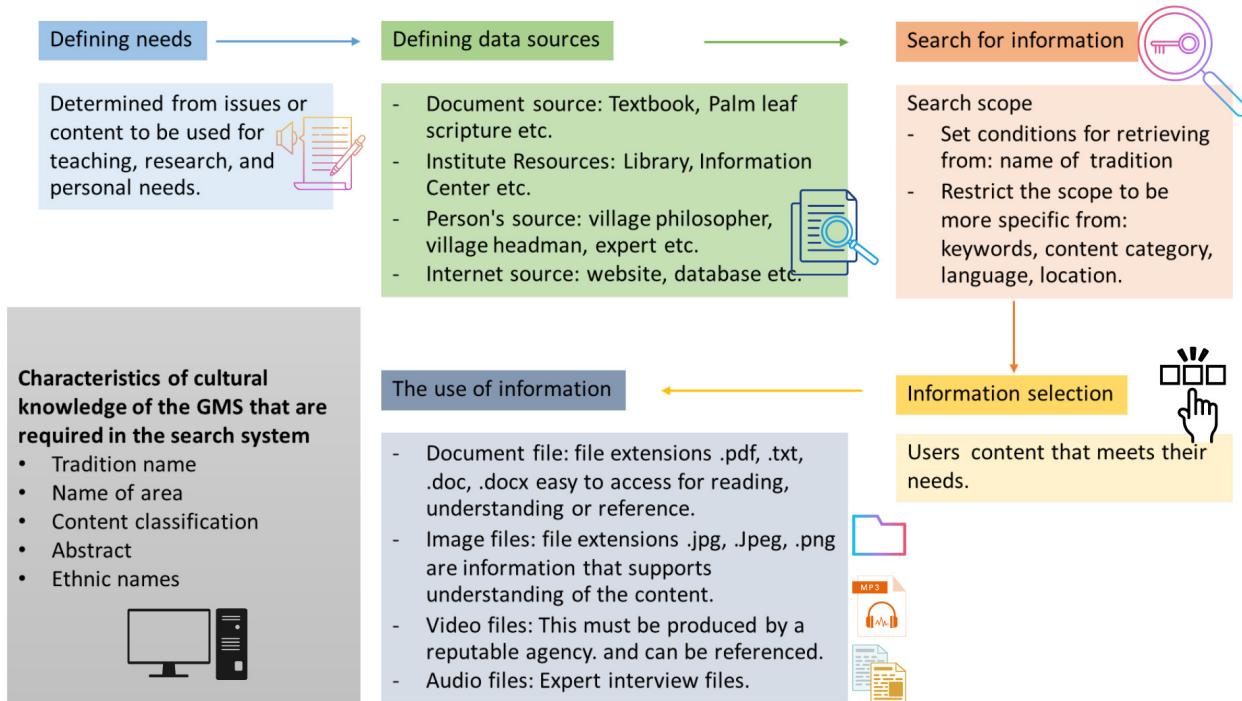
4.3 Information use

The majority of respondents in interviews on the topic of information usage indicated that the search display should be simple and uncomplicated. At the same time, the information must be complete and the information can be used immediately. The information should be in the form of a digital file, including: Document files or files that store work data in pages, it may be a file with the extension PDF, TXT, DOC, DOCX which is convenient to access for reading, understanding or reference, such as the full document

of the research report that can be downloaded through the ThaiLIS Digital Collection, etc. Image files such as .JPG, .BMP, .PNG, .PSD file extensions are information that supports understanding of the content of the work and can be used to describe the content. Video files, which must be produced by organizations that reliable and can be used as references such as a video titled Heritage in the Mekong River, The Way of the People series, produced by Thai PBS, etc., audio files from interviews with experts, etc.

Figure 5

Information Behavior Framework of Researchers on the Culture of the GMS



5. Problems and Obstacles in Seeking Information

5.1 Problems or obstacles in utilization the data source

The knowledge sources of culture and traditions of the GMS are too few and scattered and are not consolidated into a single source or have a specific publishing agency. For example, information on art in the Mekong region, some parts may be accessed from the Mekong Art Database which is a collection of specialized information on arts in the form of a full document of the Faculty of Fine and Applied Arts Khon Kaen University. If anyone require information about society and culture, it can be accessed from the Southeast Asian Socio-Cultural Database of the

Princess Maha Chakri Sirindhor Anthropology Centre (Public Organization), etc. There are no widely available sources of knowledge covering the content, culture and traditions of the Mekong Subregion countries that are generally accessible sources of knowledge. Most of the key informants stated that they were often retrieving information from relatively old textbooks or from local documents that were not formatted according to citation principles, resulting in incomplete citations and the documents that are published electronically are few. Moreover, language barriers and problems in communication in the Mekong Subregion were discovered except Thai, Lao, Thai Khmer, Korat (Thai Beng), Khmer, and English.

5.2 Problems or obstacles in using the search tool

Problems or obstacles in the use of the Mekong Subregion of the Mekong Subregion cultural knowledge search tool are mainly related to the search tool because when seeking for information, it is mainly searched by web search engine. Before connecting to the desired information that appears in search results that match the search query or the desired content, many key contributors provided information about problems encountered with online database search engines that there was no specific information about the cultures of the Mekong Subregion countries. Search engines are unable to link content distributed among different departments, resulting in incomplete information based on the actual content. Therefore, it is a barrier to access information from native speakers directly.

5.3 Problems or obstacles in the content of knowledge

1) The content from the search results does not correspond to the desired. For instance, searching for the term co-culture which in the sense of the user's point of view is a culture that shares one nation with another or one race with another. However, when searching through the Internet with the keyword "co-culture", the search results will include information related to contemporary culture, etc. There are also incorrect search problems because the general search systems search for data or documents mainly using character comparison methods. The system did not consider the exact concept or meaning of the search query. Mainly due to a huge gap between what the computer can interpret and what humans understand, known as the semantic gap. For example, The tradition may be called differently according to languages and dialects, such as Boon Pha Wet, Bun Pha Wet, Bun Phawet, Boun Phavet, The Traditional Mahajati Preaching, Mahachat, etc.

2) The content is not up-to-date, in other words, information that can be accessed publicly such as on different websites, the information is often redundant or from the same source and it is not updated.

3) Content received is not complete as intended or content is not detailed enough for use or to take advantage such as Department of ASEAN Affairs, Ministry of Foreign Affairs ASEAN, Information

Center, it will be discovered that the content is duplicated. Knowledge content is not organized into groups or categories. Many informants agree that assigning content groups to data is very beneficial to users for browsing and reaching users because in addition to saving time to browse through one item at a time, it also demonstrates the relationship or the connection between the content such as Bun Bang Fai is linked to the ritual of praying for rain, the legend of worshiping Phaya Tan Belief in Phaya Khankhak, The legend of Pha Daeng Nang Ai, etc.

4) Some content is invalid, lack of expert scrutiny therefore, before disseminating information, there should always have an expert to review the information first and provide sources of information that able to be used as academic references.

6. Search Engine Expectations and Recommendations

6.1 The features of the search engine that users require

1) The convenience of searching aspect

The majority of informants agree that search engines should be ease to utilize. Users are able to search conveniently, and contents are able to be searched and accessed from a single point.

2) Links to additional relevant information

Many informants agree that search engines should be able to link to other relevant documents which will allow users to access the knowledge they need and linking to other information that may be useful in further study such as the study of beliefs and rituals related to Thot Kathin merit can be linked to important areas where Kathin ceremony is held, etc.

3) Displaying

Most informants agree that displaying the searching result should be simple, but it must provide complete information. Furthermore, content should also be grouped or categorized so that users can access it in an alternative way other than browsing through the primary search channel. For example, research on the traditions of San Don Ta, the content rankings may be subdivided from broad to specific by displaying the name of the browsing tradition, local name, types of culture, area, essence of traditions in brief history, as well as guidelines to follow the customs, etc.

6.2 Characteristics of cultural knowledge of the GMS that are required in the search system

1) Tradition name, is the information that most informants used to search and viewed as significant and necessary to use in searching. According to the respondents, the tradition name is the first to be determined in the search before it is explained or defined to the specific extent of the search to the desired information. For example, if the user wants to study the merits of Boon Khao Pariwatsagam, they can search from the name of the tradition which are Boon Khao Pariwatsakham, Boon Khao Kham, Boon Duen Ai. If they need specific information about the area, they may add search terms that specify the area name, such as The merit of Boon Khao Pariwatsakham, Ban Sao Riek, Phana District, Amnat Charoen Province, etc.

2) Name of area or source where cultural information can be studied. The majority of informants agree that it is of prime importance and needs to be identified in the search engine, by the place found here refers to the source or area where the traditional activity takes. It may specify the name of the village, sub-district, district, province.

3) Content classification, the informants stated that assigning content groups to data will greatly benefit users' browsing and accessing information because in addition to reducing the search time, it also shows the relationship of the content of each tradition that may be related, such as cultural groups about religious, cultural groups about clothing, cultural groups about cuisine, cultural groups about livelihood, etc.

4) Abstract that describes the content of that tradition. Most of key informants agree that abstract is important and necessary and most departments include a brief descriptive overview which it may provide information about the background or importance of having a particular tradition.

5) Ethnic names are associated with a culture or tradition, in other words, some traditions are associated with or originated from a particular ethnic group, for instance the tradition of snooping women of the Karen people, Wua Lan threshing tradition of Pho Hak community, Song Kran Festival Mon, Song Kran Lao Wiang, Songkran Festival of Thai people of Karen descent.

■ Discussions

The study of information behaviors of Researchers on The Culture of The Greater Mekong Subregion can be summarized in three steps: information needs; Information seeking; and Information Uses of information this is consistent with Wilson's (2000) where information behavior in which the behavior of humans interacting with any information source or receiving channel which consists of the need for information is the starting point that drives users to seek information through various methods.

In the case of user studies, the need for information on cultures of the Mekong Subregion countries can be discussed in order of concept as follows; 1) The information needs; According to the study of researchers' need for information on cultural issues in the Greater Mekong Subregion, it was discovered that researchers needed information as evidence to support their research on various issues and Information needs began from assignments or interest in cultural issues in the GMS such as to do a thesis, to do research, or to study according to their interests. 2) Information seeking; The researcher searches for information starting from the user's desire for information with an objective and access to various information sources, both formal and informal, expecting answers. Researchers typically seek information primarily from the Internet before entering into the sources to study information from real locations or contacting human resources to interview contributors from agencies or even from a local sage or someone who could provide information about the culture before the arrival of the information. The finding is consistent with Catalano (2013) study, which indicates that graduate students begin their research on the internet much like any other information seeker, consults their faculty advisors before other people, and uses libraries in diverse ways depending on the discipline studied. One of the findings from this research is nowadays, there are cultural information users both for education, work, and use according to their personal interests which studies have shown that most users use search engines to help them link to information sources that is expected to provide the information they need since users do not know the source can directly answer their search needs, there is no known database. As for the problems encountered by users in retrieving and accessing cultural information, in some research suggests that this is due to the

viewpoints that search sources have on a wide range of issues. In other words, researchers are primarily interested in cultural content and spatial context. This is demonstrated by defining requirements based on the subject matter or content of the work to be performed first and then specifying the field of study when searching for more specific information. 3) use of information; The results of the study demonstrate the characteristics of information that is required to be readily available and digital information. Researchers need data that can be easily applied. In addition, important conditions for implementation were also found, including the reliability of the data. completeness of the content and can download the file. The conditions of use are not different from that of researchers generally using search systems to facilitate learning and research has become common practice due to its ability to reduce barriers related to time and space in traditional learning environments. However, what differs from research in the culture of the Greater Mekong Subregion is the need for a system that can link information according to the actual meaning of the search term. Research findings show that this is largely due to the large gap between what computers can interpret and what humans understand. This is called a semantic gap. This has implications for information systems research and practice, especially in the design and develop information systems.

This reveals that at present, in the development of a system or the creation of a search engine that allows users to access via the Internet or the development of a database system or a digital collection of information resources by developing those tools, the user must be studied in order to develop the most efficient system which is consistent with research by Foulonneau and Riley (2008), which suggests that user education should be initiated in the process. This will be beneficial to system design, especially for defining system components that are consistent with user access and discovery. In addition, the findings are consistent with the study by Bawden and Robinson (2011), which suggests personality factors and learning. the studies of patterns in information behavior and of personality and similar factors in groups of information-focused occupations, as well as studies that have explicitly sought to relate information behavior to such factors. would be a valuable concept for the academic study of information-related behaviors, as well as being

of practical usefulness for the design of information systems and services, the evaluation of the effectiveness of such systems, and the training of users. It could also allow a tailored provision of information, particularly for creative or innovative purposes.

Additionally, a study aspect of expectations and feedback on the tool discovered that the majority of users needed a simple search engine since most users tend to search from keyword-type access points or generally use cultural names and define the spatial boundaries later in the search which is consistent with the research of Umasangtongkul (2005), a study on the usage of online databases, found that users often searched using simple keywords, rarely use other advanced search techniques. Moreover, The search system should be an improved form of contextual search and have the ability to understand the connection between ontological schema and contextual meaning. The software should recognize the subtleties of intangible cultural heritage and provide the most pertinent findings. Only a semantic approach can ensure these benefits since it has a contextual grasp of the meaning of the information. For example, to search for traditions based on attributes of culture, a search for traditions from the Naga belief can be used. The search results will show the traditions associated with that belief.

■ Conclusion

According to information needs of researchers on the culture of the Mekong Subregion, the results of the study will be useful in verifying, confirming, and linking the component of knowledge that the researcher desire to examine in terms of what knowledge is available, what knowledge is missing. It helps in further development of the system to aid search for information in the next phase as well. This study of the information needs of researchers on the cultures of the Mekong Subregion is a user-centered design study which focuses on and prioritizes user needs, experiences and, satisfaction (Abras et al., 2004), so that the system that will be developed in the next phase is an efficient and effective system suitable for users in accordance with the actual problem situation. The results of the research on the need for information of researchers on cultures of the Mekong Subregion groups showed patterns of user browsing behavior and access to information as follows:

1) The majority informant requirements are specified based on the subject matter or content of the work to be performed initially. The content of these works often determines how users search for information to support and reference the subject being studied.

2) Determining expected sources of information, the primary source that most contributors come to mind is general information on website, then access into the database of academic institutes or research institutes or library database to be utilized as a reference for research or reference. In cases where preliminary evidence is required, then use the service of the archives or target the area to access the personal information source.

3) Searching for information. When the user defines the subject or content they want to study, areas are often defined as search criteria when searching for more specific information needed.

4) Problems and obstacles in searching and accessing information. The data from the interview indicated that barriers to retrieval and access were often caused by first, data limitations, documents published on cultural information are limited. Second, search engines, users often find that search engines include cultural databases are often incomplete or lacking up-to-date information. Meanwhile, there is a lack of linking information with each other.

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References

Abras, C., Maloney-Krichmar, D., Preece, J. (2004). User-centered design. In W. Bainbridge, *Encyclopedia of human-computer interaction*. Sage publications.

Bawden, D., & Robinson, L. (2011). Chapter 6 individual differences in information-related behaviour: What do we know about information styles? A. Spink & J. Heinström (Eds.), *New directions in information behaviour* (library and information science, vol. 1), Emerald group Publishing Limited. [https://doi.org/10.1108/S1876-0562\(2011\)002011a009](https://doi.org/10.1108/S1876-0562(2011)002011a009)

Burnett, G., & Jaeger, P. T. (2011). Chapter 7 the theory of information worlds and information behaviour. In A. Spink, & J. Heinström (Eds.) *New directions in information behaviour (Library and information science, Vol. 1)* (pp. 161-180). Emerald Group Publishing Limited. [https://doi.org/10.1108/S1876-0562\(2011\)002011a010](https://doi.org/10.1108/S1876-0562(2011)002011a010)

Catalano, A. (2013). Patterns of graduate students' information seeking behavior: a meta-synthesis of the literature. *Journal of documentation*, 69(2), 243-274. <https://doi.org/10.1108/00220411311300066>

Čopić, V., & Dragičević Šešić, M. (2018). Challenges of public-civic partnership in Cambodia's cultural policy development. *Encatc Journal of Cultural Management & Policy*, 8(1), 4-15. https://www.encatc.org/media/4531-encatc_journal_v08_issue1_copic_dragicevic_sesic.pdf

Courtright, C. (2007). Context in information behaviour research. *Annual Review of Information Science and Technology*, 41, 273-306. <https://doi.org/10.1002/aris.2007.1440410113>

Department of International Cooperation. (2018). The 21st meeting of the joint commission on Thai-Lao cooperation. [http://tica.thaigov.net/main/th/news/1487/62303-\(JC\).html](http://tica.thaigov.net/main/th/news/1487/62303-(JC).html)

Foulonneau, M., & Riley, J. (2008). *Metadata for digital resources: Implementation, systems design and interoperability*. Chandos.

Gomez-Perez, A. (1995). *Criteria to verify knowledge sharing technology*. Knowledge Systems Laboratory.

Greater Mekong Subregion Secretariat. (2020, November 5). *About the Greater Mekong Subregion*. Greater Mekong Subregion. <https://greatermekong.org/about>

Hjørland, B. (2008). What is knowledge organization (KO)? *Knowledge Organization*, 35(2/3), 86-101. <http://dx.doi.org/10.5771/0943-744-2008-2-3-86>

Khambunruang, C. (2003). *Cultural roles of local daily newspapers in Chiang Mai*. Chiang Mai News.

Kuhlthau, C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science*, 42(5), 361-371. [https://doi.org/10.1002/\(SICI\)1097-4571\(199106\)42:5<361::AID-AS16>3.0.CO;2-23](https://doi.org/10.1002/(SICI)1097-4571(199106)42:5<361::AID-AS16>3.0.CO;2-23)

McLean, S. (2015). *Business communication for success*. LIBRARIES. <https://open.lib.umn.edu/businesscommunication/chapter/18-3-common-cultural-characteristics/>

Ministry of Culture. (2018). *Cultural information center*. Ministry of Culture. <https://digital.m-culture.go.th>

Noy, N. F., & McGuinness, D. L. (2001). *Ontology development 101: A guide to creating your first ontology*. Stanford University. http://www.ksl.stanford.edu/people/dlm/papers/ontology101_ontology101-noy-mcguinness.html

Paisley, W. J. (1968). Information needs and uses. *Annual Review of Information Science and Technology*, 3, 1-30.

Prasertsuk, K., Boriphat, P., Nimmanorawong, P., Latsuan, S., & Sukhimok, K. (2016). ASEAN shared culture on the road to intangible cultural world heritage. *ASEAN Eye-catching brochure*, 5(3), 26-29.

Sithirath, R., Phomphadith, S., Savatvong, K., & Poumvixai, J. (2007). *Application of ICT for promoting sustainable development in world heritage sites: Case of Luang Prabang, Lao PDR*. Proceedings of International Conference on Information and Communication Technology, Vientiane Lao PDR. <http://www.ap.ide.titech.ac.jp/publications/Archive/JICT2007Rasmy.pdf>

Spink, A., & Park, M. (2005). Information and non information multitasking interplay. *Journal of Documentation*, 61(4), 548-554. <https://doi.org/10.1108/00220410510607516>

Sumetharat, S. (1992). *Surin local history*. Faculty of Humanities and Social Sciences: Surin Rajabhat University.

Tantayakul, C. (2017). *Movement in the 3rd meeting between the Ministers of Foreign Affairs of the Lancang-Mekong River Cooperation Project*. Vijaichina.com. <http://www.vijaichina.com/articles/818>

Toemchoem, A. (2003). *Thai arts and crafts center* [Master's thesis, Silpakorn University]. <https://doi.org/10.14457/SU.the.2003.192>

Umasangtongkul, S. (2005). Information retrieval behavior and bibliographic results evaluation, documents derived from searching of users. *Information Technology Journal*, 1(2), 51-58. https://ph01.tci-thaijo.org/index.php/IT_Journal/article/view/74114

UNESCO. (2008). *Cultural heritage*. http://portal.unesco.org/culture/en/ev.php-URL_ID=2185&URL_DO=DO_TOPIC&URL_SECTION=201.html

Uschold, M., & King, M. (1995). *Towards a methodology for building ontologies*. CiteSeerx. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.697.8733&rep=rep1&type=pdf>

Wilson, T. D. (1997). Information Behaviour: An interdisciplinary perspective. *Information Processing and Management*, 33(4), 551-572. [https://doi.org/10.1016/S0306-4573\(97\)00028-9](https://doi.org/10.1016/S0306-4573(97)00028-9)

Wilson, T. D. (2000). Human information behavior. *Information Science Research*, 3(2), 49-56. <https://doi.org/10.28945/576>