

# A Study on the Reliability Evaluation Index Development for the Information Resources Retained by Institutions: Focusing on Humanities Assets\*

Dae-Keun Jeong\*\*, Younghee Noh\*\*\*

## ARTICLE INFO

### Article history:

Received 03 May 2019

Revised 31 May 2019

Accepted 23 June 2019

### Keywords:

Humanities Assets,  
Evaluation Index,  
Information Resources,  
Reliability,  
Humanities Assets Evaluation

## ABSTRACT

This study has the aim of developing an evaluation index that can help evaluate the reliability of the information resources of institutions retaining humanities assets for the purposes of laying out the foundation for providing one-stop portal service for humanities assets. To this end, the evaluation index was derived through the analysis of previous research, case studies, and interviews with experts, the derived evaluation index was then applied to the humanities assets retaining institutions to verify the utility. The institutional information resources' reliability evaluation index consisted of the two dimensions of the institutions' own reliability evaluation index. The institution provided a service and system evaluation index. The institutions' own reliability evaluation index consisted of 25 points for institutional authority, 25 points for data collection and construction, 30 points for data provision, and 20 points for appropriateness of data, for a total of 100 points, respectively. The institution provided service and system evaluation indexes consisting of 25 points for information quality, 15 points for appropriateness (decency), 15 points for accessibility, 20 points for tangibility, 15 points for form, and 10 points for cooperation, for the total of 100 points, respectively. The derived evaluation index was used to evaluate the utility of 6 institutions representing humanities assets through application. Consequently, the reliability of the information resources retained by the Research Information Service System (RISS) of the Korea Education & Research Information Service (KERIS) turned out to be the highest.

## 1. Introduction

With the mass production of information resources along with the development of information technology, distribution of information resources has also increasingly become more active. In particular,

\* This work is based on results of the Policy Research Service Task, 'Policy Research 2017-57' supported by the National Research Foundation of Korea(NRF) and it could differ from the NRF's official view.

\*\* University Lecturer, Department of Library and information Science, Chonnam National University, Korea (jdk1319@jnu.ac.kr) (First Author)

\*\*\* Professor, Department. of Library and Information Science, Konkuk University, GLOCAL, Korea (irs4u@kku.ac.kr) (Corresponding Author)  
International Journal of Knowledge Content Development & Technology, 9(2): 65-89, 2019.  
<http://dx.doi.org/10.5865/IJKCT.2019.9.2.065>

as for the distribution of information resources, the services rendered through cooperation between information production institutions is vastly growing, and the reliability of the information resources retained by the institutions carrying information resources has turned out to be extremely significant.

The institutions recognizing the importance of information resources have been established to collect, preserve and provide information resources. Yet the question of the reliability of information resources retained by each institution has continuously been raised. In this light, it has become necessary to develop an index that can help to objectively measure the reliability of the information resources retained by each institution.

As a result of reviewing the reliability evaluation index of information resources for the humanities assets where the importance of the humanities has emerged, a considerable portion of the information resource reliability evaluation index up until now has been evaluated as quantitative aspects; such as, the number of SCI papers and recency, among others, with a focus on technology information resources. However, there is a limit to evaluating humanities assets that have a climate of prioritizing appropriateness over the recency of information resources, and published books over journals.

In the era of knowledge information, where changes take place in real time, the various scholarly results are not accumulated based on reliability, thus it is a reality that it will be rejected by users in the end. In this study, we intend to develop evaluation elements for measuring the reliability of academic information collected through various routes and apply them for the continued use of the users. Furthermore, we will attempt to analyze the reliability of individual systems that provide not only individual units of each research achievement currently provided, but also the reliability of the individual systems by articulating and applying components and systems that are one at the core of the theory of reliability.

Therefore, this study has the aim of developing an evaluation index that can help evaluate the reliability of the information resources of institutions retaining humanities assets for the purposes of laying out the foundation for providing one-stop portal service for humanities assets.

## 2. Literature Review

Reliability is represented in terms of likelihood, which is defined as “the probability under which a system, machine, and component, among others, will perform a given function during the intended period under certain conditions.” While scholars have offered varying thoughts on the concept of reliability, Fogg and Tseng (1999) defined reliability basically as “believability” and “perceived quality.” Perceived quality signifies an attribute that manifests in the aftermath of perceptions by humans beings, not something that is inherent in an object, person, or any information itself. Moreover, reliability is also a perception of the results of evaluating various aspects simultaneously. Scholars’ thoughts on credibility may vary in diverse aspects, yet they may be classified into “trustworthiness” and “expertise;” the two common elements giving rise to questioning whether there is any value in trust. The most important elements of reliability evaluation can be defined in terms such as “well-intentioned,” “truthful,” and “unbiased,” among others, whose aspect of reliability may be taken as an expression of the information sources’ perceived morality or ethics. Meanwhile, the aspect of “expertise” may be

---

explained as “knowledgeable,” “experienced” and “competent,” among others, and this aspect is an expression of the perceived knowledge and technical aspects of information sources (Kim, 2007b, 96-97).

Reliability analysis was founded in the United States and, in the early 1940s, started with the systematization of quality control. It was expressed in various forms such as reliability, survival time, and failure time, among others. Yet, the life span of the analyzed subject was mainly focused on engineering (Yoon, 1996). Starting in the engineering field, reliability analysis has further expanded and developed into various fields such as medicine, insurance, and finance. As systems became increasingly complex and diverse, it has become an important concept for all systems.

### *2.1 Research on the evaluation of Web information resources*

As a study on the reliability evaluation criteria of the Web information resources, Standler (2004) explored “peer review,” “credentials of the author,” and “writing style,” as the 3 methods of traditional evaluation. Whether peer reviews have been published by famous publishers or published in academic journals, among others, this can become an important criterion. External credibility of the author is also evaluated based on whether a doctoral degree was obtained from a reputable university. As for the writing style of the material, it stipulates that the number of citations or footnotes, the extent of typographical or grammatical errors, the appropriateness of vocabulary, internal consistency, the date of the last modification and publication date, are important criteria. However, Standler emphasized that information reliability is not a matter of expert opinion but of the information itself, implying that traditional criteria may vary depending on characteristics of corresponding areas. In addition, he pointed out the need for a reliability evaluation of Web information resources, and also pointed out that it is not sufficient to evaluate the reliability of Web information resources based on the traditional evaluation criteria. Fogg et al. (2002) analyzed factors affecting the reliability of websites in a study of conditions affecting the reliability of websites. As a result of their analysis, they divided and presented factors such as Expertise Factors, Trustworthiness Factors, and Sponsorship Factors, respectively. Expertise factors have a positive effect on the reliability of the web, such as quick responses to customer inquiries, and ease or convenience of the search process, whereas negative factors turned out to be linked to errors and spelling errors, among others. As for trustworthiness factors, useful experiences of the past, contact with site management agencies, and privacy policies were found to have operated as positive factors. As for the sponsorship factors, advertisements on the corresponding websites through other media sites are positive factors, whereas unclear boundaries and popup windows, among others, were presented as negative factors. Other factors, such as website updates and professional design, were positive factors, whereas difficulties in exploration turned out to be negative factors, respectively. Fogg et al. (2003) analyzed the opinions of users related to the reliability of the website, whereas the professional and visual designs were evaluated as the most important factors in the website reliability evaluation. These factors included website design, layout, image, font, margin, and color configurations, among others. In addition, factors of website reliability determination include those involved with structure and focus of the website information, purpose of the website, usefulness and accuracy of information, reputation, bias of information, quality of tone used, the nature of advertisement, the skill of website operators, stability of function,

---

customer service, users/experiences and legibility of the text. Kim studied the reliability of web information sources in Korea, and how the users can evaluate the websites' reliability (Kim, 2007a), as well as factors affecting website reliability and importance (Kim, 2007b), and setting criteria for evaluating the websites' reliability (Kim, 2011). In the study on the reliability evaluation method of the website, it was found that users were very passive in determining the reliability of the websites in spite of the high proportion of web information in daily life. The websites with the highest reliability for internet information sources were sports websites. Academic DB's, news, financial institutions, and government websites also showed relatively high reliability. Included among the main factors of website trust were 'easy information search', 'trust based on past experience', 'quick update', 'discovery of major facts about the website', and 'facility with which to find information sources'. In a study on factors and the importance around how factors affect the reliability of websites, the factors affecting the perceived reliability of web information sources were classified into four categories of expertise; trust factors, advertisement factors and others. Through 49 reliability factors, they analyzed whether the characteristics or elements of the websites make people believe in the information they find online. As a result of the analysis, out of 49 factors, we determined that 29 positive factors such as, update frequency and ease of search, and 20 negative factors such as difficulty of a search and dead links, all came forward as useful information. Furthermore, a study on criteria settings for critical evaluation of online information sources was conducted by analyzing standards and guidelines related to the evaluation of information sources, and guidelines, thereby presenting criteria such as authority, objectivity, quality, coverage, currency, and relevance, among others.

## *2.2 Study on the evaluation factors of the online subject guides*

Reviewing research conducted on evaluation factors for websites of the subject guides, which is the most representative online information source provided by libraries, and others, Dunsmore (2002) draws the key elements of a subject guide through qualitative research on a web-based pathfinder. To this end, Dunsmore surveyed the purpose, concept, and principles of the web based pathfinder or subject guide with 10 business school libraries in the United States and Canada each, for a total of 20 university libraries. As for the subject guide, they investigated components of the Company Guide, Industry Guide, and Marketing Guide. As for the web-based pathfinder's components, transparency signifying the pathfinder's purpose, concerns of concept and principle, consistency representing uniformity in the selection and presentation of the subject guide's title, accessibility in providing paths for reaching the corresponding subject guide from the library's website, and selectivity providing guidance on the scope of resources provided by the subject guide, among others. Jackson and Pellack (2004), Jackson and Stacy-Bates (2016) analyzed the online subject guide of university libraries. Rebecca and her colleagues sought to identify changes in the subject guide of university libraries through a longitudinal study of university libraries' subject guides. In 2004, they developed a questionnaire consisting of 10 questions for analysis of subject guides and selected 121 libraries from ALA to analyze four fields including, philosophy, journalism, astronomy and chemistry. Later in 2016, they analyzed the subject guides of chemistry, journalism, and philosophy for 32 university libraries associated with ALA based on questionnaire items that were modified slightly. Compared to the 2004 data,

---

the overall score was quite similar, but the ratio of link testers increased from 54% to 94%, while the percentage of statistics used in the user behavior analysis increased from 67% to 88%, respectively. The subject guide development and link status, recency, value, statistics, and evaluation, among others, were evaluated as the same factors in 2004 and 2016, and the format, contents, and operation aspects reflected the reality and underwent a slight revision to realize evaluation factors. Noh and Jeong (2017) developed the necessary elements to provide web information sources on Korea's modern literary subject matters provided by the National Library of Korea as an effective service based on the needs of the public. In their final evaluation process, they developed 4 areas including; utility, content, form and mutual cooperation, among others. 23 evaluation factors, and 67 detailed evaluation items and evaluation questions, respectively were included. As for the key evaluation factors- web site trust, user communication, accessibility for subject guides, ease of search for published books, provision of information in a consistent format, and scope of subject guides, among others were evaluated. As a result of applying the developed evaluation factors against the bibliographic system by subject, which is a web information source site provided by the National Library of Korea, 8 out of 20 items of utility (40%), 13 out of 20 items of content (66%), 15 out of 17 items of form (88%), and 1 out of 10 items of mutual cooperation (10%), that is, 37 out of a total of 67 detailed evaluation factors (55.2%) have been provided, respectively.

### *2.3 Study on the evaluation of the research achievements in the area of humanities*

Studies in the area of the humanities were concentrated in the 1970s and 1980s, and have been declining since 2005 (Chung & Choi, 2011). The most important part of the evaluation of research results in the field of the humanities is the recognition of the diversity of research. It was confirmed that the evaluation method varied as per the criteria of university professors at 134 universities across various fields such as, the social sciences, the humanities, and the natural sciences (Centra, 1977). Researchers in the field of the humanities emphasized published books over journals, and regardless of which, they criticized the existing quantitative evaluation and paper centric evaluation methods, calling for improvement in this regard (Finkenstaedt, 1990; Skolnik, 2000). Furthermore, Kim, Lee and Park (2006) argued that evaluation criteria within the humanities should be set on values that are different from those used in evaluating research results within the sciences and engineering, and also argued that if the humanities were to form an evaluation factor reflecting its specificities, there would be a need to devise an evaluation method that divides the field of emphasizing research papers and the field of emphasizing academic books. Moed (2008) developed a matrix for evaluating research productivity in the humanities. In order to reflect the academic specificity in the field of the humanities, he presented the academic activities and research achievements of the researchers in their relevant field. However, sufficient data analysis was needed to serve as a qualitative measure of research achievements in the field of the humanities. Chung and Choi (2011) examined various types of research achievements in the humanities and social sciences on research achievements of humanities and social sciences professors. Along with the basic principles of evaluation, they presented ways of improvement focusing on both domestic and foreign universities by identifying various types of research achievements in the humanities and social sciences.

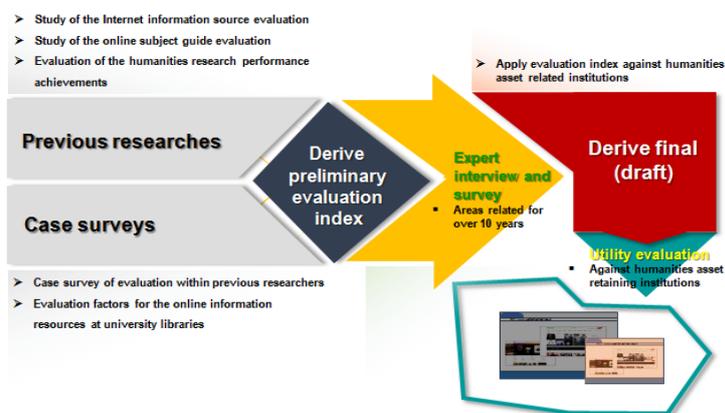
---

**Table 1.** Differences in scientific area and humanities area for evaluation

Scientific Area	Issue of Application in Humanities	Researcher
Academic journal (paper) centric evaluation	<ul style="list-style-type: none"> <li>Published books are highly important in the humanities</li> </ul>	Finkenstaedt (1990) Skolnik (2000)
Higher proportion of international journal	<ul style="list-style-type: none"> <li>Suitable for Korean in certain areas</li> <li>Need to place value on domestic academic journals</li> <li>Need to recognize the value of unregistered papers</li> </ul>	Park (2006) Chung & Choi (2011)
Focus on user value	<ul style="list-style-type: none"> <li>Need to focus on improving qualitative excellence</li> </ul>	Kim, Lee & Park (2006)
Evaluation of the number of citations	<ul style="list-style-type: none"> <li>High rate of citation for published books rather than academic papers in humanities society</li> <li>Citation is not evaluated for published books</li> </ul>	Chung & Choi (2011) Moed (2008)
Recency is important	<ul style="list-style-type: none"> <li>Focus on appropriateness over recency since citation's half-life is long</li> </ul>	Chung & Choi (2011)
Quantitative criteria are important	<ul style="list-style-type: none"> <li>Difficult to approach for quantitative problems as with science and technology</li> </ul>	Park (2014)

### 3. Methods

In this study, the following evaluation factors were developed to achieve the purpose of the research. First, we analyzed previous domestic and foreign research using the reliability evaluation. The primary research utilized was based on the evaluation of Internet information sources, the evaluation of the online subject guide evaluation, and research achievements in the humanities. Second, we analyzed the evaluation factors of online information resources provided by university libraries. To examine the reliability of online information resources at university libraries, we acquired factors presented, through which we determined preliminary evaluation factors. Third, based on the collected preliminary evaluation factors, we obtained interviews with 8 doctoral researchers who conducted research in related fields (library and information science, records management, sociology, Korean language and literature, philosophy, and cultural contents) for more than 10 years and thus we derived the final evaluation factors reflecting expert opinions. Fourth, we applied the reliability evaluation index to the institutions retaining humanities assets, respectively.



**Fig. 1.** Research systems and procedures

## 4. Results

### 4.1 Analysis of cases and surveys

In this study, we investigated the evaluation items presented by university libraries for online resource evaluation factors for library users.

Reviewing evaluation criteria from online information sources provided by the University of California at Berkeley's library, there are a total of 6 major categories such as; responsibility, purpose, publication & form, relevance, publication date, and record. Based on the sub-categories and detailed evaluation items, items are provided for individuals to evaluate the online information sources.

**Table 2.** Evaluation criteria for online information sources at the University of California at Berkeley's libraries

Evaluation Factor		Detailed Evaluation Item
Authority	Author	-
	Author's other works	-
	Author's fields of expertise	Perspective, gender / sexual, racial, political, social, cultural orientation, priorities for authoritative resources, whether positions are held with certain institutions
Purpose	Purpose of resource production	Economic benefits, educational objectives (research questions and objectivity), personal / professional / social needs
	Expected readership	Researcher, general readership
Publication & format	Publications	-
	Academic publication	Publishers (whether they are college publishers), official peer review
	Constraints when editing	Propensity of publisher (conservative / progressive), bias of the sponsor / supporting organization of publisher
	Difficulty in publishing	Whether they are self-publisher / independent publisher, external editors and reviewers
	Original text printing	Original text publication area, language of original text
	Media	Online / physical publication, text / video / magazine articles (expected readership of the media and purpose of work)
Relevance	Research relevance	Analysis of primary data, whether other primary data within subject by author and individual are included, analytical framework of author
	Category of data	General outline / intensification, consistency with information demand, time / spatial compatibility with research
Date of publication	First published date	-
	Edition	Difference between versions, date of latest update (for online publication)
	Post publication research progress	
	Review, reaction, refutation on work	
Documentation	Display citation	Reliability verification method for lack of citation
	Cited person	Relationship with cited person, whether cited person is affiliated with academia / school
	Appropriateness of citation	Whether context of cited material is expressed, whether major elements of cited material are omitted, whether citation is selectively made by confirmation bias, whether ideas are appropriately cited

As for Johns Hopkins University’s library, it has 6 major categories of author’s matters; accuracy and verifiability, recency, publishing organizations, perspective or propensity, references and related literatures, among others. The author’s matters are regarded as the most important part of the evaluation of information sources, and the evaluation criteria for information sources desired by the users were presented by providing 32 detailed items.

**Table 3.** Evaluation items for information sources at John Hopkins University’s libraries

Evaluation Factor	Detailed Evaluation Item
Author's matters	Most important part of information source evaluation, author's positive reference to the authoritative person, indication of author's web link in other authoritative literature, author's position, affiliation, address, phone number, email
Accuracy and verifiability	In case of author's reputation and research reference, whether data collection, research method, and data interpretation are included, whether research method is appropriate for corresponding subject, verifiability, including bibliographical references, corresponding reference link
Recency	Recency of data such as demographics, in case of continuously updated information, indication of addition and date of update, date of publication or date of latest update, whether database is library database, handling and updating cycle of information of search engine
Publisher	In the case of printed publications, whether or not they meet the purpose and criteria of the publishing agency, whether they passed the verification process, whether the name and the name of the institution and the name of the Internet publications are displayed Whether it is a well-known, stable institution in the field, whether it can check the relationship between the publisher or server and the author, whether it is possible to check the status of the author in the institution, whether the identity of the publication server can be confirmed, whether it is official web page (personal Internet account or domain)
Perspective or propensity	Whether there is a specific point of view or a tendency of information (neutrality), a clear position on the issue, existence of a web server of an institution, information on an agency server for the purpose of selling a product, Whether the web server has a political or philosophical intent of the material, whether the scientific information about human genetics is the institution's position on the subject, whether it is a perspective of the extremist (which may be partly educational), various perspectives on controversial questions and wide ranging perspectives coexist
References and related literature	Whether references are included, use of appropriate methods for related references and knowledge reference, related theories, theories, presentation of techniques, banner and discussion of limitations on the use of new theories and techniques

In the case of Georgetown University’s library, evaluation criteria for internet data are divided into 7 categories of responsibility; purpose, objectivity, accuracy, reliability, currency, and link, among others. A total of 31 detailed evaluation criteria are provided to help the users evaluate the reliability of internet data.

**Table 4.** Evaluation criteria for internet data at Georgetown University’s libraries

Evaluation Factor	Detailed Evaluation Item
Author	Author's name, author's qualifications (profession, experience, job, academic background), professional qualification on the subject, author's contact information, homepage link, author's support and sponsor, information resource related domain name and URL, Identification
Purpose	Expected readership (researcher or expert / general or novice), purpose of website if expected readership is not specified (information delivery / education / explanation / enlightenment / persuasion / promotion)
Objectivity	Fact / opinion / propaganda included, objectivity and fairness of view, use of language without emotional vocabulary or prejudice, relationship between institutions and organizations and author, public approval of contents
Accuracy	Verifiability of factual information, responsibility of data accuracy, securing of the accuracy of information from other sources, reference to information from other sources, accuracy of expression
Reliability and Credibility	Reasons for the trust of the site information, validity of the information and the institutional support for the reliability of the procedure procedural justification, citation and the assertion, and other information that can verify the web information
Currency	Recency of data, indication of the latest update of materials
Links	Subject relevance of the link, validity of the link, origin of the link, whether the link is evaluated, and whether it is annotated

In the case of the University of Oregon’s library, the evaluation criteria for online information are provided through a total of 8 items of reliability; formality, validity, perspective, time, references, purpose, and expected readers, among others, while the online information may be evaluated through 16 evaluation criteria such as the reliability of the information contained.

**Table 5.** Evaluation criteria for online information at the University of Oregon’s libraries

Evaluation Item	Detailed Evaluation Factor
Reliability	Reliability of recorded information, comparison against data from other sources
Credibility	Author's profession, author's expertise
Validity	Whether it was based on the work such as source of the information, personal opinion / research / experiment, etc., source of factual relationship
Perspective	Authors' orientation in the objective explanation, author's cultural, political, social and economic background
Timeliness	Interval with publication time, occurrence time of subject (case, concept, phenomenon, etc.), latest interpretation of subject
References	Review of references and bibliography
Purpose	Reason for preparation
Intended Audience	Expected readership (children, general, scholars, professionals, etc.), appropriateness for expected readership of writing style

#### 4.2 Derivation of the preliminary evaluation index

In this study, in order to verify the humanities society information relating to public and private institutions’ information reliability, we analyzed the evaluation index of web information sources for subject guides, evaluation criteria of online information sources of university libraries, reliability

evaluation factors by researcher, impact factors for website reliability, and an evaluation index for the humanities professors' research achievements, among others. These were based on what we derived from the preliminary evaluation indexes central to 26 research projects and institutions as shown in Table 6.

**Table 6.** Analysis of the evaluation index for research achievements of humanities professors

No.	Title of Paper	Author (Year of Publication)
1	A Study on the Development of Evaluation Framework for Public Portal Information Services	Kim, Shin, & Choi (2007)
2	A New Evaluating System for Academic Books on Humanities and Social Sciences in Korea.	Lee (2017)
3	Users' Evaluation of Information Services in University Archives	Jeong & Rieh (2016)
4	A Study on the Current State of Online Subject Guides in Academic Libraries	Kim (2012)
5	Measuring Library Online Service Quality: An Application of e-LibQual.	Kang & Jeong (2002)
6	The Effects of the Academic Research Evaluation System and the Research Achievements in Developed Countries	Woo, Jeon, & Kim (2006)
7	Establishing control system for the credibility of performance information	Keum & Weon (2012)
8	A Study on the Evaluation System of Research Institutes	Lee (2005)
9	Comparative Study on Criteria for Evaluation of Internet Information	Kim (2011)
10	An Evaluation of Web-Based Research Records Archival Information Services and Recommendations for Their Improvement: NTIS vs. NKIS	Gang, Nam, & Oh (2017)
11	How Do People Evaluate a Web Sites Credibility	Kim (2007a)
12	A Study on Faculty Evaluation of Research Achievements in Humanities and Social Sciences	Chung & Choi (2011)
13	Constructing an Evaluation Model for the Professors Academic Achievement in the Humanities	Kim, Lee, & Park (2006)
14	Evaluation in the Humanities: A Humanist Perspective	Park (2014)
15	A Study on the Influence of Factors That Makes Web Sites Credible	Kim (2007b)
16	Problems on current humanities journal assessment system and the alternatives.	Song (2011)
17	A Study to Develop and Apply Evaluation Factors for Subject Guides in South Korea	Noh & Jeong (2017)
18	Internet subject guides in academic libraries The enduring landscape of online subject research guides	Jackson & Pellack (2004) Jackson & Stacy-Bates (2016)
19	Evaluation Credibility of Information on the Internet	Standler (2004)
20	Stanford-Makovsky web credibility study 2002: Investigating what makes web sites credible today	Fogg et. al. (2002)
21	Evaluation of University Professor' Research Performance	Jauch & Glueck (1975)
22	Johns Hopkins University Libraries	Johns Hopkins Libraries
23	University of Oregon Libraries	Oregon Libraries
24	University of Queensland Library	University of Queensland Library
25	Berkeley University Library	Berkeley Library
26	Georgetown University Library	Georgetown Library

Table 7 recaps references providing detailed evaluation criteria for the derived evaluation index, and the final preliminary evaluation index derived is presented in 2 dimensions, 10 major categories, 33 sub-categories, and 47 detailed criteria, respectively. The institution's own preliminary reliability index dimension is divided into 4 major categories; institutional authority, data collection and construction, data provision, and data suitability, while 14 sub-categories and 23 detailed evaluation criteria are presented. Additionally, the institution provided service and system reliability evaluation index dimensions divided into 6 major categories of information around quality, appropriateness (recency), accessibility, tangibility, form and cooperation, alongside 19 sub-categories and 24 detailed evaluation criteria. The reliability of the institutional information provided was evaluated for a total of 200 points, with 100 points for each dimension, respectively.

**Table 7.** Reference by item of reliability evaluation index

Dimension	Major Categories	Sub-Categories	Detailed Question	Reference	
Institution's own reliability evaluation	Institutional authority	Reputation	Corresponding institution's reputation	9 11 15 19 21 22 24 25	
			Authoritative institution's reference (cooperation)	9 11 22 24 25	
			Link to other institutions	9 11 20 22 25	
		Institutional information	Indication of institutional information	9 11 15 20 22 25	
			Support (sponsoring) organization	25	
			Perspective	Commercial and political institutions' influence	9 11 20 25 22 23 25
		Data collection	Domain	Use official domain	9 11 22 24 25
				Data collection criteria	Guidelines for data collection
				Authored data's qualitative criteria	2 14 21
				Whether evaluation is conducted	7 12 13 19 21 22 24
	Data collection process systematization		Systematize data collection process	22	
			Data collection (construction) system construction	Suggested by researcher	
	Indication of data sources		Indicate source	9 11 15 22 23	
			Source institution's trust	15 22 24	
	Data provision		Data provision system	Construction of data provision system	Suggested by researcher
			Level of error in data	Data error	11 19 20 24
		Number of data retained	Number of institution retained data	2 5 12 21	
		Number of data citation	Number of citation index of collected data	2 12 13 16 21 25	
			Number of citation of collected data	2 12 13 16 21	
	Data suitability	Collection range	Specify subject range	18 22	
			Proportion of humanities data	25	
		Subject of use	Specify subject of use	23 24 25 26	
		Timeliness	Timely research	23 25	
Performance evaluation		Performance evaluation system	7 8		

Dimension	Major Categories	Sub-Categories	Detailed Question	Reference
Institution provided service and system reliability evaluation	Information quality	Diversity of data	Diversity of data type	①④⑩⑭⑱
		Utility of research	Utility of data utilization	①③⑥⑦⑧⑩⑭
		Accuracy of data	Provide clear, specific data for provision	①④⑤⑨⑩
	Appropriateness (Recency)	Redundancy of data	Contents without duplication	①
		Latest information update	Provide the latest (appropriate) information	①④⑤⑨⑩⑭⑮⑰⑱⑲⑳㉑㉒㉓
		Indication of additional data	Provide additional data indication (Based on last visit)	⑨⑪㉒㉓
		Date of research	Date of research, etc.	⑨⑲
	Accessibility	Information structure	Easy to understand whole structure of information	⑩⑪
		Service name	Clear service category	㉓
		Detail feature	Convenient to use detailed information function	⑪
	Tangibility	Information search	User friendly search	①③④⑤⑩⑪⑰⑲⑳
			Recommended search	⑩
			Search speed	①③⑩
			Convenient access	①③⑩㉑
		Contact information	Provide information for contact person	①④⑤⑩⑪⑮⑰⑱⑲⑳
		Link status	Link error	⑪⑰⑲㉓
	Form	Interface	Link checker	⑰⑱
			Easy to modify and update	⑰⑱
		User statistics	Configure menu and contents	④⑤⑪⑰⑲⑳
			Visualization considering users	⑤⑪⑱⑳
Cooperation	Mutual cooperation	Provide user statistics	⑪⑰⑱	
	Evaluation application	Cooperative correction and supplementation	①⑧⑩⑪⑰	
		Add mutual evaluation	⑩⑪⑰㉓	

### 4.3 Acceptance and application of opinions through expert meeting

In this study, experts in the humanities and social sciences were interviewed, and the final evaluation index was derived.

Reviewing the opinions of the institution's own reliability evaluation indexes, it discovered where the necessary items were placed overall. Yet responses claimed that if the criteria of evaluation were ambiguous, it was necessary to adjust the allocation point. In addition, since this institution has the purpose of providing support for the research of all scholars and promoting the continuing development of scholarship through research achievements, it responded that it needed a reliability evaluation based on the opinions of the scholars including the new scholars, rather than the opinions of a limited number of existing authorities. The opinions on the institution providing service and system reliability evaluation indexes was also evaluated in order for necessary items to be in place. However, within the limitations of quantitative evaluation for the academic nature of the humanities and social sciences alone, it was suggested that reasonable criteria and alternatives for qualitative evaluation are needed.

In the case of the institutions' own preliminary reliability evaluation index, items of ambiguous criteria were deleted based on expert opinions, and those of the same concepts were integrated, and important items were separated. In addition, the reference scores were either upward or downward reflecting the opinions around levels of importance. The reputation of the institutions' own preliminary reliability evaluation index was deleted for integration with the authoritative items, and the quantitative evaluation of the number of data retained was classified according to the data type, and the scores were raised.

The institution providing service and system preliminary reliability evaluation indexes raised the score for information quality under the first classification and also lowered the aspect of tangibility. The second category was revised with the latest update, among others, and the convenience of information search and access was deleted in terms of the ambiguity of the items and duplication of user friendliness. These details are summarized in Table 8.

**Table 8.** Matters applied in expert opinions for the reliability preliminary evaluation index

Dimension	Major Categories	Sub-Categories	Detailed Question	Existing	Revision	Remark
Institution's own reliability evaluation index	Institutional authority (25)	Reputation (9)	Is the institution reputable?	3	-	Deleted (Ambiguity of reputation criteria, redundancy of reference to authority)
			Is the institution mentioned positively to authoritative institutions and people?	3	5	Integration of reputation and authority
		Institutional information (8)	Are the institution's affiliation, address, telephone number, contact person, and email clearly indicated?	5	3	Evaluation score lowered
			Are official domains used?	5	5	Insert as institutional information
			Impact and perspective (8)	Is the institution supporting the corresponding institution specified?	5	4
	Data provision (30)	Data provision system (4)	Is the institution neutral and unaffected by commercial or political institutions?	5	4	Neutrality emphasized
			Is there an effective system for providing data?	5	4	Evaluation score lowered
		Data's level of error (5)	Are there errors (typographical errors, etc.) in the data provided?	5	3	Evaluation score lowered
		Number of data retained (15)	Academic papers	7	5	Classified into importance of data retention and Evaluation score raised
			Published books		5	
Research reports, etc.		5				
Number of data citation (6)	Are citation indices provided for the collection data?	4	3	Evaluation score lowered		
	How many citations are available in the collection?	4	3	Evaluation score lowered		

Dimension	Major Categories	Sub-Categories	Detailed Question	Existing	Revision	Remark
Institution provided service and system reliability evaluation index	Information quality (25)	Diversity of data (5)	Are the types of data available varied?	5	6	Evaluation score raised
		Utility of data (8)	Is the provided data useful for policy making and academic research in humanities (social sciences)?	5	8	Data utility dimension Evaluation score raised
		Accuracy of data (5)	Is the data provided clear and specific?	5	6	Evaluation score raised
		Appropriateness (Recency) (15)	Latest information update (10)	Is the latest information (latest information with humanities relevance) updated quickly?	5	6
	Is update notation for the newest additions made?			5	4	Mid classification revised to latest data update
	Tangibility (20)	Information search (10)	Are recommended search words and recommended data functions in place?	3	2	Evaluation score lowered
			Is access to information retrieval convenient?	4	0	User friendliness and duplication deleted
	Form (15)	Consistency of format (4)	Are platforms that are easy to modify and update in use?	5	4	Evaluation score lowered
		Interface (8)	Was the menu configuration and composition of the content convenient to use?	4	5	Interface's importance Evaluation score raised

*4.4 Derivation of the final reliability evaluation index for the institution retained information resources*

The final reliability evaluation index for institutions reflecting previous research, case studies, and expert opinions consists of 2 dimensions, 10 major categories, 30 sub-categories, and 47 detailed items, and also consisted of 100 points for each dimension for a total of 200 points, respectively.

Table 9 recaps the final institutions' own reliability evaluation index, which is comprised of 4 major categories, 13 sub-categories, and 24 detailed items. It is also comprised of 25 points for institutional authority, 25 points for data collection and construction, 30 points for data provision, and 20 points for data suitability, for a total of 100 points, respectively.

**Table 9.** Institution's own reliability evaluation - final

Major Categories	Sub-Categories	Detailed Question	Criteria	Remark
Institutional authority (25)	Reputation (9)	Is the institution mentioned positively to authoritative institutions and people?	5	Public, government agencies Libraries, newspapers, Broadcasting, etc.
		Is the institution's web page linked to other trusted institutions?	4	
	Institutional information (8)	Are the institution's affiliation, address, telephone number, contact person, and email clearly indicated?	3	
		Are official domains used?	5	
	Impact and perspective (8)	Is the institution supporting the corresponding institution specified?	4	
Is the institution neutral and unaffected by commercial or political institutions?		4		

Major Categories	Sub-Categories	Detailed Question	Criteria	Remark
Data collection and construction (25)	Own collection standards guidelines (9)	Are guidelines in place for the data collection criteria?	3	Internal data needed
		Are qualitative criteria in place for authored data?	3	Internal data needed
		Is evaluation of the data collected conducted during the data collection?	3	Internal data needed
	Data collection process systematization (7)	Is the process of collecting data systematized?	4	Internal data needed
		Is there a data collection (construction) system?	3	Internal data needed
Data provision (30)	Indication of data sources (9)	Are sources for each data indicated?	5	
		Is the source of the data reliable?	4	
	Data provision system (4)	Is there an effective system for providing data?	4	
	Data's level of error (5)	Are there errors (typographical errors, etc.) in the data provided?	3	
	Number of data retained (15)	Academic journals	5	Internal data needed
		Published books	5	
		Research reports, etc.	5	
	Number of data citation (6)	Are citation indices for the collection data provided?	3	
		How many citations are available in the data collected?	3	Internal data needed
	Data suitability (20)	Scope of collection data (10)	Is the scope of the subject provided clearly specified?	5
What is the proportion of humanities (sociology) data?			5	
Subject of use (5)		Is the subject of the use of the data clearly specified?	5	
Timeliness (5)		Is it made up of data suitable for research on the situation of the times?	5	

Table 10 recaps the final reliability evaluation index for the institution provided service and system, consisting of 6 major categories, 18 sub-categories, and 23 detailed items, and is comprised of 25 points for information quality, 15 points for appropriateness (recency), 15 points for accessibility, 20 points for tangibility, 15 points for form, and 10 points for cooperation, for a total of 100 points, respectively.

**Table 10.** Institution providing service and system reliability evaluation indexes: final

Major Categories	Sub-Categories	Detailed Question	Existing	Remark
Information quality (25)	Diversity of data(5)	Are the types of data provided varied?	6	
	Utility of data (8)	Is the provided data useful for policy making and academic research in humanities (social sciences)?	8	
	Accuracy of data(5)	Is the data provided clear and specific?	6	
	Redundancy of data(5)	Is it possible that the content of the data provided is duplicated?	5	
Appropriateness (Recency) (15)	Latest information update(10)	Is the latest information (latest information with humanities relevance) updated quickly?	6	
		Is update notation for the newest additions made?	4	
	Research date (5)	Is the date of publication of the study and the actual date of the study conducted clearly marked?	5	

Major Categories	Sub-Categories	Detailed Question	Existing	Remark
Accessibility (15)	Information structure (3)	Is it easy to locate within a page and to understand the overall structure of information delivery?	3	
	Name of service (3)	Is it easy to find the information desired because the meaning of the service category name is clear?	3	
	Detailed information's function (4)	Are the details of the data organized and easy to understand?	4	
	Convenience of use (5)	Is it convenient to use the result of the search result and the research report?	5	
Tangibility (20)	Information search (10)	Is user-friendly information retrieval possible? (Is it possible for keyword search, browsing search, external search, etc.)?	5	
		Are recommended search words and recommended data functions in place?	2	
		Is the speed of data retrieval fast?	3	
	Manager's information (3)	According to the category of information provided, is the information of the person in charge is provided in a unified format and is the immediate connection possible?	3	
	Link's connection status (7)	Is there any disconnected link or link errors in the provided data?	4	
		Have you found a dead link to the data loaded through the link checker?	3	Internal data needed
Form (15)	Consistency of format (4)	Do you use platforms that are easy to modify and update?	4	Internal data needed
	Interface (8)	Was the menu configuration and composition of the content convenient to use?	5	
		Is it visualized conveniently in consideration of the user in providing the collection data?	3	
	User statistics (3)	Are statistical data provided for analyzing user information behavior?	3	
Cooperation (10)	Mutual cooperation (5)	Is it possible to correct or supplement the data through cooperation between the person in charge and the user?	5	Internal data needed
	Evaluation application (5)	Is it possible for other institutions and users to enter the evaluation or addition for each data?	5	Internal data needed

#### *4.5 Application of the final reliability evaluation index for the institution's retained information resources*

The institution's retained data reliability index developed through this study was applied to 6 related institutions such as; Korean Research Memory (KRM), Humanities Korea (HK), Korean Studies Promotion Service's Achievement Portal (KSPS), Research Information Service System (RISS) of the Korea Education & Research Information Services (KERIS), National Knowledge Information System (NKIS), and Public Data Portal (DATA), among others, to evaluate their utility. Two internal researchers and 8 external researchers visited each institution's website, then directly used and evaluated it, while the reliability of the institution retained resources was evaluated through the researchers' averages.

The reliability evaluation of this study consisted of 100 points for the institution's own reliability evaluation, 100 points for the institution provided service and system reliability evaluation. However, since there were items needed for the institutions' internal data, they were based on 64 points

for the evaluation of the institutions' own reliability, and 83 points for the evaluation of the institution provided service and system reliability.

The results of the institutions' own reliability evaluation for 6 institutions subject to evaluation are illustrated in Table 11 below. The institutions' own reliability evaluation items had a total of 64 points, out of which KRM had 62 points out of 64 points being the highest, gaining perfect scores for most items except for the evaluation items through the institutions' internal data. The remaining 5 institutions excluding KRM demonstrated a similar level of the institutions' own reliability, ranging from 56 to 58.5 points, respectively.

**Table 11.** Institution's own reliability evaluation index applied: final

Classification		Detailed Question	Criteria	Applied Institution					
				KRM	HK	KSPS	RISS	NKIS	DATA
Institutional authority (25)	Reputation (9)	s the institution mentioned positively to authoritative institutions and people?	5	5	3.5	3.5	5	5	4.5
		Is the institution's web page linked to other trusted institutions?	4	4	4	4	4	4	4
	Institutional information (8)	Are the institution's affiliation, address, telephone number, contact person, and email clearly indicated?	3	3	3	3	3	3	3
		Are official domains used?	5	5	5	5	4.5	5	5
	Impact and perspective (8)	Is the institution supporting the corresponding institution specified?	4	4	4	4	4	4	4
s the institution neutral and unaffected by commercial or political institutions?		4	4	4	4	4	4	4	
Data collection and construction (25)	Own collection standards guidelines (9)	Are guidelines in place for the data collection criteria?	3	On hold (institution's internal data are needed)					
		Are qualitative criteria in place for authored data?	3						
		Is an evaluation of the data collected conducted during the data collection?	3						
	Data collection process systematization (7)	Is the process of collecting data systematized?	4	On hold (institution's internal data are needed)					
		Is there a data collection (construction) system?	3						
	Indication of data sources (9)	Are sources for each data indicated?	5	5	5	5	5	5	5
		Is the source of the data reliable?	4	4	4	4	4	4	4
Data provision (30)	Data provision system (4)	Is there an effective system for providing data?	4	4	2.5	4	4	4	4
	Data's level of error (5)	Are there errors (typographical errors, etc.) in the data provided?	3	3	3	3	3	3	
	Number of data retained (15)	Academic journals	5	On hold (institution's internal data are needed)					
		Published books	5						
		Research reports, etc.	5						
Number of data citation (6)	Are citation indices for the collection data provided?	3	3	0	0	0	0	0	
	How many citations are available in the data collected?	3	On hold (institution's internal data are needed)						

Classification		Detailed Question	Criteria	Applied Institution					
				KRM	HK	KSPS	RISS	NKIS	DATA
Data suitability (20)	Scope of collection data (10)	Is the scope of the subject provided clearly specified?	5	5	5	5	5	5	5
		What is the proportion of humanities (sociology) data?	5	5	5	5	2	1.5	
	Subject of use (5)	Is the subject of the use of the data clearly specified?	5	3	5	4	2.5	3	5
	Timeliness (5)	Is it made up of data suitable for research on the situation of the times?	5	5	5	5	5	5	5
Total score			64	62	58	58.5	58	56	57

KRM: Korean Research Memory, HK: Humanities Korea, KSPS: Korean Studies Promotion Service's Achievement Portal  
 RISS: Research Information Service System, NKIS: National Knowledge Information System, DATA : Public Data Portal

The institution provided service and system reliability evaluation items that had a total of 83 points, and the results of the service and system reliability evaluation are recapped in Table 12 below. Out of a total of 6 institutions, the Research Information Service System (RISS) of the Korea Education & Research Information Service (KERIS) demonstrated 81 points out of 83 points, which was a significantly high reliability for the service and system, followed by the National Knowledge Information System (NKIS) with 78 points, respectively. Whereas, unlike the evaluation of the institutions' own reliability indexes, the Korean Research Memory (KRM) earned very low scores across the board in such areas as the update of recent information dimension (3.5 / 10 points), the search for information dimension (5.5 / 10 points), the convenience of use dimension (1.5 / 5 points), the interface dimension (4 / 8 points), and the statistics of use dimension (0 / 3 points), among others, for a total of 56 out of 83 points, respectively.

**Table 12.** Final reliability evaluation index applied to the institution provided service and system

Classification		Detailed Question	Criteria	Applied Institution					
				KRM	HK	KSPS	RISS	NKIS	DATA
Information quality (25)	Diversity of data (5)	Are the types of data provided varied?	6	6	3.5	6	6	6	6
	Utility of data (8)	Is the provided data useful for policy making and academic research in humanities (social sciences)?	8	8	8	8	8	8	2.5
	Accuracy of data (5)	Is the data provided clear and specific?	6	6	6	5.5	6	6	6
	Redundancy of data (5)	Is it possible that the content of the data provided is duplicated?	5	5	3	4	5	5	5
Appropriateness (Recency) (15)	Latest information update (10)	Is the latest information (latest information with humanities relevance) updated quickly?	6	3	4.5	3	6	6	6
		Is update notation for the newest additions made?	4	0	0	1	4	4	2.5
	Research date (5)	Is the date of publication of the study and the actual date of the study conducted clearly marked?	5	5	5	5	5	5	5

Classification	Detailed Question	Criteria	Applied Institution							
			KRM	HK	KSPS	RISS	NKIS	DATA		
Accessibility (15)	Information structure (3)	Is it easy to locate within a page and to understand the overall structure of information delivery?	3	2	1	3	3	3	1.5	
	Name of service (3)	Is it easy to find the information desired because the meaning of the service category name is clear?	3	3	3	3	3	3	2.5	
	Detailed information's function (4)	Are the details of the data organized and easy to understand?	4	4	3.5	4	4	4	3.5	
	Convenience of use (5)	Is it convenient to use the result of the search result and the research report?	5	2	3.5	4.5	5	5	0.5	
Tangibility (20)	Information search (10)	Is user-friendly information retrieval possible? (Is it possible for keyword search, browsing search, external search, etc.)?	5	3	2.5	4.5	5	5	5	
		Are recommended search words and recommended data functions in place?	2	0	0.5	0	2	2	0	
		Is the speed of data retrieval fast?	3	2	3	3	3	1	3	
	Manager's information (3)	According to the category of information provided, is the information of the person in charge is provided in a unified format and is the immediate connection possible?	3	0	3	2.5	3	2	1	
	Link's connection status (7)	Is there any disconnected link or link errors in the provided data?	4	4	4	4	4	3	4	
		Have you found a dead link to the data loaded through the link checker?	3	On hold (institution's internal data are needed)						
Form (15)	Consistency of format (4)	Do you use platforms that are easy to modify and update?	4	On hold (institution's internal data are needed)						
	Interface (8)	Was the menu configuration and composition of the content convenient to use?	5	2	5	5	5	4.5	5	
		Is it visualized conveniently in consideration of the user in providing the collection data?	3	1	3	2	2	2.5	3	
	User statistics (3)	Are statistical data provided for analyzing user information behavior?	3	0	0	0.5	2	3	3	
Cooperation (10)	Mutual cooperation (5)	Is it possible to correct or supplement the data through cooperation between the person in charge and the user?	5	On hold (institution's internal data are needed)						
	Evaluation application (5)	Is it possible for other institutions and users to enter the evaluation or addition for each data?	5							
Total score			83	56	62	68.5	81	78	65	

KRM: Korean Research Memory, HK: Humanities Korea, KSPS: Korean Studies Promotion Service's Achievement Portal  
 RISS: Research Information Service System, NKIS: National Knowledge Information System, DATA : Public Data Portal

As a result of evaluating the reliability of the institution retained resources through the evaluation index of this study, the Research Information Service System (RISS) of the Korea Education & Research Information Service (KERIS) demonstrated the highest reliability with 139 points, followed by the National Knowledge Information System Portal (NKIS), and the Korean Studies Promotion Service's Achievement Portal (KSPS). Whereas, the Korean Research Memory (KRM) turned out to have the lowest reliability with 118 points, alongside Humanities Korea (120 points) and Public Data Portal (122 points), respectively. In the case of KRM, it earned the highest score among the 6 institutions for the institutions' own reliability evaluation, however, earning the lowest for the institution provided service and system evaluation, respectively.

**Table 13.** Final reliability evaluation

Classification	Criteria	Applied Institution					
		KRM	HK	KSPS	RISS	NKIS	DATA
Institution's own reliability evaluation	83	56	62	68.5	81	78	65
Institution provided service and system reliability evaluation	64	62	58	58.5	58	56	57
Final reliability evaluation	147	118	120	127	139	134	122

KRM: Korean Research Memory, HK: Humanities Korea, KSPS: Korean Studies Promotion Service's Achievement Portal  
 RISS: Research Information Service System, NKIS: National Knowledge Information System, DATA : Public Data Portal

## 5. Discussion

The development of information technology has brought about tremendous growth in the development of information resources, and the institutions recognizing the importance of information resources have been established to collect, preserve and provide information resources. Yet the question of the reliability of information resources retained by each institution has continuously been raised. In this light, it has become necessary to develop an index that can help to objectively measure the reliability of the information resources retained by each institution, and accordingly in this study, we have attempted to develop an evaluation index to determine the reliability of the resources retained by the institutions retaining information resources.

To this end, we have derived an applicable evaluation index in the humanities assets dimension through previous research and case studies, and expert advice, among others. In addition, we have applied the evaluation index derived to 6 information service institutions that represent Korea including the Korean Research Memory (KRM) which carries many humanities assets.

The reliability evaluation index for the information resources presented in this study is not an evaluation of the reliability of the information resources retained by each institution, but the approach made to evaluate the integrated reliability of the information resources retained by each institution. The evaluation index presented was designed to evaluate the collective reliability of the institutions themselves, across the quantitative aspects of the data retained by the individual institutions. In addition, the authority of the individual institutions, the system for data collection, and the suitability

of the data, with the service quality of the information resources and the interface with the information provision system is included for development. For these and other reasons, even though the information resources retained by the individual institutions may be excellent in certain areas, the reliability of the overall institution retained information resources may be relatively low. This is because this study aimed to develop an evaluation index based on the need for establishing a single network and providing integrated services, along with the increase of institutions retaining humanities assets. Accordingly, through the evaluation index presented in this study, it is possible to evaluate the reliability of the information resources retained by each institution by collectively applying it to all institutions such as government agencies, private institutions and university institutions retaining humanities assets, based on which we could lay out the groundwork for the integrated network construction for humanities assets.

In this study, we have developed a reliability evaluation index for institutions' own information resources through various methodologies. Nevertheless, we have had limitations with the evaluation items and in applying the evaluation items. It was necessary for us to develop perfect evaluation items in the development and application of the evaluation index, and to apply the evaluation index to government agencies, private institutions, and university research institutes related to the humanities society. However, the following limitations have been left behind within the restricted term of research and broadness in the scope of this research, which must be complemented by subsequent studies.

In terms of evaluation items, there are ambiguities about the evaluation criteria such as reputation, authority, and quality standards in the newly developed evaluation index, and so, it should be set explicitly through additional studies. There are limitations in the aspect of application of the evaluation items.

First, this study tried to apply the evaluation items to all institutions. However, in the case of the evaluation index presented, there were many evaluation items to be evaluated through the internal data of each institution, and so the utility of the evaluation index was verified by applying to only 6 representative institutions. Second, in applying the evaluation index developed in this study to government agencies, private institutions and university research institutes in the future, the criteria of application for each institute should be applied differently with recognition of the need for differentiation, not in a uniform manner reflecting differences between the institutions. Therefore, it is necessary to establish specific criteria for the evaluation items in the evaluation index developed in this study, and in applying the evaluation items, additional research is needed to evaluate government agencies, private institutions and university research institutes via the collection method for internal data and classification of the evaluation index for each research institution. Furthermore, in setting the scope for humanities assets, in the case of this paper, case studies were performed within the scope of traditional humanities. However, in the case of humanities assets, the scope has been expanded to include culture and the arts as part of the scope of humanities assets. In addition, there is a growing trend to include even the subject of convergence research in the scope of humanities assets. Accordingly, subsequent research is needed to expand the scope of humanities assets' collection and institutional connection.

---

## 6. Conclusion

The Humanities were the most important curriculum from medieval universities in the West. However, education centering on the humanities flourished only briefly during the 19<sup>th</sup> century centered in Germany. For the past two decades, the evaluation system for the humanities has been developed, and the humanities has been forced to voluntarily discard the methodological traditions of the humanities of the past (Park, 2014). Notwithstanding, with the recently growing interest in the humanities, the importance of information services for the humanities has increased, and the number of institutions that collect and provide such information has also increased incrementally. In this light and in this study, we have attempted to evaluate the reliability of institutions retaining diverse information resources based on the humanities.

The characteristics of the reliability evaluation index developed in this study are such that it is based on the overall trust level of the institution rather than on the individual data unit in evaluating the reliability of the information resource of the institution. Each evaluation item was set to reflect the specificities of humanities assets such that the dimension of recency securing appropriateness rather than simple recency, and towards a higher significance of published books over SCI papers, and efforts were made to measure the reliability of the information resources of the institutions retaining humanities assets.

As noted earlier, the reliability presented in the reliability evaluation of this study was developed as an index for evaluating the overall reliability level of the resources retained by the institutions under the premise that it is a cooperative network between institutions retaining humanities assets information resources. Accordingly, it is possible to yield the results conversely to the reliability of the individual information resources retained by each institution. However, in building a cooperative network between institutions, since the overall reliability of the information resources retained by each institution is far more important than the information resources of the developmental unit, the evaluation index of this study carries significant meaning on its own.

## References

- Berkeley Library. [n.d.]. *Berkeley University Library Evaluating Resources*. Retrieved from <http://guides.lib.berkeley.edu/evaluating-resources#authority>
- Centra, J. A. (1977). *How universities evaluate faculty performance: A survey of department heads*. Retrieved from <https://www.ets.org/Media/Research/pdf/GREB-75-05BR.pdf>
- Chung, Y. K., & Choi, Y. K. (2011). A Study on Faculty Evaluation of Research Achievements in Humanities and Social Sciences. *Journal of Information management*, 42(3), 211-233.
- Dunsmore, C. (2002). A qualitative study of web-mounted pathfinders created by academic business libraries. *Libri*, 52(3), 137-156.
- Finkenstaedt, T. (1990). Measuring research performance in the humanities. *Scientometrics*, 19(5-6), 409-417.
- Fogg, B. J., Kameda, T., Boyd, J., Marshall, J., Sethi, R., Sockol, M., & Trowbridge, T. (2002).
-

- Stanford-Makovsky web credibility study 2002: Investigating what makes web sites credible today. *Report from the Persuasive Technology Lab*. Retrieved from <http://credibility.stanford.edu/pdf/Stanford-MakovskyWebCredStudy2002-prelim.pdf>.
- Fogg, B. J., Soohoo, C., Danielson, D. R., Marable, L., Stanford, J., & Tauber, E. R. (2003, June). How do users evaluate the credibility of Web sites?: a study with over 2,500 participants. In *Proceedings of the 2003 conference on Designing for user experiences* (pp. 1-15). ACM.
- Fogg, B. J., & Tseng, H. (1999, May). The elements of computer credibility. In *Proceedings of the SIGCHI conference on Human Factors in Computing Systems* (pp. 80-87). ACM. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.83.8354&rep=rep1&type=pdf>
- Gang, J. Y., Nam, Y. H., & Oh, H. J. (2017). An Evaluation of Web-Based Research Records Archival Information Services and Recommendations for Their Improvement: NTIS vs. NKIS. *Journal of Korean Society of Archives and Records Management*, 17(3), 139-160.
- Georgetown Library. [n.d.]. *Georgetown University Library Evaluating Internet Resources*. Retrieved from <https://www.library.georgetown.edu/tutorials/research-guides/evaluating-internet-content>
- Jackson, R., & Pellack, L. J. (2004). Internet subject guides in academic libraries: An analysis of contents, practices, and opinions. *Reference & User Services Quarterly*, 43(4), 319-327.
- Jackson, R., & Stacy-Bates, K. K. (2016). The enduring landscape of online subject research guides. *Reference & User Services Quarterly*, 55(3), 212.
- Jauch, L. R., & Glueck, W. F. (1975). Evaluation of university professors' research performance. *Management Science*, 22(1), 66-75.
- Jeong, W. C., & Rieh, H. Y. (2016). Users' Evaluation of Information Services in University Archives. *Journal of Korean Society of Archives and Records Management*, 16(1), 195-221.
- Johns Hopkins Libraries. [n.d.]. *Johns Hopkins University Libraries Evaluating Your Sources*. Retrieved from <https://guides.library.oregonstate.edu/c.php?g=286235&p=1906707>
- Kang, H. I., & Jeong, Y. I. (2002). Measuring Library Online Service Quality: An Application of e-LibQual. *Journal of the Korean Society for Information Management*, 19(3), 237-261.
- Keum, J. D., & Weon, J. H. (2012). Establishing control system for the credibility of performance information. *The Journal of Korean Policy Studies*, 12(1), 59-75.
- Kim, D. N., Lee, M. H., & Park, T. G. (2006). Constructing an Evaluation Model for the Professors Academic Achievement in the Humanities. *Journal of Educational Evaluation*, 19(3), 1-20.
- Kim, H. S., Shin, K. J., & Choi, H. Y. (2007). A Study on the Development of Evaluation Framework for Public Portal Information Services. *Proceedings of the Korea Contents Association Conference*, 5(1), 440-444.
- Kim, S. (2012). A Study on the Current State of Online Subject Guides in Academic Libraries. *Journal of the Korean Society for information Management*, 29(4), 165-189.
- Kim, Y. K. (2007a). How Do People Evaluate a Web Sites Credibility. *Journal of Korean Library and Information Science Society*, 38(3), 53-72.
- Kim, Y. K. (2007b). A Study on the Influence of Factors That Makes Web Sites Credible. *Journal of the Korean Society for Library and Information Science*, 41(4), 93-111.
- Kim, Y. K. (2011). Comparative Study on Criteria for Evaluation of Internet Information. *The Journal of Humanities*, 27, 87-109.
-

- Lee, I. Y. (2005). A Study on the Evaluation System of Research Institutes. *The Journal of Educational Administration*, 23(4), 343-364.
- Lee, L. J. (2016). *A Study on the Improvement Strategies of Moral Education Using Humanities* (Doctoral dissertation). Seoul National University, Seoul, Korea.
- Lee, Y. H. (2017). A New Evaluating System for Academic Books on Humanities and Social Sciences in Korea. *Journal of the Korea Contents Association*, 17(3), 624-632.
- Moed, H. F. (2008, December). Research assessment in social sciences and humanities. In *ECOOM Colloquium Antwerp*. Retrieved from [https://www.ecoom.be/sites/ecoom.be/files/downloads/1%20Lecture%20Moed%20Ecoom%20Antwerp%209%20Dec%202011%20SSH%20aangepast%20\(2\).pdf](https://www.ecoom.be/sites/ecoom.be/files/downloads/1%20Lecture%20Moed%20Ecoom%20Antwerp%209%20Dec%202011%20SSH%20aangepast%20(2).pdf)
- Noh, Y., & Jeong, D. (2017). A Study to Develop and Apply Evaluation Factors for Subject Guides in South Korea. *The Journal of Academic Librarianship*, 43(5), 423-433.
- Oregon Libraries. [n.d.]. *University of Oregon Libraries Guidelines for evaluating sources*. Retrieved from <http://diy.library.oregonstate.edu/guidelines-evaluating-sources>
- Park, C. K. (2014). Evaluation in the Humanities: A Humanist Perspective. *In/Outside*, 37, 84-109.
- Park, N. G. (2006). *Analysis of the evaluation status of teaching professions by university and development of assessment model of teaching achievement*. Seoul: Ministry of Education & Human Resources Development.
- Skolnik, M. (2000). Does counting publications provide any useful information about academic performance?. *Teacher Education Quarterly*, 27(2), 15-25.
- Song, H. H. (2011). Problems on current humanities journal assessment system and the alternatives. *Studies of Korean & Chinese Humanities*, 34, 457-481.
- Standler, B. R. (2004). Evaluation Credibility of Information on the Internet. Retrieved from <http://www.rbs0.com/credible.pdf>
- University of Queensland Library. [n.d.]. *UQ Library Evaluate Information You Find*. Retrieved from <https://web.library.uq.edu.au/research-tools-techniques/search-techniques/evaluate-information-you-find>
- Woo, B. K., Jeon, I. D., & Kim, S. S. (2006). The Effects of the Academic Research Evaluation System and the Research Achievements in Developed Countries. *ICASE Magazine*, 12(4), 21-32.
- Yoon, S. W. (1996). *Reliability Analysis*. Seoul: Jayu academy.

#### [ About the authors ]

**Daekeun Jeong** has an M.A. and a PhD in Library & Information Science from Chonnam National University, Gwangju. He has published 2 book, and 30 articles. He is the director of the Institute of Economic and Cultural in THEHAM. and he teaches courses in Information Policy, DataBase in Theory, Information Systems Analysis, School Library Management in the Department of Library& Information Science, Chonnam National University. Before that, he taught courses in How to Use Library Information Materials, Indexing and Abstracting in Theory in the Department of Library

---

& Information Science, Chonbuk National University. He worked at Chonnam National University Library and Konkuk University Institute of Knowledge Content Development & Technology.

**Younghee Noh** has an MA and PhD In Library and Information Science from Yonsei University, Seoul. She has published more than 50 books, including 3 books awarded as Outstanding Academic Books by Ministry of Culture, Sports and Tourism (Government) and more than 120 papers, including one selected as a Featured Article by the Informed Librarian Online in February 2012. She was listed in the Marquis Who's Who in the World in 2012-2016 and Who's Who in Science and Engineering in 2016-2017. She received research excellence awards from both Konkuk University (2009) and Konkuk University Alumni (2013) as well as recognition by "the award for Teaching Excellence" from Konkuk University in 2014. She received research excellence awards from 'Korean Library and Information Science Society' in 2014. One of the books she published in 2014, was selected as 'Outstanding Academic Books' by Ministry of Culture, Sports and Tourism in 2015. She received the Awards for Professional Excellence as Asia Library Leaders from Satija Research Foundation in Library and Information Science (India) in 2014. She has been a Chief Editor of World Research Journal of Library and Information Science in Mar 2013~ Feb 2016. Since 2004, she has been a Professor in the Department of Library and Information Science at Konkuk University, where she teaches courses in Metadata, Digital Libraries, Processing of Internet Information Resources, and Digital Contents.

---