

# REPORTING THE VALIDITY OF EVIDENCE-BASED LIBRARIANSHIP INSTRUMENT IN ELECTRONIC RESOURCES ACQUISITION DECISION

<sup>1,2</sup>A'dillah Binti Mustafa, <sup>1</sup>Noorhidawati Binti Abdullah (Dr)

<sup>1</sup>Department of Library and Information Science,  
Faculty of Computer Science & Information Technology,  
University of Malaya, 50603 Kuala Lumpur, Malaysia.

<sup>2</sup>Department of Library and Information Science  
Faculty of Information Management  
Universiti Teknologi MARA, Puncak Perdana Campus  
Selangor, Malaysia

## ABSTRACT

*In determining the acquisition decision of the electronic resources, librarians currently looking for a holistic approach in their decision making. Librarians believed that Evidence-based Librarianship (EBL) practice is a comprehensive and practical approach that utilizing the best available evidence in library acquisition making. This paper aims to reports the validity of the instrument developed through adopt and adapt methods. Basically, the instrument represents five dimensions of the framework. The instrument was designed to tab the types of evidence used by librarians in their decision. This instrument only focused on the acquisition of electronic resources. The validity analysis is reported using two methods: Content Validity Index (CVI) and Scale level Content Validity Index (S-CVI). The validity analysis also calculated the Scale level Content Validity Index Average (S-CVI/Ave) which score of 0.94 consider as achieved high-level agreement and acceptable. The validation procedures are also described in the report. Overall, this instrument has achieved a good content validity.*

**KEYWORDS:** *Evidence-Based Librarianship, Instrument Validity, Library Acquisition, Library Innovation, University of Malaya*

## **INTRODUCTION**

Evidence-Based Library and Information Practice (EBLIP) or Evidence-Based Librarianship (EBL) is an adoption of Evidence-Based Medicine (EBM) and Evidence Based Practice (EBP). EBM has been used in developing Evidence-Based Practice (EBP) with some adoption and adaptation of new elements and context. While EBLIP and EBL are adopted by librarians from the medical fields to apply in their daily librarianship practice. The EBL models and the process outlined the elements of evidence, in the decision-making process as research evidence, local evidence and professional knowledge. EBL is a technique applied by information professionals in the collection, interpreting and integrating of valid, important and applicable user reported, librarian-observed, and research driven evidence (Booth, 2011). EBL was widely accepted by the information professional in various fields of study, this was agreed by Booth (2003) when she described EBLIP is the best approach available with moderated by user need and preference that capable to improve the quality of professional judgement. Additionally, Eldredge (2016) concluded that the EBLIP process enables library and information professionals to enhance their professionalism with an emphasis on the transparent decision making roles. EBL has gained trust from librarians in many fields, not only medical librarian but have captured the attention of law librarians (Lerdal, 2006).

## **LITERATURE REVIEW**

### **DEFINITION OF EBL**

The EBL models and processes outlined the elements of evidence in the decision-making process as research evidence, local evidence and professional knowledge. Researchers faced some confusion in defining the evidence element, Koufogiannakis (2015) in his study of Academic librarians' conception and use of evidence source in practice categorized evidence into hard evidence and soft evidence. Hard evidence is more scientific in nature which derived from published literature, statistics, local research and evaluation, other non-scholarly publication and facts. While soft evidence is input from colleagues, tacit knowledge, feedback from users and anecdotal evidence. Glasby, Walshe & Harvey (2007) divided evidence into two different categories which are theoretical via empirical research derived from ideas, concepts and models; and Experiential derived from experience with an intervention. In contrast Booth (2000) divided evidence into three which are: Research-derived evidence, Librarians observed evidence and user reported evidence. Similarly, Todd (2006) structured the evidence into

three which are; Empirical evidence; Professional Standards and Guidelines and Campus and district data. The argument on the division of evidence by various researchers basically emerged from the nature and environment setting of the study. Different research context views the evidence differently (Bayley, 2001).

### **EBL implementation in Library and Information Science domains**

EBL is applicable in library decision-making process in six domains of librarianship. The domains were introduced by, Koufogiannakis & Crumley in 2002 includes, i) Reference/ Enquiries - determinants of providing service and access to information that meeting the user needs and requirements. ii) Education - determinants of ways in findings the most suitable teaching methods and strategies in user education. iii) Collection - determinants in building a high-quality library collection and collection development policy of print and electronic resources that useful, and cost effective. iv) Management- determinants in managing tangible and intangible resources within libraries. v) Information Searching and Retrieval - determinants in creating appropriate systems and retrieval methods for effective access and retrieval; and vi) Marketing/Promotion - determinants in two aspects of library promotions such as promoting the professions and promoting the services for both users and non-users. Lerdal (2006) added the importance of librarians to practice EBL as it will facilitate to integrate research findings and experiences in solving their strategic and operational problems. The application of EBL has helped in renewing the professional image and practice, creating credibility, adding the values of respect and accountability in a user-driven decision.

### **EBL in Collection Management / Acquisition**

Research in this domain focusing on print, online and hybrid collections management. Gessesse in 2000 defines collection management processes involved planning, goal setting, decision making, budgeting, acquiring materials and evaluating them. EBL has served in the acquisition process in libraries and information agencies since 1999 when it was first cited in academic journals (Huggett, 2013). Additionally, Eldredge (2015) added that EBL supports the user evidence based decision-making process in the acquisition of library resources. According to Booth & Brice (2000) published and unpublished literature would be the main source of evidence in acquiring electronic and conventional resources in the library.

## RESEARCH AIMS

This paper aims to report the face and content validity of the instrument developed to measure the librarians' adoption and implementation of EBL. The instrument measures five constructs in the overall research framework. Content validity is a critical early stage in construct development, thus it is crucial to this study to report the content validity.

## INSTRUMENT

The instrument is developed based on adapt and adopt techniques and new item development. Items of the instrument are adopted and adapted from models and theory. Innovation Diffusion Theory (IDT), Evidence Based Librarianship (EBL model), Technology-Organization-Environment (TOE model) and Concern-Based Adoption Model (CBAM model). As for the new develop items, it was extracted from EBL and librarianship literature. The pilot version of the instrument is divided into 6 parts, namely A: Technological and Organizational Characteristics, B: Concern of EBL, C: User Needs and Preferences, D: EBL Adoption, E: EBL Implementation and F: Demographic Information. All items in the instrument using 7 points Likert –Scale measurement methods. The demographic information consists of 7 items on the respondent's Gender, Number of Years' Service, Academic Qualification, Job responsibility, Types of Library, Size of Library, Source of Funding and one open-ended question to ask the respondent opinion on the EBL implementation. The instrument is complemented with a consent letter and a cover letter that described the background of the study and the researcher information.

## VALIDATION PROCEDURE

This study undertakes two validity procedures: Face validity testing and Content validity testing. Rahman et al. (2016) denote that validity is the extent which specific items on a tool accurately assess the concept being measured in the research. The instrument face and content validity were concurrently assessed by a panel of expert. The validation procedure took approximately 1 month to complete. The content validity test for the I-CVI and S-CVI are calculated based on the following formula:

*I-CVI are calculated as by dividing the number of experts that rated 3 (Relevant) and 4 (Very Relevant) on the relevancy scale by the total number of the number of experts.*

*S-CVI are calculated as I-CVI/Ave, which calculate the average of all I-CVI.*

$$S-CVI = I-CVI/Ave$$

## FACE VALIDITY

The instrument is sent to an identified panel of expert in the field of librarianship and EBL for the validity assessment. The expert eligibility is set according to their fields of expertise, experience in the field of library and information science, total numbers of working experience, professional certification and academic certification. Below table describes the expert panels.

**Table 1: Expert Panel**

<i>Panel</i>	<i>Fields of Expert</i>
Senior Medical Librarian	EBL and Librarianship
Deputy Chief Librarian	Librarianship (Acquisition)
Senior Management	Librarianship
Academician	Librarianship and Methodology
Academician	Librarianship and Methodology

An invitation letter is sent to the panels to seek their agreement to participate in the validation process. The instrument was sent upon receiving their agreement and consent. They are required to provide comments and suggestions on the following face validity criteria as suggested by Oluwatayo (2012) namely: i) Appropriateness of grammar, ii) The clarity and unambiguity of items, iii) The correct spelling of words, iv) The correct structuring of sentences, v) Appropriateness of font size, vi) Structure and format, vii) Appropriateness of difficulty level for respondents, and viii) Adequacy of instruction on the instrument.

## CONTENT VALIDITY

In the content validity assessment, panels are required to rate the item according to the scoring guide based on the relevancy and clarity if the items. The rating of the score are from 4 (Very relevant) to 1 (Not relevant) and 4 (Very clear) to 1 (Not clear). Below table represents the items and construct for content validation.

**Table 2: Total items**

<i>Name of Construct</i>	<i>Total Items</i>	<i>Number of items</i>
Relative Advantage	8	1-8
Compatibility	3	9-11
Complexity	4	12-15
Organizational Readiness	3	16-18
Top Management Support	4	19-22

Training and Education	3	23-25
Concern	34	26-60
Level of Use	8	61-68
User Need and Preferences	5	69-73
Adoption	4	74-77
Research Evidence	6	78-83
Local Evidence	5	84-88
Professional Knowledge	5	89-94
Demographic	8	95-102
Total	102	

## FINDINGS AND DISCUSSION

This section will further discuss the analysis outcomes of the validation procedures. The face validity assessment analysis is represented in Table 3, which described the 8 elements of the assessment.

**Table 3: Analysis of face validity**

<i>Criteria</i>	<i>P1</i>	<i>P2</i>	<i>P3</i>	<i>P4</i>	<i>P5</i>	<i>Interpretation</i>
1. Appropriateness of grammar	Yes	No	No	No	Yes	Need for revision
2. The clarity and unambiguity of items	Yes	Yes	Yes	Yes	Yes	Appropriate
3. The correct spelling of words	Yes	Yes	Yes	Yes	Yes	Appropriate
4. The correct structuring of sentences	Yes	Yes	No	Yes	Yes	Need for revision
5. Appropriateness of font size	Yes	Yes	Yes	Yes	Yes	Appropriate
6. Structure and format	Yes	No	Yes	No	No	Need for revision
7. Appropriateness of difficulty level for respondents	Yes	Yes	Yes	Yes	Yes	Appropriate
8. Adequacy of instruction on the instrument	Yes	No	Yes	Yes	No	Need for revision

Based on the comments there are four (4) elements of the instrument need to be reviewed and improved. The appropriateness of grammar received three disagreements (with "No" remark), Correct structure of sentence with one disagreement, Structure and

format with three disagreements and Adequacy of instruction on the instrument with two disagreements. The instrument then undergone a revision exercise, accordingly to the recommendations.

The content validity assessment is analyzed using two methods: I-CVI, and S-CVI.

**Table 4: Calculation of I-CVI of items of Top management support dimension based on relevancy**

<i>Item</i>	<i>Relevant (Rating 3 or 4)</i>	<i>Not relevant (Rating 1 or 2)</i>	<i>I-CVIs'</i>	<i>Interpretation</i>
1	2	3	0.40	Eliminated
2	4	1	0.80	Need for revision
3	4	0	1	Appropriate
4	4	0	1	Appropriate

**Table 5: Calculation of I-CVI of items of Top management support dimension based on clarity**

<i>Item</i>	<i>Clarity (Rating 3 or 4)</i>	<i>Unclear (Rating 1 or 2)</i>	<i>I-CVIs'</i>	<i>Interpretation</i>
1	3	2	0.6	Need for refinement
2	3	2	0.6	Need for refinement
3	4	0	1	Appropriate
4	4	0	1	Appropriate

The calculation of I-CVI (Content Validity Index) according to Larsson et al. (2015) and Polit, Beck & Owen (2007) the I-CVI was calculated for both “relevant” and “clarity”. Schilling, Dixon and Knafi, et al (2007) define I-CVI as the proportion of expert that provided a rating of 3 (very relevant) or 4 (extremely relevant) on the relevance scale and rating 3 (fairly clear) or 4 (very clear) on the clarify scale. The I-CVI cutoff as suggested by Lynn (1986) and Polit, Beck & Owen (2007) is a below than 0.78. As for this assessment, a conservative value of  $\geq 0.80$  for both relevant and clarify are used as suggested by Paul, et al (2016). Items rated below 0.80 are eliminated. Based on the I-CVI, 15 are remarked as need some revision, 9 items rated relevant, but need minor revision, 8 Items are rated not relevant and not clear and the rest 70 items rated very relevant and very clear. The analysis of the overall items originates 3 items are rated below 0.80 for relevancy and 9 items are rated below 0.80 for clarity. A total of 10 items

are eliminated based on the relevancy and clarity rates, 8 items are reworded or revised for clarity.

Below table described the analysis of the S-CVI for inter-ratter agreement and calculation of S-CVI /Ave.

**Table 6: Scale-level content validity index (S-CVI)**

<i>Item</i>	<i>Expert in Agreement</i>	<i>Item CVI</i>	<i>Item</i>	<i>Expert in Agreement</i>	<i>Item CVI</i>	<i>Item</i>	<i>Expert in Agreement</i>	<i>Item CVI</i>
1.	5	1	36	4	.80	71	5	1
2.	5	1	37	4	.80	72	5	1
3.	4	.80	38	5	1	73	5	1
4.	5	1	39	4	.80	74	5	1
5.	5	1	40	5	1	75	5	1
6.	5	1	41	4	.80	76	5	1
7.	4	.80	42	5	1	78	5	1
8.	5	1	43	4	.80	78	5	1
9.	5	1	44	5	1	79	5	1
10.	5	1	45	5	1	80	5	1
11.	4	.80	46	5	1	81	5	1
12.	5	1	47	5	1	82	5	1
13.	5	1	48	5	1	83	5	1
14.	5	1	49	4	.80	84	5	1
15.	5	1	50	4	.80	85	5	1
16.	4	.80	51	5	1	86	5	1
17.	5	1	52	5	1	87	5	1
18.	4	.80	53	5	1	88	5	1
19.	2	.40	54	4	.80	89	5	1
20.	4	.80	55	5	1	90	5	1
21.	5	1	56	5	1	91	5	1
22.	5	1	57	4	.80	92	5	1
23.	5	1	58	4	.80	93	5	1
24.	5	1	59	4	.80	94	5	1
25.	5	1	60	4	.80	95	5	1
26.	4	.80	61	5	1	96	5	1
27.	5	1	62	5	1	97	5	1
28.	5	1	63	5	1	98	5	1
29.	2	.40	64	5	1	99	5	1
30.	5	1	65	5	1	100	5	1
31.	5	1	66	5	1	101	5	1



32.	4	.80	67	5	1	102	5	1
33.	4	.80	68	5	1			
34.	4	.80	69	5	1			
35.	4	.80	70	5	1			

S-CVI = .94

The S-CVI (Scale-level Content Index) of this study are calculated based on Polit, Beck & Owen (2007) and Davis (1992). Where they suggested the value of S-CVI should be greater than 0.8 or 80% or better agreement among reviewers. The S-CVI for this study instrument is .94 and considered achieve “high-level agreement” which is acceptable and consistence.

### CONCLUSION

EBL practice is seen as a comprehensive and reliable in decision making, thus a valid instrument is vital in assessing the practice among librarians. This instrument was developed with a comprehensive reading in the literature of librarianship, EBL, Evidence-based practice (EBP), theories and models. This validity report is important to the development of EBL practice, especially in Malaysia, where the implementation is still at the initial stage. This report only covers two validity assessment of the instrument and the outcomes is considered having a good content validity for both the I-CVI and S-CVI. Therefore, the instrument is ready for the second stage of reliability assessment.

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