TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

Discovery Tools for Open Access Repositories: A Literature Mapping

Laura Icela González Pérez
Tecnológico de Monterrey
Mexico
laugonzalez@itesm.mx

Dra. María Soledad Ramírez Montoya
Tecnológico de Monterrey
Mexico
solramirez@itesm.mx

Dr. Francisco J. García Peñalvo
Universidad de Salamanca
Spain
fgarcia@usal.es

Stages of an Systematic Literature Review (SLR)

(Kitchenham, B.A. 2004)

TEEM'16
TECHNOLOGICAL ECOSYSTEMS FOR ENHANCING MULTICULTURALITY

1. Planning

- 1.1 Identifying the need for a systematic literature review
- 1.2 Developing the review protocols

2. Leading

- 2.1. Identifying the research
- 2.2. Selecting the primary studies
- 2.3. Evaluating the quality of the select studies
- 2.4. Removing the design data
- 2.5. Summarizing the data

3. Reporting the findings

- Reported via an article and are typically presented in a magazine, at a conference, in a technical report, or within a doctoral thesis.

1. Planning stage

TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

1.1. Identifying the need for a systematic review

It´s necessary to locate studies that contribute orientation research that may be used to supplement the most significant criteria for **a discovery service**. This effort is in line with **open movement paradigms** that have adopted a premise of sharing information and innovations not only with those communities that experience difficulties for access to knowledge, but also with academic, governmental, and institutional bodies who have the will to use, produce, and disseminate Open Educational Resources via the Internet according to freedom of use principles

1. Planning stage

TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

1.2 Developing the review protocols

- Define the inclusion and exclusion criteria that will be used to collected studies
- Locate relevant studies using approved databases (WoS, SCOPUS, DOAJ, Google Scholar, ProQuest) and other available resources (for example, reports found in gray literature).
- Utilize qualifiers, descriptors, and keywords; these terms may be combined using appropriate Boolean operators (OR) (AND) (NOT)
- Examining the titles and abstracts of the retrieved resources.
- Manage the results obtained from the various databases; it is recommended that researchers use a reference manager such as EndNote, Mendeley,

1. Planning stage

TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

Establishing the research questions

The objective of this study's systematic review is to orientate the state of the art in an effort to respond to the following research questions:

1) What are the processes involved in the implementation of Discovery Tools (DT) within the Online Public Access Catalogs (OPAC) and Open Access Repositories (OAR) of the libraries of universities and global research institutions?

2) How many studies have presented results related to the methodologies used during efforts to evaluate the efficiency of DT functionalities?

3) What are the criteria used to measure the degree of satisfaction with regard to awaited expectations?

1. Planning stage

TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

1.2 Developing the review protocols

- Define the inclusion and exclusion criteria that will be used to collected studies
- Locate relevant studies using approved databases (WoS, SCOPUS, DOAJ, Google Scholar, ProQuest) and other available resources (for example, reports found in gray literature).
- Utilize qualifiers, descriptors, and keywords; these terms may be combined using appropriate Boolean operators (OR) (AND) (NOT)
- Examining the titles and abstracts of the retrieved resources.
- Manage the results obtained from the various databases; it is recommended that researchers use a reference manager such as EndNote, Mendeley,

2. Leading

TEEM'16
TECHNOLOGICAL ECOSYSTEMS FOR ENHANCING MULTICULTURALITY

2.1 Identifying the research strategy

The objective of a systematic review is to locate as many primary studies as possible that are related to the research question using an impartial research strategy

The Google Scholar, SCOPUS, and PROQUEST databases are often used to locate relevant resources

Keywords of the main concepts

Concepts	Keywords
Discovery Tool	DT
Repositories AND EVALUATION	OAR AND EV
LIBRARIES AND EVALUATION	LB AND EV

2. Leading

TEEM'16
TECHNOLOGICAL ECOSYSTEMS FOR ENHANCING MULTICULTURALITY

2.2. Selecting the primary studies

Concepts	Keywords	Google Scholar	SCOPUS	PROQUEST
Discovery Tool	DT	11635	12	4235
Repositories AND EVALUATION	OAR AND EV	16257	11	8402
LIBRARIES AND EVALUATION	LB AND EV	10105	70	7391

2. Leading

TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

2.3. Evaluating the quality of the select studies

Inclusion/exclusion criteria:

1. The study was conducted after 2010.
2. Peer review journal
3. A sufficient number of citations were referenced.

Criteria for keywords linked to the "AND" operator:

a) The study's abstract offers a detailed description of the context (in this case, libraries and OAR).

b) The study's abstract provides guidelines regarding how the evaluation may be applied.

c) The study's abstract presents clear results that were obtained following an application of the context.

2. Leading

TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

2.4. Removing the design data

To provide a set of possible answers for each previously defined research question.

An analysis of the study area's keywords and a search of databases using the "AND" operator will allow researchers to quantify the related studies and uncover answers to the research questions.

Results should be exported to End Note to facilitate the accurate selection and evaluation of data and to develop statistics according to the inclusion/exclusion criteria.

2. Leading

TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

2.5. Summarizing the data

	Google Scholar	SCOPUS	PROQUEST	TOTAL
DT + AND OAR AND EV + LB AND EV	26	21	42	89

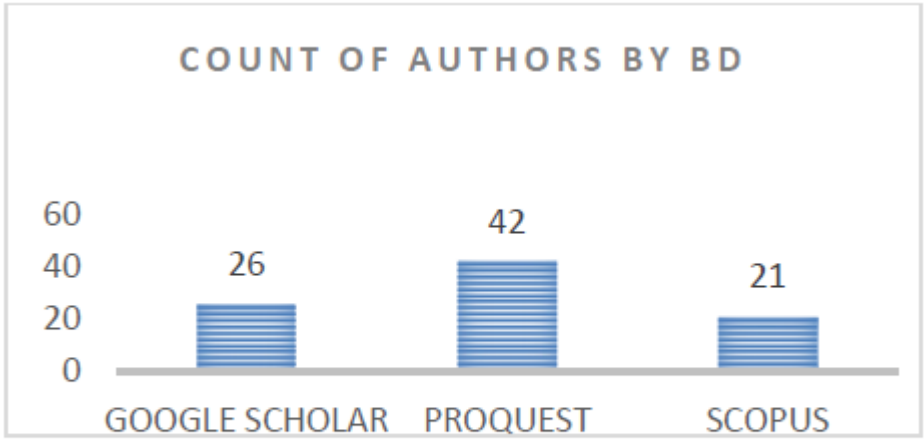

Figure 1. Average articles by each DB according to the extraction strategy

2. Leading

TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

2.5. Summarizing the data

Figure 2. World Map of countries with the hig
DT´s studies in libraries and OA

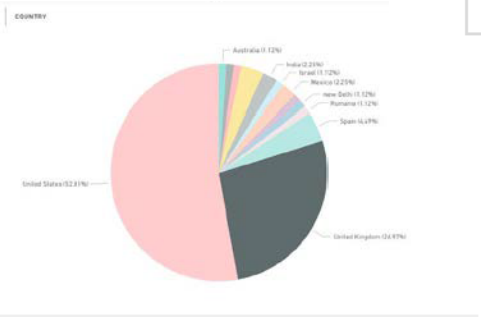

Figure 3. Average of country studies

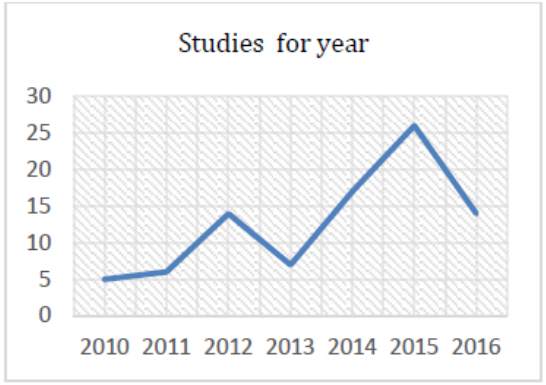

Figure 5. Graph of studies per year

3. Reporting the findings

TEEM'16
TECHNOLOGICAL ECOSYSTEMS FOR ENHANCING MULTICULTURALITY

Possible answers to the research questions must be explained in greater detail as they relate to the similar data extraction criteria of the selected papers.

1. Studies about the context
b. DT in LB
a. DT in OAR

LB	OAR	Total
25	7	32 de 89
28.08%	7.86%	35.95% de 100%

3. Reporting the findings

TEEM'16
TECHNOLOGICAL ECOSYSTEMS FOR ENHANCING MULTICULTURALITY

2. Studies about the kind of evaluation methods used to measure the efficiency of products

a. Kind of evaluation methods used to measure the efficiency for libraries

Exploratory Study	1	1.12%
Methods and Technics	4	4.49%
Usability	7	7.86%
Comparative Criteria	13	14.60%

b. Kind of evaluation methods used to measure the efficiency for OAR

Methods and Technics	3	3.31%
Usability	3	3.31%
Heuristic Evaluation	1	1.12%

3. Reporting the findings

TEEM'16
TECHNOLOGICAL ECOSYSTEMS FOR ENHANCING MULTICULTURALITY

3. Studies about the types of criteria used to measure Discovery Tools characteristics.

c. Kind of evaluation methods used to measure the efficiency for OAR

How can we learn to students are looking in Discovery Tool?	11	12.35%
Knowledge Management Framework	2	2.24%
Usability Heuristics methodology	9	10.11%
Ranking systems to predict usability	1	1.12%
Total	23	25.84%

Conclusion

TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

1) The most important activity that is conducted during the planning stage is the formulation of research questions.
2) Identify keywords and search terms that suit the research question(s).
3) Conduct traditional research to procure articles in order to identify the terms that are most appropriate for an SLR search; this determination should be validated by at least two researchers who are experts in the field.
4) Establish electronic databases to be used during the research study, including filters that can be used to specify the year, par evaluation, etc.
5) Conduct a search using database keywords and export the files in an Excel-friendly format with such specific fields as "Abstract" and "Title."
6) Read each of the titles and abstracts to determine whether they apply to the research context.

- Manage the results obtained from the various databases; it is recommended that researchers use a reference manager such as EndNote, Mendeley,

TEEM'16
TECHNOLOGICAL ECOSYSTEMS
FOR ENHANCING MULTICULTURALITY

Thanks

Laura Icela González Pérez
Tecnológico de Monterrey - Mexico
laugonzalez@itesm.mx

Dra. María Soledad Ramírez Montoya
Tecnológico de Monterrey - Mexico
solramirez@itesm.mx

Dr. Francisco J. García Peñalvo
Universidad de Salamanca – Spain
fgarcia@usal.es