



RESEARCH METHODS: LITERATURE REVIEW & SEARCH TECHNIQUES SESSION

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OUTLINE

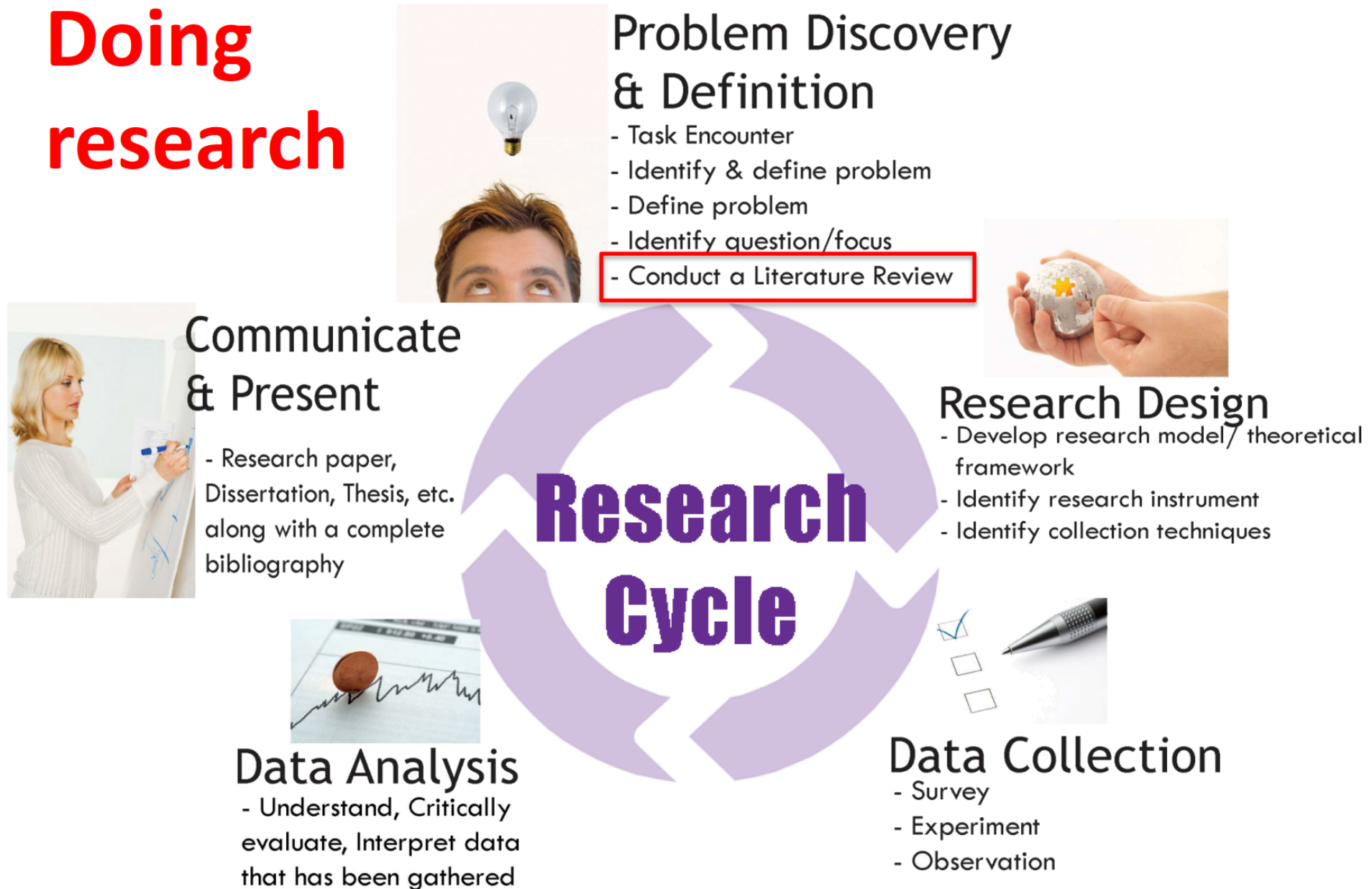
- Purpose
- Literature review process
- Writing your literature review
- Citing your sources

Research as Inquiry

Approach research as open-ended exploration and engagement with information. Tap into your intellectual curiosity, ask questions, and be flexible – ambiguity can help the research process!



Doing research



A LITERATURE REVIEW

Research is not done in a vacuum or in isolation.

It has to be positioned into the existing scholarly work.

The researcher needs to know what has already been covered in his/her field of research, like:

- what variables were analysed?
- what were the relationships amongst the variables?
- what are the existing definitions, theories and findings?

PURPOSE

Purpose of literature review

- to explore the works of others
- to look at existing relevant works in your research area
- to identify important variables from other studies pertinent to your research
- to identify gaps, misconceptions, contradictions in the issues relevant to your research
- to assist in developing your research design

PURPOSE

Literature review is an essential entity in research and is a part of:

- Dissertations
- Reports
- Proposals
- Papers

RESEARCH MINDSET



LITERATURE REVIEW PROCESS

Four major steps:

1. Problem definition

- identify a research problem or idea
- formulate research questions
- identify relevant **KEYWORDS**

LITERATURE REVIEW PROCESS (CONT.)

2. Search strategies

- identify your information needs
 - develop information seeking strategies
 - identify relevant information sources
 - use **KEYWORDS** to conduct searches
 - retrieve relevant articles, books, etc.

LITERATURE REVIEW PROCESS (CONT.)


3. Analysis

- review and summarise articles
- take detailed notes
- focus on identifying and comparing issues, variables, theories, methods and gaps
- extract key information and tabulate key items in a matrix or summarised fashion

LITERATURE REVIEW PROCESS (CONT.)

4. Writing

- include pertinent variables, main issues and theories
- analyse how your study relates to the available literature
- highlight gaps in research works
- compare and contrast studies and findings
- create a list of references
 - a **BIBLIOGRAPHY**



Before embarking on your literature review properly...
...review these four key items:

INFORMATION SOURCES

1. Books (including book chapters)
2. Journal articles (peer reviewed typically) Conference proceedings
3. Dissertations & theses
4. Reports – technical, market, etc
5. Papers – discussion, working, white, etc
6. Government documents
7. Data – statistics, financial, raw, etc
8. Standards – technical, accounting, etc
9. Patents
10. News articles

What are the information sources in your subject & research area?

INFORMATION TYPES

Grey Literature

Information not available through the usual publishing channels

Examples:

- *Theses*
- *Working papers*
- *Institutional repositories*
- *Government reports*

Primary Literature

First-hand accounts of events & original research works (new discoveries / contributions)

Examples:

- *Interviews, speeches*
- *Conference papers*
- *Journal articles*
- *Patents*

Secondary Literature

Interpretations, observations, evaluations & opinions about the primary sources, analytical and critical writings

Examples:

- *Textbooks*
- *Reviews*
- *Encyclopedias*

Tertiary Literature

Compilations & descriptions of primary & secondary literature by titles, authors, categories, and other classifications

Examples:

- *Bibliographies*
- *Directories*
- *Databases*

RESEARCH TOOLS

Subject databases – Business Source Complete, IEEE Xplore,

- Emerald Insight, Knovel, PsycARTICLES, etc

Citation databases – Web of Science, Scopus, etc

- Multidisciplinary databases – ScienceDirect, Academic Search Complete, etc

Institutional repositories

Government or institutional websites

Google Scholar

Google Dataset Search (beta)

SEARCH TECHNIQUES

Block building (narrowing)

Citation pearl growing (expanding)

Citation searching (broadening)

[All techniques involve the use of keywords, subject-terms, key concepts]

Searching as Strategic Exploration

Realize that information sources vary in content, format, and relevance to your needs, depending on the nature of your search and the scope of your research.

Be flexible and understand that your first attempts at searching are just the starting point. Keep asking questions!



What questions are you asking to direct your information search?

Searching for information is often nonlinear and iterative, requiring the evaluation of a range of information sources and the mental flexibility to pursue alternate avenues as new understanding develops.

(ACRL Framework for Information Literacy for Higher Education, 2015)

**Who might produce this information?
(e.g. scholars, organizations, governments)**

What is the scope of your research?

What type(s) of information do you need?

KEYWORDS, OPERATORS & FILTERS

Literature Search: a librarian's handout to introduce *tools, terms and techniques*



BRAINSTORM keywords

These are the main ideas of your research question/topic sentence.



EXPAND your keywords

Look at the subject headings of the materials you find and use those terms as applicable.

Or look up your keywords in a subject-specific database thesaurus to find predefined terms (called “controlled vocabulary”).



USE Boolean operators

Insert AND, OR, and NOT into your search to broaden or narrow it.

For example: PTSD OR Post Traumatic Stress Disorder AND soldiers NOT Navy.



REFINE your search results

Filters in the database allow you to narrow a search by year, content type, etc.

*At the library:
Consult a liaison librarian
or subject specialist.*



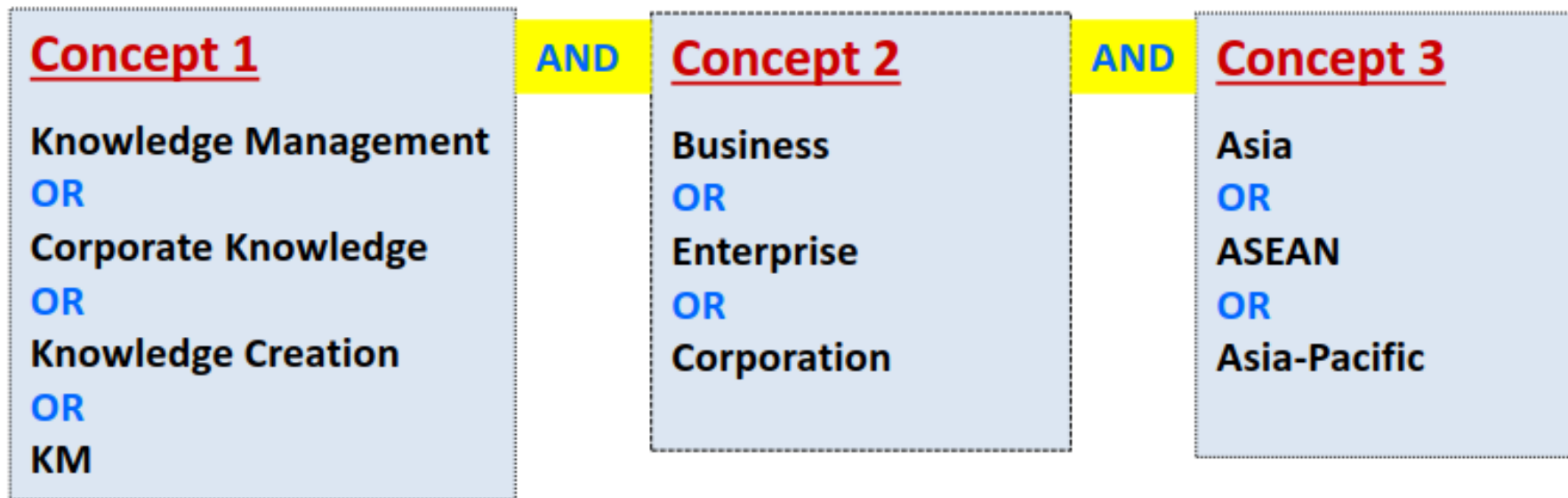
BLOCK BUILDING

- Each **block** represents a **concept**
- Cluster related subject-terms/variables/keywords for each concept block
- Each concept block is searched separately
- Blocks are combined to get final results

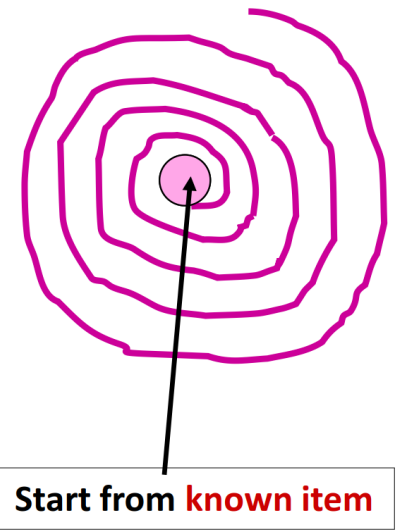
BLOCK BUILDING (CONT.)

A simple example:

- Concept 1 **AND** Concept 2 **AND** Concept 3



CITATION PEARL GROWING (LATERAL/LINKED SEARCH)



What is Citation Pearl Growing search?

- Another avenue for researchers to search for information by using a relevant and/or authoritative source

When to use it?

- When you've managed to only collect a few good sources (i.e. books, journal articles, websites, authors) from your preliminary searches or recommended references

How to use it?

- Start from a known source (pearl)
- Descriptors or subject terms are examined in documents to find more terms (usually linked)
- Check its cited references or bibliography

CITATION SEARCHING

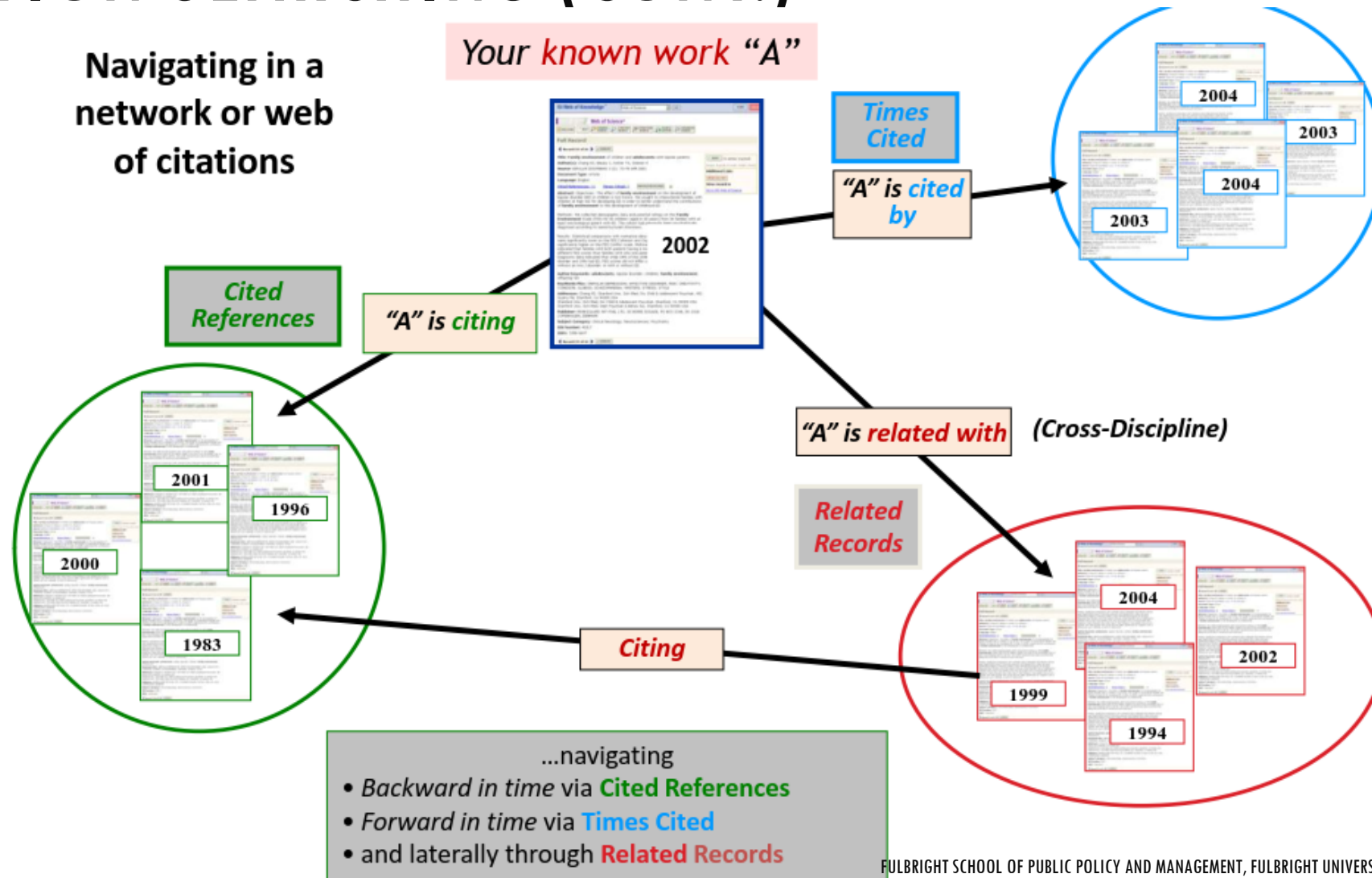
1. Citation searching is a specialized type of research in which the researcher searches for articles, books, or other materials that have cited or referenced a particular work.

2. It allows you to search forward or backward in the published literature, starting from your known reference, to locate new articles which cite your known reference in their bibliographies (the lists of references usually found at the end of chapters or journal articles).

3. Citation searching can be useful for these purposes:

- To determine the impact of a work on its field by measuring how often it has been cited by other researchers
- To trace the development of a theory or idea as it is cited by subsequent researchers - were they accepted, rejected or developed further?
- To primarily cite other works in a literature review for background information in the subject matter, methodology and proposed approach.

CITATION SEARCHING (CONT.)



CONTENT ANALYSIS

Critically evaluate the materials retrieved for quality and relevance

Assess its **value** – is this content of good **quality**?

- Evaluation criteria: accuracy, authority, objectivity, currency, coverage

Assess its **relevance** – is the content **useful** for your research?

☐ Does it provide definitions and classifications?

☐ Does it identify relevant variables?

☐ Does it identify methodologies, experiments and data collection techniques used in related studies?

☐ Does it identify theoretical frameworks?

▪ **Academic Rigour - Industry Relevance**

EVALUATE INFORMATION

To determine trustworthiness of the material, try the CRAAP test developed by the *Meriam Library* at California State University, Chico¹

CURRENCY

When was the information published and is that important to know?

RELEVANCE

How important is the information to your needs?

AUTHORITY

Who is the author and what are their credentials? Do they work for a reputable institution?
Was the information published in a peer-reviewed journal?

ACCURACY

How reliable is the information? Does it lack citations?
Are there spelling errors?

PURPOSE

Is it a well-balanced independent piece of research, or intended to sell a product or idea?

1. http://www.csuchico.edu/lins/handouts/eval_websites.pdf



At the library: Sign up for a one-to-one research consultation.

Reference: http://www.csuchico.edu/lins/handouts/eval_websites.pdf

Organising content

Use a graphic organiser

- Matrix (areas of studies vs variables – compare issues covered in different articles)

Articles	Methodologies	Service innovation practices						
		Customer experience management	Investment in employee performance	Managerial process innovation	Brand differentiation	Product development/ innovation	Project learning and communication	Use of customer information
Atuahene-Gima (1996)	Survey	■	■	■		■		
Avlonitis et al. (2001)	Survey			■		■		
Berry et al. (2006)	Theoretical	■	■	■	■			
Blazevic & Lievens (2004)	Survey						■	
Blazevic et al. (2003)	Case(s)						■	
Chan et al. (1998)	Survey			■				
Crawford & Di Benedetto (2002)	Theoretical + Case					■		

Chen, J.S. & Tsou, H.T. (2007). "Information technology adoption for service innovation practices and competitive advantage: the case of financial firms" Information Research, 12(3) paper 314. [Available at <http://www.informationr.net/ir/12-3/paper314.html>]

SUMMARISING

- Use your own words to summarise the information captured in the matrix or your notes.
- Describe what each study has in common or how they contradict each other.
- Build bridges between the different areas that you review; look for convergence or divergence of ideas; identify similarities or differences amongst important variables, theories, methodologies and findings.
- Identify gaps or evidences which are lacking and use them to highlight the need to research the topic further in relation to your current research work.



STRUCTURE OF A RESEARCH PAPER

Title

Abstract

Introduction

Literature Review

Methodology

Findings and Discussions

Conclusions and Recommendations

Bibliography

Appendices

WRITING YOUR LITERATURE REVIEW

1. Writing the introduction Define the issue or area of concern, thus providing the context for reviewing the literature

- Point out overall trends or gaps in research or new perspective of immediate interest
- Identify your research question(s)

2. Writing the body of the literature review Group research studies according to common denominators (e.g. qualitative versus quantitative approaches)

- Compare and contrast these studies
- Provide brief summary sentences to aid in understanding comparisons and analyses

WRITING YOUR LITERATURE REVIEW (CONT.)

3. Writing the conclusion

- Summarize major contributions of significant studies, maintaining the focus established in the introduction
- Evaluate the current “state of the art” for the body of knowledge reviewed
- Provide some insight into the relationship between the focus of the literature review and a larger area of study such as a discipline or a profession

TIPS

1. Read other literature reviews

2. Create themes and organise your review around them

- Build your review upon several arguments of strong and weak correlations between variables
- Set the stage for your new research to provide additional empirical data with respect to these correlations

3. Create an outline

AVOIDING PLAGIARISM

1. To avoid plagiarism, you must give credit whenever you use any:

- idea, theory, illustration or opinion of other people
- statistics, graphs, drawings, images of other people
- quotation of actual spoken or written words of other people
- paraphrase of spoken or written words of other people

2. Follow CITATION RULES

- use in-text citations and end-of-text referencing
- create a bibliography or reference list
- formatting differs depending on the style you are using (e.g. APA, ASA, MLA, IEEE, Chicago, Numbered, etc.)
- use EndNote or other bibliographic management software

CITING YOUR SOURCES

✓ To provide evidence and support for your idea, argument or thesis

2.2. Evaluations of social technologies in specific learning settings

A number of researchers have examined the use of specific social technologies in particular discipline settings in various regions (e.g., Alam, 2008; Bennett et al., 2012; Irwin et al., 2012; Kabilan, Ahmad, & Abidin, 2010; Zeeng, Robbie, Adams, & Hutchison, 2009). In this paper we examine students' perspectives on the use of social technologies to support interactions in courses that have been taught face-to-face in Malaysian and Australian universities. Therefore, this review focuses on studies conducted in these countries.

Firstly Alam (2008) explored the use of wikis in supporting student engagement and interaction across Australia. Feedback from students based on their use of these social technologies included positive experiences with the lecturers through blogs (Alam, 2008). Zeeng et al. (2009) reported on the use of Flickr, a photo sharing technology, in a design education programme in Australia. The success of the use of Flickr was later reported in a dynamic, global classroom, introducing student perspectives, and to partnerships with another university in the United States.

In-text citations

End-of-text referencing

References

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APA

<http://dx.doi.org/10.1016/j.iheduc.2015.02.004>