

Get a quick overview of the followings which will assist you in kick-starting your research.

WRITING A LITERATURE REVIEW

What; Why; How



"A literature review is a **descriptive** and/or **analytic summary** of the **existing material** relating to **some topic** or **area of study**. The term also refers to the process of producing such a review."

— SAGE researchmethods

LITERATURE REVIEW: WHAT IS IT **NOT**?

- X A **Question** that you have
- X An **Essay/Paper**
- X **Stating OR Proving** your **main points**
- X a selection of **quotations**
- X a list of **unconnected** evaluations
- X a list of **extracts** from relevant documents (*need Synthesis of ideas*)
- X A selective **annotated bibliography**
- X a set of **abstracts**

LITERATURE REVIEW: WHAT IS IT?

- ✓ **Description** of literature - a **particular field / topic**
- ✓ Overview of **what has been said**
- ✓ **Key Writers**
- ✓ Prevailing **theories** and **hypotheses**
- ✓ **Questions** already asked
- ✓ **Methods** and **methodologies**
- ✓ Report on **past findings**

LITERATURE REVIEW:
DANGER OF DOING
IT LATE

- ✓ A **replication** of work satisfactorily completed
- ✓ **Failure to identify** more **appropriate** research methods
- ✓ **Too little time** to digest, assimilate and **integrate** the ideas retrieved
- ✓ **Clear evidence** of **last minute work**
- ✓ Much **subject** knowledge **overlooked**

! DANGER of LOW Impact

LITERATURE REVIEW: OVERVIEW

— SAGE researchmethods

Research

What has been **done**?
What were the **hypotheses**?
What were the **research questions**?
How was the work done?
When was it done?
Who did it?
What were the **findings**?
What were the **conclusions**?

Literature Review

Understanding **Subject Structure**

Relating Ideas and Practice

Rationalising **Significance**

Identifying **Theories**

Identifying Research **Instruments**

Identifying impt **variables**

Enhancing Subject **Vocab**

Establishing **Context**

Gaining **New Perspectives**

Identifying Research **Methods**

Gathering Research **Results**

Identifying Key **Communicators**¹²

LITERATURE REVIEW: BENEFITS

Ways of thinking
Organisations
The research mind
Characteristics
Key concepts
Themes
Significant events
Hypotheses
Places
Key ideas
Issues
Controversies
Development
Problems
Arguments
Motives
Research teams
Opinions
Hypotheses
Other researchers



Show how your research can make a contribution



3 Steps for Writing:

1. Read & Evaluate
2. Organise
3. Write

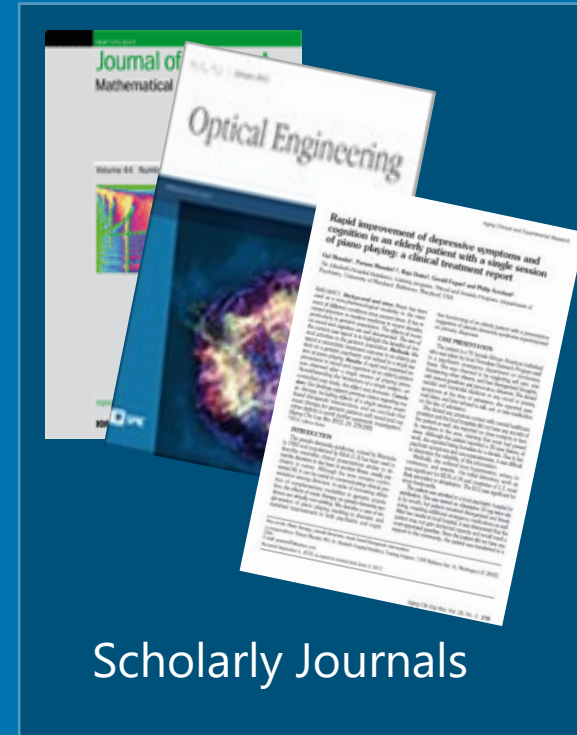
AUTHORITATIVE SOURCES BASED ON:

Author—Research

- ✓ **Expert**
- ✓ **Relevant**
- ✓ **Academic**
- ✓ **Standing in the field**
- ✓ **Milestone Study**
- ✓ **Recommended**
- ✓ **Central**

Sources

- ✓ **Peer Reviewed**
- ✓ **Academic**
- ✓ **Expert**
- ✓ **Trusted**
- ✓ **Published**
- ✓ **Written
(Documented)**



Scholarly Journals

**Researchers
/ Authors**

- ✓ Reputation
- ✓ Standing in discipline
- ✓ School of thought
- ✓ show / prove / find
- ✓ perspectives
- ✓ Biases

Research

- ✓ important / pivotal / significant?
- ✓ findings support the research?
- ✓ method robust / strong?
- ✓ Other research that supports or contradicts it?

S/N	Researchers Authors						Research					
	Reputation	Standing in discipline	School of thought	Show / Prove / Find	Perspectives	Biases	method robust / strong	support the research	findings Other research - supports	Other research - Contradicts	important / pivotal / significant	Overall Applicable? Relevant?
1.												

Reputation	Research						
	method robust / strong	support the research	findings Other research - supports	Other research - Contradicts	important / pivotal / significant	Overall Applicable?	Relevant?

Organisation: Group Points

- ✓ **Chronological (Time):** Early to Later Studies
- ✓ **Perspectives of Authors:** Positions Taken, 'school of thought'
- ✓ **Method:** how the research has been done
- ✓ **Topical / Thematic:** presented in sequence, like an essay

Note: Ultimately, organisation depends on the research question and aims of study – you need synthesize ideas & respond

WRITE

1.Create a PLAN

2.Register NOTES into the PLAN

1. The **Descriptive / Reporting** – 'the Catalogue'

What happened - describe

What the author has discussed, found, did

An account of the topic

WRITE

2. The **Interpretive / Critical** – 'the dialogue'

Asks & Answers Questions

Analyses, explains and **interprets** the info

Synthesises info to develop a point of view

Moving from
**DESCRIPTIVE to
INTERPRETIVE**

How?

Interpretive Writing

Example 1

Sengul Dogan et al. [12] **present** a approach with employed an association rule algorithm for discovering hyperlipidemia based on the biochemical blood parameters of total cholesterol, triglycerides, LDL and HDL. Their approach **achieved** wonderful performance, **but** it only adopted the test items **and did not include** the normal body indices of age, gender, blood pressure, etc.

<https://link-springer-com.library.sutd.edu.sg:2443/article/10.1007%2Fs11042-016-3719-1>

WRITE

Interpretive Writing

Example

Big Data Analytics in E-Commerce

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Table 2 Big data analytics (BDA) applications in e-commerce

BDA in E-commerce	References	#	%
Needs identification	(McAfee and Brynjolfsson 2012), (Bughin et al. 2010), (Brown et al. 2011), (LaValle et al. 2011), (Allen et al. 2012), (Ann Keller et al. 2012), (Beath et al. 2012), (Boja et al. 2012), (Boyd and Crawford 2012), (Hsinchun et al. 2012), (Demirkan and Delen 2012), (Fisher et al. 2012), (Huwe 2012), (Wagner 2012), (Davenport et al. 2012), (Johnson 2012b), (Tankard 2012), (White 2012), (Bennett et al. 2013), 2013)	24	18 %
Creating infrastructure and transparency	(McAfee and Brynjolfsson 2012), (Brown et al. 2011), (Bughin et al. 2011), (LaValle et al. 2011), (Ann Keller et al. 2012), (Beath et al. 2012), (Boyd and Crawford 2012), (Hsinchun et al. 2012), (Fisher et al. 2012), (Griffin 2012), (Huwe 2012), (Szongott et al. 2012), (Tankard 2012), (Wagner 2012), (Zeng and Lusch 2013), (Barton and Court 2012), (Waller and Fawcett 2013), (Goes 2014), (Constantiou and Kallinikos 2014), (Agarwal and Dhar 2014), (Kiron et al. 2014a), (Mithas et al. 2013), (Wixom et al. 2013), (Leavitt 2013)	24	18 %
Decision support			
Total		132	100 %

Note: Some articles are counted more than once because they cover more than one type of BDA in e-commerce

<https://kopernio.com/viewer?doi=10.1007/s12525-016-0219-0&route=6>

Interpretive Writing

Example

Table 5 Types of big data

Types	Descriptions	Applications by e-Businesses/Firms
Video data	Video data from retail and other settings	• Less than 25 % of big data efforts re capabilities to an voice and video (• Some retailers util linked to their vic traffic patterns an 2011). • A consumer good: with tablet apps t track shelf-space

Video data

Video data are live data that come from capturing live images. Currently, e-commerce firms are keen to use not only either click-stream data or transaction data but, in association with image analysis software, they tend to also capture video data.

General Statement

As indicated by Schroeck et al. (2012), e-commerce firms have the necessary competencies to analyze extremely unstructured data, such as video or voice data. These data have the potential to add value for e-commerce firms. For example, Ramaswamy (2013) reported that Netflix uses video data to predict viewing habits and evaluate the quality of experiences. In addition, the visualization and demand analytics tool based on the type of movie consumption help Netflix understand preferences, which led them to achieve success in their

Evidence / Support

“House of Cards” program in the US. Thus, the use of video data is essential for firms in making better decisions than their competitors.

Interpretation

WRITE

Interpretive Writing

Example

Table 2 Big data analytics (BDA) applications in e-commerce

BDA in E-commerce	References	#	%
Needs identification	(McAfee and Brynjolfsson 2012), (Bughin et al. 2010), (Brown et al. 2011), (LaValle et al. 2011), (Allen et al. 2012), (Galletta et al. 2013), (Brynjolfsson and Hitt 2013), (Brynjolfsson and Smith 2013)	24	18 %

Table 3 Definitional aspects of big data analytics (BDA) in e-commerce

Study	Potential research areas	Definition	Purpose
Davenport (2006)	E-commerce functions: production and operations (e.g., supply chain flows)	BDA refers to 'quantitative fact-based' analysis aiding decision	Analytics to gain competitive advantage.

Table 4 Nature of big data used in business analytics

Nature	Description	Example (Study)
Voluminous	Large volume of data that either consume a huge amount of storage or consist of a large	• Amazon introduced search-inside-the-books option consisting of 120,000 books (Davenport 2006)

Table 5 Types of big data

Types	Descriptions	Applications by e-Businesses/Firms
Transaction or business activity data	Structured data from retail transactions, customer profiles, distribution frequency and	• United Parcel Service (UPS) examines usage patterns and complaints to predict customer defection (Davenport 2006).

Table 6 Business value of big data analytics (BDA) in e-commerce

Study	E-Commerce Functions	Description	Firm(s)
Davenport (2006)	Personalization (e.g., CRM)	Identify customers with the greatest profit potential, loyalty, and service. Increase likelihood that they will want the	Harrah's, Capital One, Barclays

Table 7 Future research questions for big data analytics (BDA) in e-commerce

E-Commerce research streams	Relevant theories	Future Research Questions for BDA in E-Commerce
Strategy, culture, leadership, and organization	Resource based theory (Barney 1991). Competitive strategy	• How can organizations better incorporate functional differences into their big data strategy in order to develop a big data-oriented culture?

Table 1 Global growth in e-commerce and big data analytics (BDA)

Year	Growth in the number of e-commerce customers worldwide (in millions)	Growth in e-commerce sales per customer worldwide (in US\$)	Growth in big data analytics (BDA) market worldwide (in billions)
2011	792.6	1162	7.3
2012	903.6	1243	11.8
2013	1015.8	1318	18.6
2014	1124.3	1399	28.5
2015	1228.5	1459	38.4
2016	1321.4	1513	45.3

Source: Adapted from emarketer (2013) and (Piatetsky 2014)

WRITE

Language: Highlighting importance – interpretative+ voice

This shows* that (* suggest tells us / reveals / highlights / points to / implies)

This is important / significant because

Author X (2017) acknowledges

This is worth noting as / because it...

This can be illustrated by ...

What this means* is ... (*shows / tells us / reveals ..)

... tells us that ...

... importantly* this suggests that (*crucially, significantly)

.... Which points to / suggests the need for ...

.... Which is vital / crucial as it ...

.... Which shows / illustrates that

.... Which is significant as it....

... meaning that ...

... illustrating / pointing to the need for ...

Agrees

Argues

Believes

Claims

Concedes

Demonstrates

Disagrees,

Emphasizes

Insists

Suggests

Observes

Reports

Says

START

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LITERATURE REVIEW PROCESS FLOW

DEFINE NEEDS

Redefine

Identify Possible Searchable Media

More sources needed for searching

Formulate Search Strategies

*Formulate new strategies because vocabulary
and understanding are enhanced*

Search

Find

Select

Read again, e.g. to review understanding

Read

Analyse

Extract

Think/Reflect

More information needed, gaps identified

Improve understanding of needs

Integrate

Synthesise

Draft (provisional structure decided, gaps identified)

Think / Reflect

Revise

More gaps identified, more understanding needed

Redraft (possibly several times)

Revise

*E.g. Weakness in structure, grammar, style, lack of
clarify, factual errors, inconsistencies*

Final draft – edits and sub-edits

FINISH

Information Search &
Retrieval

Read &
Reflect

Write

LITERATURE REVIEW EXAMPLES

Refer to Handouts:

- ✓ Annotated Bibliography
- ✓ Meta-Analysis
- ✓ Reviews
- ✓ Latest resources

Annotated Bibliography

Internet of Things (IoT): A vision, architectural elements, and future directions

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This paper addresses key technologies and application domains that are likely to drive IoT(Internet of things) research in the near future and presents a cloud centric vision for world wide implementation of IoT. The motivation of this paper is to deal with challenges of changing state of data from static to dynamic through use of social networking and web based queries. A cloud based implementation Aneka is presented by authors as solution. The paper proposes architecture based on cloud computing which is not the best option for every application domain for example defense where human intelligence is relied upon. The points in the paper which are worth pursuing further is the need for convergence of WSN(wireless sensor network), the Internet and distributed computing directed at technological research community. Cloud storage, computation and online analytics. Security where networks are deployed at large scale. The paper is very well presented with elaborate use of diagrams and provides with solution. It clearly discusses future challenges and what we shall be prepared for. In all paper is well written and addresses what it claims to talk about.

Big Data: Promises and Problems

Venkat N. Gudivada , Marshall University,Ricardo Baeza-Yates , Yahoo Labs,Vijay V. Raghavan , University of Louisiana

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This article talks about how Bigdata collected from sensors, IoT devices etc is going to change the face of scientific research methods. The motivation of study is increasing usefulness and variedness of data. Not all data can be sorted using mathematical algorithms like many natural language and speech related. Some of the issues it raises are how do we process, filter and sample the source data to obtain the right data and determine the trustworthiness, bias of such data. It also talks about privacy issues of data whether we shall keep it anonymous. It is too brief and does not provide enough examples. This article generalizes the current state and future needs of Bigdata.

Big Data Processing: Big Challenges and Opportunities

CHANGQING JI, YU LI, WENMING QIU, YINGWEI JIN, YUJIE XU, UCHECHUKWU AWADA, KEQIU LI

The paper raises the concern about increase in variability of data collected through Internet of things. It suggests many Bigdata processing techniques. It discusses important issues related to cloud storage and computing architecture, popular parallel processing framework, major applications and optimization of MapReduce/MapReduce-like. The significance of the details is that it