Literature Review

When you are starting a new research project:

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1. What research you want to do?
2. Why you want to do this research?
3. How you are going to do this research?
4. What has already been done? (This is why literature review is done.)
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What is Literature review?

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A literature review serves as the foundation for new research by critically
analyzing existing studies in a specific field. It involves identifying research
gaps, highlighting inconsistencies, evaluating contributions, summarizing key
findings, and synthesizing relevant studies to provide context for the research.
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Types of Literature review:

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- Narrative Review
- Systematic Review
- Meta Analysis
- Scoping Review
- Integrative Review
- Critical Review
- Rapid Review
- State-of-the-Art Review
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Narrative Review – Provides a broad overview of existing literature on a topic, summarizing key findings without a systematic approach.

Systematic Review – Uses a structured and rigorous methodology to collect, assess, and synthesize relevant studies based on predefined criteria.

Meta-Analysis – Combines statistical data from multiple studies to derive overall conclusions about a specific research question.

Scoping Review – Maps key concepts, research gaps, and available evidence in a broad topic area, often as a precursor to a systematic review.

Integrative Review – Synthesizes qualitative and quantitative research to provide a comprehensive understanding of a topic.

Critical Review – Evaluates and critiques existing literature to highlight strengths, weaknesses, and theoretical advancements in the field.

Rapid Review – Condenses the systematic review process to quickly provide evidence-based insights, often for policy or decision-making.

State-of-the-Art Review – Examines the most recent and cutting-edge research developments in a field to identify emerging trends and advancements.

Structure of Literatrure Review:

- Introductions:

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  (Explains the topic and types of sources used)
  Introduces the topic purpose, scope of the literature review.
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- Body:

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  (Analyzes and synthesizes the existing research.)
  Organizes and discuss the existing research, often grouped by themes,
trends, or chronological order.
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- Conclusion:

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  (Presents a general consensus on the topic or gap)
  Summarizes the main findings, discusses implications, and suggests areas
for future research.
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Based on Perspective of Researcg Paper Point of view: Sections of Literature Review

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Introduction --> Background and Related Work --> Research Methodology --> Results
--> Implication for Researchers --> Implications for Practitioners --> Limitations
--> Conclusion
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How to conduct a literature review? Steps of Literature Review

1. Understanding the Need for a Literature Review

   Before diving into a literature review, it's essential to understand why it is needed. A literature review serves multiple purposes:

   ◈ Establishing Foundations – Provides a knowledge base for your study.

   ◈ Identifying Gaps – Highlights what has not been explored yet.

   ◈ Understanding Trends – Recognizes emerging patterns in research.

   ◈ Validating Findings – Confirms or challenges previous research results.

🔷 Guiding Direction – Helps refine research objectives and methodology.

Without a well-structured literature review, research may lack context and depth, leading to redundant or misdirected studies.

2. Define Research Questions A well-defined research question is the backbone of a meaningful literature review. Follow these steps:

✔ Outline a broader research topic – Identify the main area of study.

✔ Develop initial research questions – Frame preliminary queries based on existing knowledge.

✔ Focus on specific challenges and solutions – Narrow down to key aspects.

✔ Guide the scope of the literature review – Ensure a clear and manageable focus.

✔ Ensure questions are targeted and precise – Avoid vague or overly broad queries.

For example, if researching climate change's impact on agriculture, a broad question could be: 👉 How does climate change affect crop yield in South Asia?

A more refined version would be: 👉 What are the key adaptation strategies adopted by farmers in Nepal to mitigate climate-induced yield loss?

Defining precise questions helps in selecting relevant studies and designing search strategies.

3. Conduct a Pilot Study

A pilot study is a mini-study conducted before the full-scale research. It helps:

🔷 Test initial research questions for feasibility.

🔷 Identify major sources and key databases.

🔷 Assess the availability of literature on the chosen topic.

🔷 Refine research strategy before a full literature review.

💡 Example: Before conducting a full review on climate adaptation strategies, a pilot study might involve reviewing 5–10 key papers to identify themes and research gaps.

4. Design Search String

A search string is a combination of keywords and Boolean operators (AND, OR, NOT) used to retrieve relevant studies from databases.

Steps to Build an Effective Search String: ✔ Identify Key Concepts – Break your research question into main components.

✔ Use Synonyms & Variations – Different studies use different terminologies.

✔ Apply Boolean Operators – Combine or exclude keywords strategically.

✔ Test & Refine – Adjust based on search results.

💡 Example Search String for Climate Adaptation in Agriculture:

("Climate change" OR "global warming") AND ("crop yield" OR "agricultural productivity") AND ("adaptation strategies" OR "mitigation measures")

Use this search string in databases like Google Scholar, Scopus, Web of Science, or PubMed to find relevant papers.

5. Define Inclusion/Exclusion Criteria

   Not all studies are relevant to your research. Filtering is essential to ensure that only the most significant and credible papers are included in your review.

   Inclusion Criteria (What to Include) ✔ Relevant to research topic

   ✔ Published in peer-reviewed journals

   ✔ Recent publications (last 5–10 years)

   ✔ Empirical studies with strong methodology

   Exclusion Criteria (What to Exclude)

   ✗ Unverified sources or non-peer-reviewed articles

   ✗ Old or outdated studies (unless foundational)

   ✗ Irrelevant research areas

   💡 Example: If studying agricultural adaptation in Nepal, a paper on urban climate adaptation in the USA would not be relevant.

6. Select Relevant Studies

   After applying search strings and inclusion/exclusion criteria, carefully review titles, abstracts, and keywords to select relevant studies.

   🔷 Screen Titles & Abstracts – Check for relevance before reading the full paper.

   🔷 Categorize Papers – Group studies into themes (e.g., climate adaptation, policy responses, case studies).

   🔷 Use Citation Tracking – Explore references in selected papers to find additional studies.

   💡 Tip: Reference Management Tools like Zotero, Mendeley, or EndNote can help organize and cite papers efficiently.

7. Extract Data & Synthesize Findings

   After selecting relevant papers, extract key data and analyze common patterns, gaps, and themes.

   What to Extract? ✔ Key Findings – Summary of the study's conclusions.

   ✔ Methodology Used – Whether qualitative, quantitative, or mixed-method.

✔ Research Gaps Identified – Areas needing further investigation.

✔ Theories & Frameworks Used – Conceptual frameworks guiding the study.

✔ Implications for Your Research – How it informs your study.

💡 Example Extraction Table:

Study	Key Findings	Methodology	Gaps Identified
Smith (2020)	Climate adaptation improves yield by 15%	Quantitative	Lacks farmer perspectives
Khan (2021)	Drought-resistant crops increase resilience	Mixed-Method	No policy-level insights

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📌 Final Step: Synthesize the extracted data critically, highlighting trends,
conflicts, and areas for further research.
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