

- **Theory:** A set of interrelated constructs (concepts), definition
- **Scientific Research:** Scientific research is systematic, controlled, empirical.
- **Hypothesis:** A conjectural statement, a tentative proposition, about the relation between two or more phenomena or variables." "If X occurs ...then Y will follow."
- **Concept:** "Expresses an abstraction formed by generalization from particulars.
- **Construct:** is a concept with added meaning, deliberately
- **Operational definition:** assigns a meaning to a construct.

TYPES OF PAPERS

- **Breakthrough**
 - solves an open problem that many people have worked on
 - rare (one per conference, if lucky!)
- **Ground-breaking**
 - opens up a field/area that is not well explored
 - places it on a firm foundation
- **Inventions**
 - clever variations/innovations that are appealing in their elegance.
- **Survey**
 - surveys and unifies a specialized subject
 - contains added value (frameworks, taxonomies)
 - brings together disparate work

What is an RRL in a research paper?

A relevant review of the literature (RRL) is an objective, concise, critical summary of published research literature relevant to a topic being researched in an article.

How to Write a Literature Review in 5 Steps

Step 1: Choose a topic to write about—focus on and explore this topic.

Step 2: Research and collect all the scholarly information on the topic that might be pertinent to your study.

Step 3: Analyze

Step 4: Describe and summarize each article—provide the essential information of the article that pertains to your study.

Step 5: Identify the relevance and difference of each literature review

How long is a review of the literature for a research paper?

The length of a review of the literature depends on its purpose and target readership and can vary significantly in scope and depth.

Choosing the **right methodology** for an IT project is pivotal to its success. Each methodology has its strengths and weaknesses, and the selection should align with the project's nature, requirements, and team dynamics. It's not a one-size-fits-all scenario, and project managers must carefully evaluate the specific needs before deciding on the most suitable methodology.

A **research methodology** describes the techniques and procedures used to identify and analyze information regarding a specific research topic.

A **work plan** is a written document designed to streamline a project.

Project evaluation is the process of measuring the success of a project

Types of research methodologies in IT projects.

Waterfall methodology is a linear and sequential approach, where each phase must be completed before moving to the next.

Agile Methodology is an iterative and incremental methodology that focuses on collaboration, customer feedback, and adaptability.

Scrum is an Agile framework that divides the project into fixed-length iterations called sprints. **Spiral model** combines elements of both the Waterfall and iterative models.

Rapid application development methodology was a response to problems when applying the waterfall model to software development.

ESSAY

Methodology refers to the systematic, theoretical analysis of the methods applied in a field of study, encompassing the rationale behind the choice of methods and overall approach used in research or project execution.

Rapid Application Development (RAD) is a software development approach focused on quickly creating prototypes and iterating based on user feedback to accelerate the development process.

Leadership focuses on inspiring and motivating individuals towards a shared vision, while **management** emphasizes planning, organizing, and coordinating resources to achieve specific organizational goals.

A **LEADER** influences and inspires others to achieve a common goal, while a **MANAGER** organizes and controls resources to ensure that tasks are completed efficiently.

Having a **good research methodology** in place has the following **advantages**:

- Helps other researchers who may want to replicate your research; the explanations will be of benefit to them.
- You can easily answer any questions about your research if they arise at a later stage.
- A research methodology provides a framework and guidelines for researchers to clearly define research questions, hypotheses, and objectives.
- It helps researchers identify the most appropriate research design, sampling technique, and data collection and analysis methods.
- A sound research methodology helps researchers ensure that their findings are valid and reliable and free from biases and errors.
- It also helps ensure that ethical guidelines are followed while conducting research.
- A good research methodology helps researchers in planning their research efficiently, by ensuring optimum usage of their time and resources.