

# Research Methodology

## Introduction

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# Research

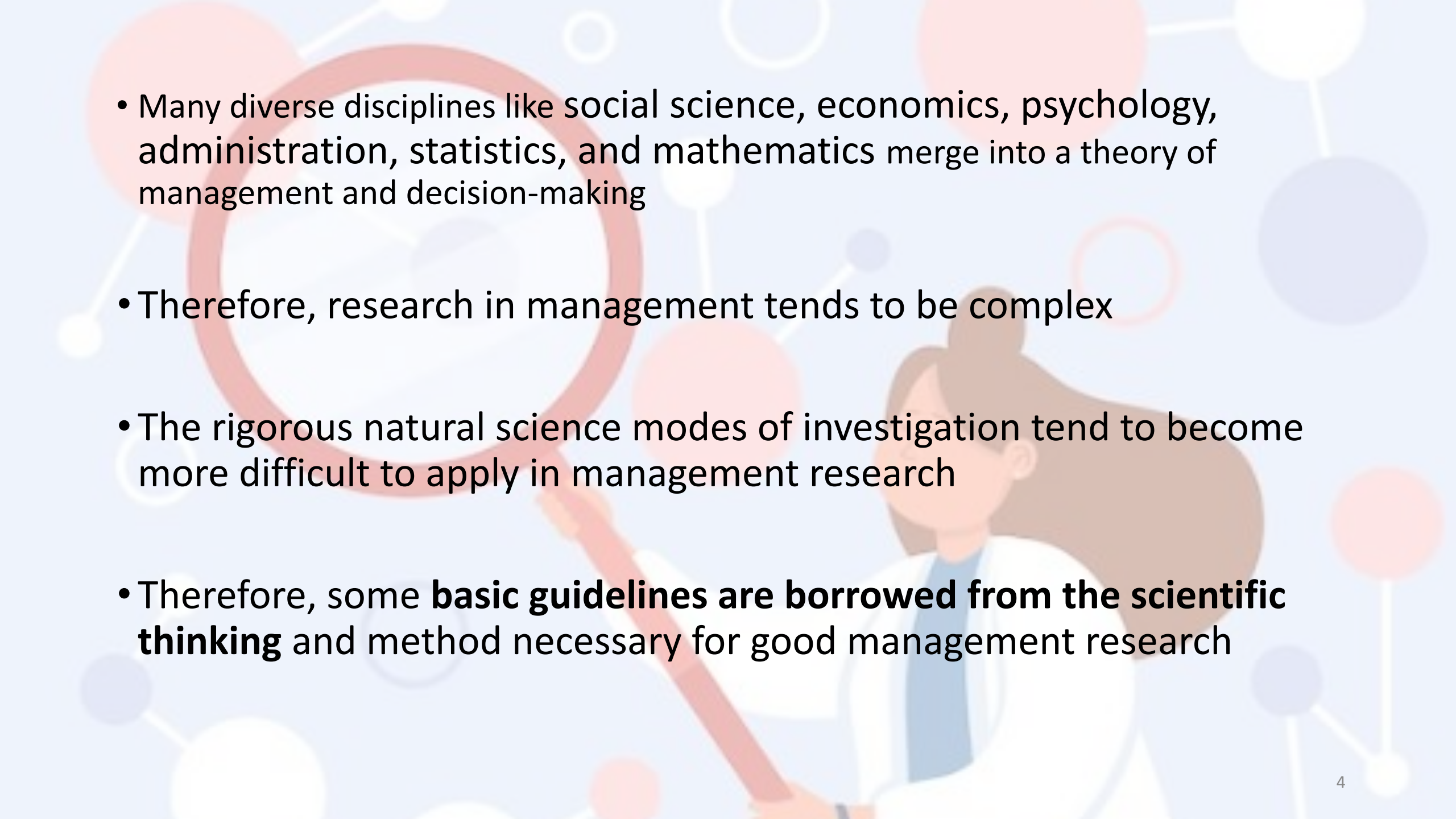
- Research is defined as a systematic, self-critical **enquiry**.
- The enquiry is aimed at understanding a thing or phenomenon or solving a problem.
- When an enquiry is **aimed at understanding**, it is termed as **basic or fundamental research**, which pursues knowledge, and may or may not have practical or commercial use.
- When the enquiry is **aimed at applying the available knowledge** for practical or commercial use, or for solving a problem faced in practice, it is termed as **applied research**.
- Scientific research has well defined objectives and methods, generates dependable data, reliable and unambiguous findings, and justifiable conclusions.

# Management Research

It is an applied research directed to aid the manager for decision making process.

The management research can be –

- Reporting – furnishing data, information, or statistics
- Descriptive – characteristic through distributions
- Explanatory - explains the phenomenon
- Exploratory – explores a new/unknown/emerging context
- Predictive - forecast the occurrence of an event or events under certain conditions

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- Many diverse disciplines like social science, economics, psychology, administration, statistics, and mathematics merge into a theory of management and decision-making
  - Therefore, research in management tends to be complex
  - The rigorous natural science modes of investigation tend to become more difficult to apply in management research
  - Therefore, some **basic guidelines are borrowed from the scientific thinking** and method necessary for good management research



# Guidelines from Scientific Enquiry



- Science is the body of knowledge and also the process of generating that knowledge
- Its goals are advancing the knowledge, mapping patterns and improving its own process
- Goals of scientific enquiry-
  1. Advancement of knowledge and prediction
  2. Mapping the patterns of various domains of facts
  3. Continuous improvement

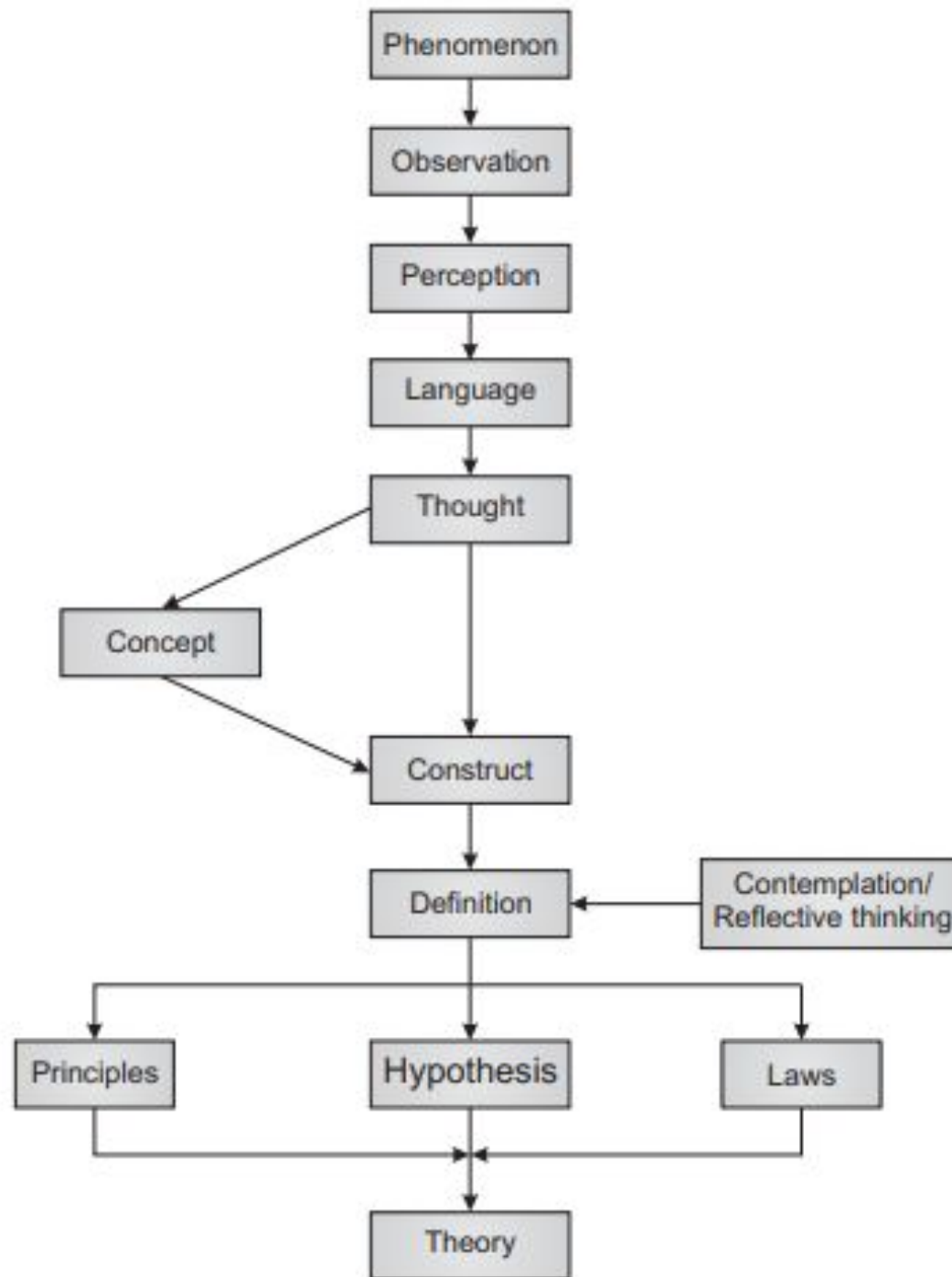


Figure: Process of Scientific Enquiry

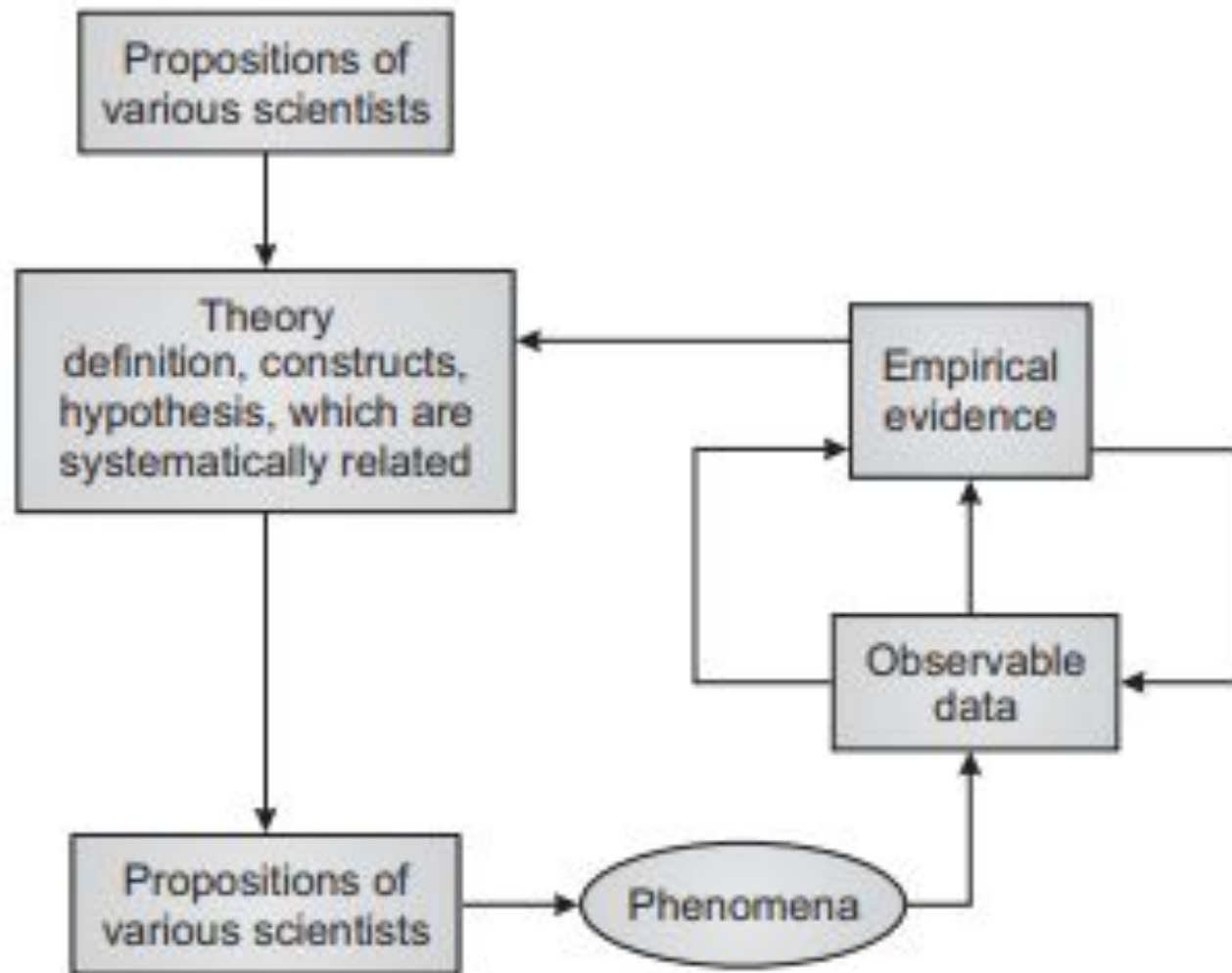


Figure: Theory Development Process

# Scientific Method of Research

- Procedures are public
- Definitions are precise
- Data collection is objective
- Findings are replicable
- The approach is systematic and cumulative
- The purpose is explanation, understanding, and prediction



# Logic of Scientific Method

## 1) Deductive Logic

- Inferences drawn from a general principle to particular conclusion constitute deductive logic.
- It is a study of validity and not of truth.

All managers take decisions — Premise 1 (P1) True (T)

Raman is a manager — Premise 2 (P2) True (T)

Therefore (argument) (A) — Valid (V)

Raman takes decisions — True (T)

## 2) Inductive Logic

- Inferences are drawn from the evidence in the form of conclusions which explain the evidence or facts.
- It attempts to explain the facts and, therefore, is tentative.

**Statement:** "I get tired if I don't drink coffee."

**Argument:** Coffee is addictive. ....(i)

**Argument:** I'm addicted to coffee.....(ii)

The final argument may not be entirely true. For example, there may be other reasons (premises) leading to tiredness, like less sleep etc.

# Scientific Attitude

- A scientist should have a firm conviction that there exists an “order of things”, which is subject to laws.
- A scientist should be devoted to facts, accurate empirical data, and to being in close touch with phenomena.
- A scientist should search for theories (webs of principles and laws to tie up the facts together) that are refutable. He should be clear about what evidence will make him give up a hypothesis or theory.
- There must be an appreciation of the possibility of error and, therefore, in the tentativeness of scientific conclusions.
- Science is open to public criticism and correction. The public can conduct enquiries regarding scientific progress.
- Widely accepted views of important variables, theories, and the basic nature of discipline serve as a model (paradigm) for further scientific work in the area.

# Use of Scientific Methods

- Uniqueness—each organisation, group, or person, to some degree, is different from all others; generalisations are impossible
- Instability—phenomena are transitory in organisations, the facts and laws governing them change over time
- Sensitivity—individuals in an organisation behave differently from inert entities common in natural sciences, and react to research
- Lack of realism—variable manipulation in phenomena in experiments changes them and is different from the real ones
- Epistemological differences