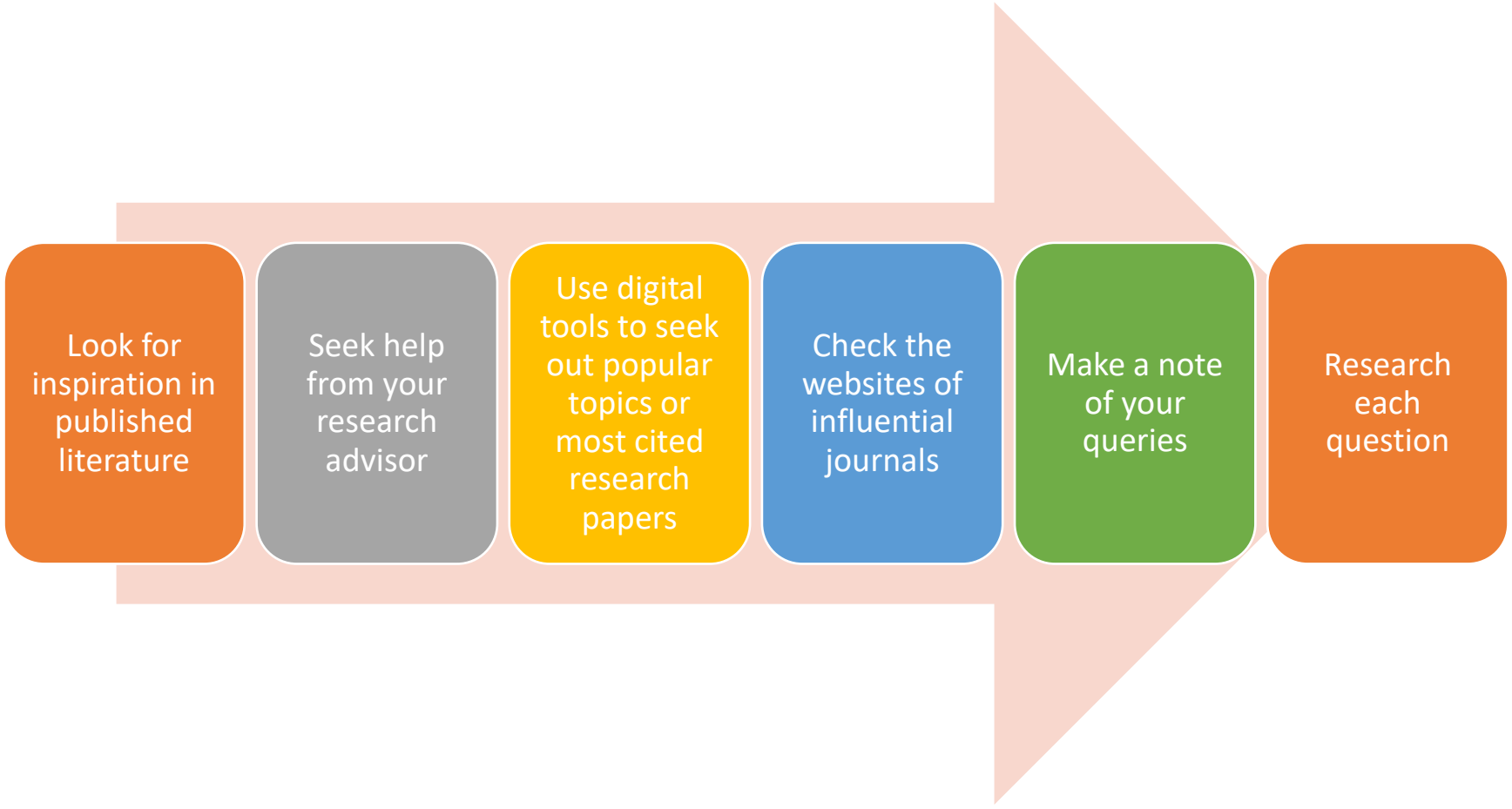
Menemukan Research Gap dan Menyusun Metode Penelitian

Identification of Research Gap

- **Research Gap:-**

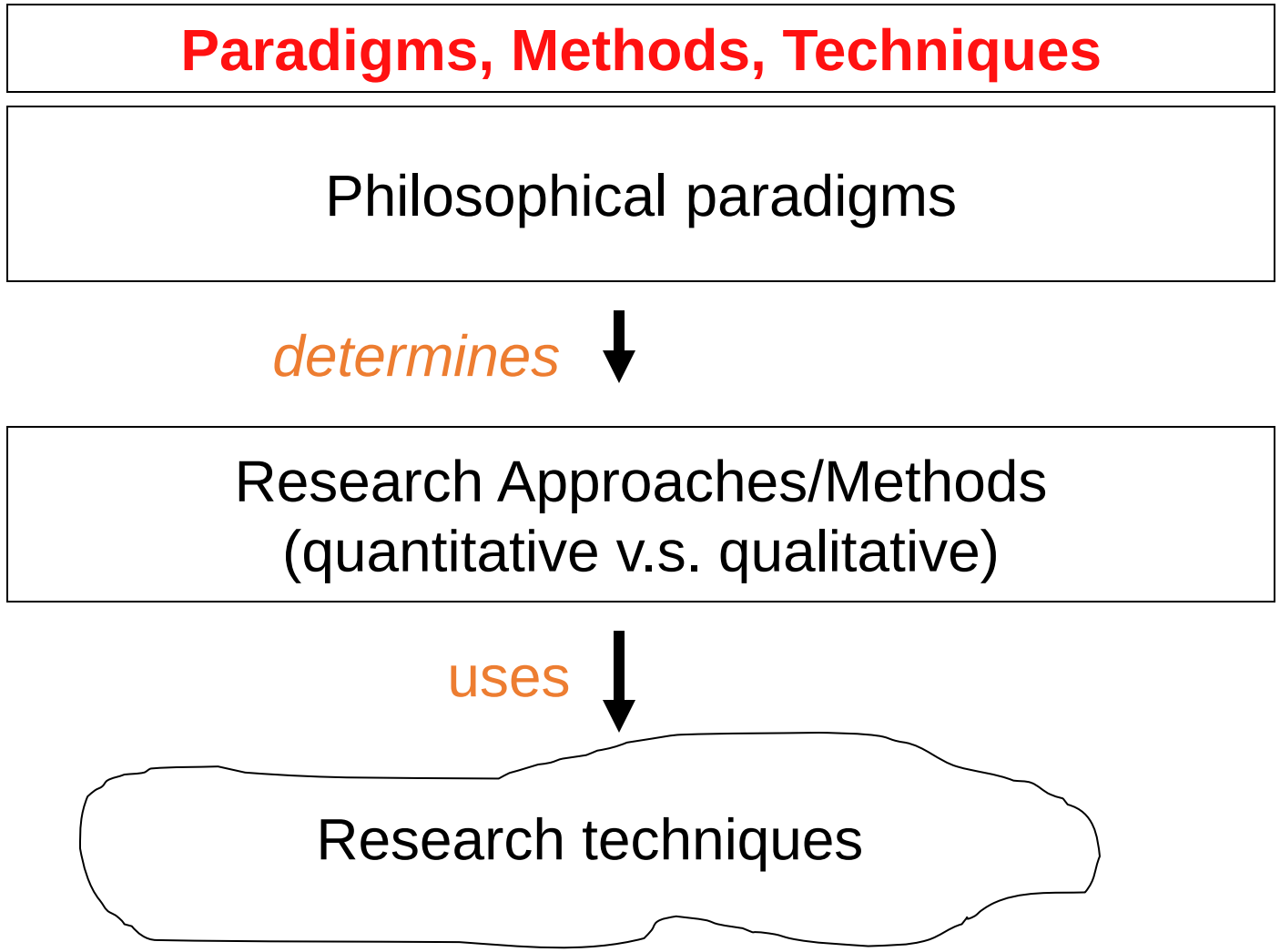
  A research gap is a question or a problem that has not been answered by any of the existing studies or research within your field.

Identification of Research Gap



Review Pemilihan Metodologi

Methodology: Summary (1)



Methodology: Summary (2)

Hypotheses and Methods

- Methods follow from hypotheses, not the other way around
- **DO** ask yourself what you need to implement and for what specific purpose
- **DO NOT** decide to implement and then think about contribution

Methodology: Summary (3)

Research Methods

- **Documentary research**
- **Survey research**
- **Case study** - investigates a contemporary phenomenon within its real-life context
- **Action research**
  - interacts with the object system of study
  - combines a substantive act with a research procedure
- **Ethnographic research**
    - originated from anthropology
    - “immerses oneself in the field of study”
- **Grounded theory-** an inductive, theory discovery methodology”
    - developing theory from data systematically gathered and analyzed

Methodology: Summary (4)

Research techniques

- Qualitative and quantitative data collection
  - interview
  - observation (conversation recording and analysis, photographs and video-taping, role-playing)
  - field work
  - survey and questionnaire
- Data analysis
  - categorisation/classification
  - quantitative data analysis
- Reasoning
  - deduction, induction

Methodology: Summary (5)

Methods (informal classification)

- Formal
- Case Based Reasoning
- Empirical
    - Quantitative
    - Qualitative

Methodology: Summary (6)

Formal

- Properties of systems
  - correctness of locking protocols
  - correctness of Join algorithms
- Complexity measures
  - time complexity of temporal queries
  - efficient buffer strategies for synchronized data retrieval

Methodology: Summary (7)

Case Based Reasoning

- Properties of systems
  - complete semantic capture in ER to SQL3
  - an improved API for temporal databases
- Complexity measures
  - an improvement on a method for coupling of databases and expert systems

Methodology: Summary (8)

Empirical: Quantitative

- Simulation
  - predicting the behaviour of a locking scheme or buffering algorithm
  - a comparative study of database caching algorithms in client-server architectures
- Profiling
  - benchmarking of trigger management in current DBMS

Methodology: Summary (9)

Empirical: Qualitative

- Evaluation
  - a comparative study of the quality of data modelling notations for user feedback
  - visualisation in scientific databases: is it effective?
- Diagnosis
  - why do CASE tools fail to improve DBA performance in schema maintenance?

Methodology: Summary (11)

Limitations of Methods

Consider:

- scalability of techniques
- generality of results
- counter-indicators
- affecting factors

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