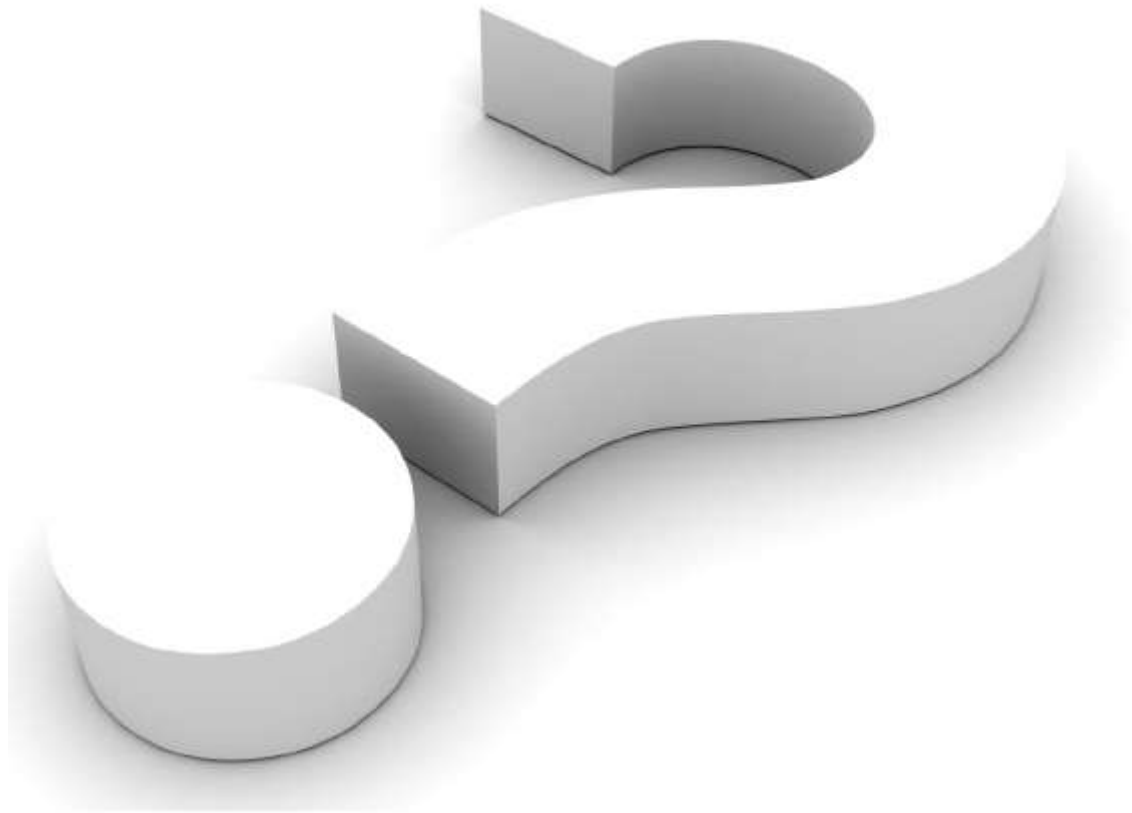


Research Question



Why Research Question?

"If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper question to ask, for once I know the proper question, I could solve the problem in less than five minutes."

—ALBERT EINSTEIN

What is a research question?

= The single core question you ask to answer in the conclusions of your paper.

= Is the central problem of your research around which you organize your paper.

You focus all your descriptions, analyses, interpretations, discussions, evaluations, arguments etc. on the RQ.

Research question templates

Descriptive research

What are the characteristics of X?

Comparative research

What are the differences and similarities between X and Y?

Correlational research

What is the relationship between variable X and variable Y?

Exploratory research

What are the main factors in X? What is the role of Y in Z?

Explanatory research

*Does X have an effect on Y?
What is the impact of Y on Z?
What are the causes of X?*

Action research

*How can X be achieved?
What are the most effective strategies to improve Y?*

Evaluation research

*What are the advantages and disadvantages of X?
How well does Y work?
How effective or desirable is Z?*

A research question for an empirical study

What is the effect of the independent variables (IVs) and moderator variables (MVs) on the dependent variables (DVs) given any controlled variables (CVs)?

- **Independent Variables** are changes that occur in an experiment that are directly caused by the experimenter.
- **Dependent Variables** are changes that occur due to independent variables.
- A **Controlled Variable** is anything else that could influence the dependent variables.
- **Moderator Variables** describe subject characteristics the effect of which the researcher wishes to assess.

Example #1 of RQ

- *Independent variable: Three different types of candle : A, B, and C.*
- *Dependent variable: Height of candle measured in centimetres at regular intervals of time*
- *Controlled variables: No wind. Time measured in minutes.*
- *Moderator variable: Room temperature*

Which candle type burns down fastest inside the room at different examined room temperatures, respectively: A, B, or C?

Example #2 of RQ

- *Independent variable: structural changes*
- *Dependent variable: behaviour, attitude and interests*
- *Controlled variables: small-scale private forest ownership*
- *Moderator variable: agricultural sector or wood industry*

What are the effects of structural changes in the agricultural sector and in the wood industry on the behaviour, attitude, and interests of small scale private forest owners?

Example #3 of RQ

- *Independent variable: contaminated food*
- *Dependent variable: EHEC*
- *Controlled variable: oral transmission*
- *Moderator variable: nutrition habits*

***How** can contaminated food be responsible for the oral transmission of EHEC (Enterohaemorrhagic E. coli)?*

Example #4 of RQ

- ♦ *Independent variable: glass colour*
- *Dependent variable: beer quality*
- *Controlled variable: beer bottles*
- *Moderator variable: Bavaria*

***Why** should beer not be filled in green bottles?*

Research statement

= RQ in statement form

= Thesis statement

- Gives the single central claim you argue for in your paper
- Is at the same time the statement of what you concluded in your research

Validation of ThS:

Make it answer to a tentative RQ.

A research statement for an empirical study

This study investigates the effect of the

- ◆ *independent variables (IVs) and*
- ◆ *moderator variables (MVs) on the*
- ◆ *dependent variables (DVs) given any*
- ◆ *controlled variables (CVs).*

Why to have a RQ?

If an opinion is refined into a **thesis statement** without being questioned first, the research effort is limited to finding information that "proves" **what you already think.**

Research statement

= RQ in statement form

= Thesis statement

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More powerful

***WHY
HOW
WHAT***

WHO, WHEN, WHERE

WHICH, YES/NO QUESTIONS

Less powerful

Powerful questions are open

Why did we do it that way?

→ *tendency to dig in, defend*

How does it work?

→ *provokes to analyse, think*

What would make this work better?

→ *moves forward into action*

What is there in a RQ?

- A problem formulation
 - A gap in our knowledge
 - An incomplete business in the field
 - A want to
 - » solve the problem
 - » fill the gap
 - » complete the business
 - The potential to do so and answer the question
- ⇒ Requires knowledge of what is already known and published on the problem or on related problems (theories, methods, data)

What form to use in a RQ?

- Question or statement form ✓
- Closed or open question
 - Closed question with clear y/n answer = OK

Is it possible to predict the volatility of the stock market by means of a statistical model? (Yes, it is.)
 - Closed question with ambivalent answer
⇒ reformulate your RQ as an open question.

Can coaching be used as means of improving performances within area X? (Under some circumstances it can be used, whereas in other contexts not)
REWRITE: How can.../Which performances can...

Always consider if an open question is a better solution.

How to write a RQ?

- Focus your RQ on one single topic.
- If more questions, make clear which is the main one.
- Use corollary questions as supportive material.
- Use precise terminology.
 - Avoid using vague phrases like *“certain”, “most”, “usually”, “a kind of”, “and alike”*.
 - ⇒ Give exact data instead: *which ones, when, which concrete features*.
- Limit the amount of data and state it explicitly in your RQ.

Data in RQ: Example

- *Which function do piers have in a building?*
 - All piers? All kinds of buildings? UNFOCUSSED
 - Implied necessity of generally valid conclusion!
IMPOSSIBLE
 - Is there an adequate answer? NO

Which function did piers have in a residential building found in archaeological excavations on site X?

RQ has a clear scope and focus.

Relevant conclusion and adequate answer are possible.

A good research question

- Is interesting to the writer
- Is relevant to the subject
- Is based on
 - something not right □ *“it is said ... but in reality...”*
 - the relation between X and Y
 - the observation that sticks out
 - a sense of wondering
- Makes it possible
 - to debate or argue a point
 - to conclude something
- Is in question or in statement (claim) form
- Has *one* clear main question (+ subquestions)
- Is clearly marked in the introduction
- Is short (< 10 lines)

What do RQs imply?

<u>Question type</u>	<u>Set the scene for</u>
• What-questions	account description
• Why-questions	interpretation analysis
• How-questions	discussion evaluation agenda

Prefer why & how !

**What is the effect of X on Y?*

Better: *How does X affect Y?*

Do you have a research question?

```
graph TD; A[Do you have a research question?] --> B[Yes]; A --> C[No]; B --> D[Fine!]; C --> E[You should have one!]; D --> F[You'll have it easy.]; E --> G[You have a harder job.]; F --> H[Write YOUR research question:]; G --> H;
```

Yes

Fine!

You'll have it easy.

No

You should have one!

You have a harder job.

Write YOUR research question:

“The essence of what I want to say in my paper.”

Homepage of Scribo: A RQ-writing software tool



www.scribo.dk