

Standardized Scientific Research Methodology

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ABSTRACT

|My aim here is to give a very brief overview of some of the main methodological points you should be aware of when planning your own research, or deciding whether you should trust research that someone else has done.

|The idea of research, of course, is to make discoveries, understand things better, and in long run to improve things. It's useful to make this a little more definite by thinking of what the outputs from a research project might be. I can think of the following possibilities:

- 1. Discovering the truth about something**
- 2. Creating, modifying or justifying a theory or model of something**
- 3. Finding a good, or better, way of doing or implementing something**

|This list probably is not complete, and the categories may overlap.

The outputs may be in the form of a report for the audience to read (about the truth for example), or a computer program, or some teaching materials, or a combination of several of these. What is definitely worth noting is that there are two, apparently very different, criteria for evaluating these outputs. The first is "Is it true?" And the second is "Is it useful?" The aim of a research project is usually to improve the future by finding out how to manage better.

My focus is on Accounting research, but many similar issues apply to other areas like Management, education, medicine, or sciences like genetics.

What We'll Cover

1- Introduction.

2- Research definition.

3- Research Importance.

4- Research Sequence:

(Developing Research Idea)

5-Types of Researches.

6- Proposal outline.

7- Characteristics of good topics.

8- Expected outcome of Research.

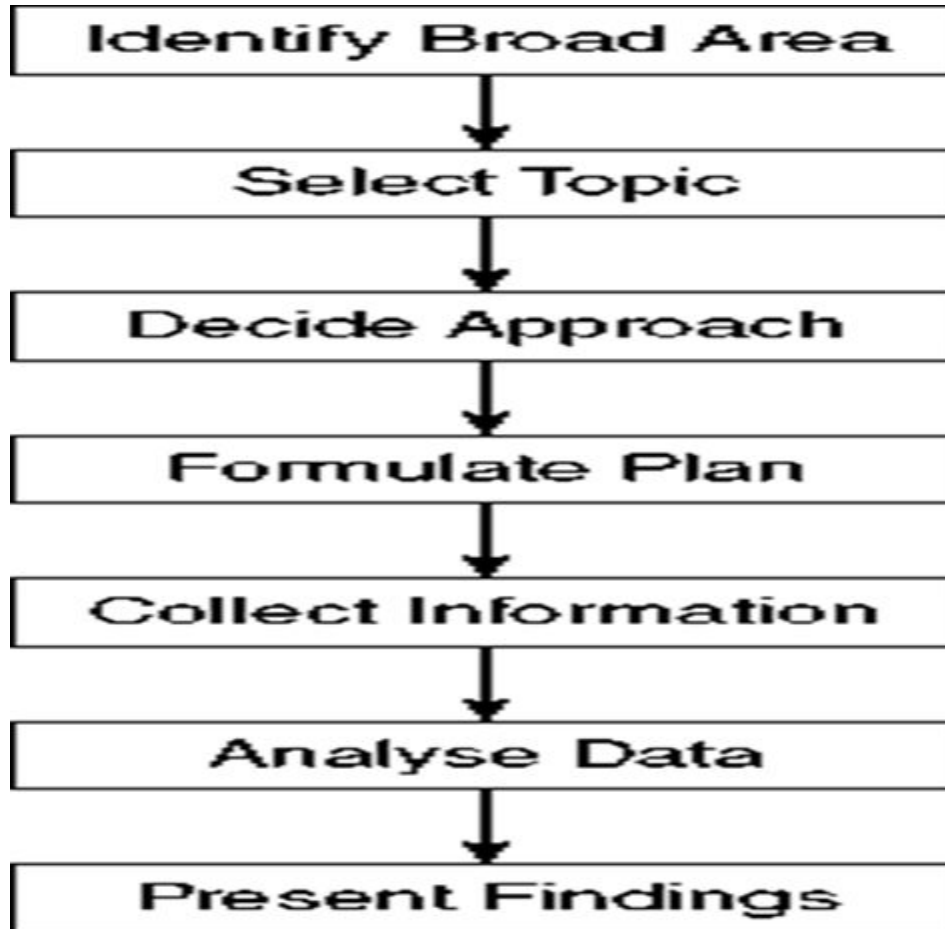
Importance of Research

- 1-Research adds Information to our knowledge.**
- 2-Addresses (Fill in) gaps in our knowledge.**
- 3-Expands knowledge.**
- 4-Replicates knowledge.**
- 5-Adds voices of individuals to our knowledge.**
- 6-Research helps improve practice.**
- 7-Research gives new ideas.**
- 8-Research gives new insights into approaches.**

Characteristics of good topics

- 1. Interesting** – keeps the researcher interested in it throughout the research process.
- 2. Researchable** – can be investigated through the collection and analysis of data.
- 3. Significant** – contributes to the improvement and understanding of educational theory and practice.
- 4. Manageable** – fits the level of researcher's level of research skills

Research Sequence: (Developing Research Idea)



Types of Researches

There are **Two** different types of Researches According to :

I1- Research Process:

I a) Quantitative b) Qualitative

I2-Research Purpose:

I a) Practical b) Theoretical

Proposal outline

1. **Cover page:** Name, Title ,10 key words
2. **Abstract** (100- 500 words quickly)
3. **Aims** of the research ,1/2 page
4. **Rationale** (why is this an important topic practically 1/2 page
5. **Literature Review** (framework of the research) 5 pages
6. **Research Questions** (similar to aims but more specific.) 1/2 page

7. Interpretations of key terms

8. Research design(what is a methodology?

9. Data Collection.

10. Data Analysis.

11. Bibliography- References

Research objectives: Aims

The research objectives pursued in order to answer the research questions. 1/2 page .

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Research Questions Must Identify

1. The variables under study
2. The population being studied

Literature review:

The following **steps help** you writing literature review:

1-Identify the **topics** you will search

2-Find the **documents**

3-Identify the **variables** for study

4-Summarize the documents

5-**Formulate** research problems questions.

Hypothesis

There are two types of Hypothesis:

1-Null Hypothesis: H_0 . There is no difference between the Mean, Average of Sample and The Mean or the Average of the Population.

Or There is no relationship between Monthly Income and Consumption.

If we **reject** the Null Hypothesis, then We have to **accept** the Alternative Hypothesis

Hypothesis- Cont.

2- **Alternative Hypothesis**, H_1 , State the there is a difference between the Sample Mean and The Population Mean, and there is a Relationship between Income and Consumption.

1 We **Accept** the alternative hypothesis, H_1 , after **Rejecting** the **Null** hypothesis, H_0 .

Data Sources :

1-Experiments,

2-Sport.

3-Internet,

4-University Database

5-Banks, Companies, Other privet sector.

6-Governmental documents

7-Libraries

Data Collection

1- **Registration**: Information in Banks, Companies, Government and Private sectors.

12-**Questionnaires**: Can be handed out or sent by email.

13-**Interviews**: Information collected by face to face meeting.

Data Analysis:

The researcher collected data from various sources and used the data management tools and procedures in preparation for analysis.

We can use the following Statistical Tools and methods to Analyze data:-

1-Frequency Distribution Tables. Ordinary Frequency Table, Relative Frequency Table, Percent Frequency Table, and Cumulative Frequency Table

Data Analysis: Cont.

2-Graphical representation. Pie-chart, Bar graph, Scatter diagram and Striate line

3-Measures of Location. Mean, Mode and Median.

4-Measures of Dispersion, or Variation. Range, Variance, Standard deviation, and Coefficient of Variation.

5-Correlation & coefficient of correlation

6-Simple Linear regression Analysis, and **Multiple** Linear regression Analysis.

conclusion

Present Your Conclusion

The conclusion **summarizes** the Research and gives the reader clear idea In three or four sentences, you should re-iterate your Research and review. The **main points** of the body of the Research. Just be sure not to restate your previous words exactly. You can even **briefly describe** your opinion of the topic.

Writing References

When listing Sources in a bibliography at the **end** of the Research, Precision and accuracy are important. We use Chicago Style Manual.

Listing Books: Single Author and Multiple Authors.

1Step1: Type the Author's Surname, then Comma followed by given name. End with a period.

1Step2: Type the Title of the Book.

1Step3: Type the City name where the Book was published.

1Step4: Type the publisher's name, a comma and the year of Publication