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5. Research Design Paper Instructions

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Abstract:

A research design can be defined as the preparation of conditions, for the collection and analysis of data in such a manner, which aims at combining relevance to the research purpose with economy in procedure. In other words, the design arrangement of a research project is commonly known as the "research design". The three most important success criteria in publishing are as follows: the paper describes good research, it is written according to the traditions of scientific writing and submitted to the right journal. The "right" journal publishes papers similar to yours. This paper investigates what research design is, the different kinds of research design and how a researcher can choose the appropriate research design for his/her study. It is effectual to follow the usual structure of scientific papers: introduction, methods, results, discussion, and conclusion. Introduction gives the review of the literature studying your problem and leads to the aim and the hypothesis of your research. You may develop your own steps or procedures as you progress in your writing career; these steps are just to help you begin. In this paper we will Research Design Paper Instructions.

Keywords:

Research, Design, Paper, Instructions, Framework, Document, Design Format, Introduction, Discussion, Hypotheses, Methodology, Conclusion, References.

5.1 Introduction:

The introduction of a research design paper is similar to most academic essay introductions. The section should introduce the topic of the paper. The introduction should also state the significance of the research. Your introduction will cover a lot of ground. However, it will only be half of a page to a few pages long.

The length depends on the size of your paper as a whole. In many cases, the introduction will be shorter than all of the other sections of your paper.

Discussion of theories and hypotheses:

This section of the research design paper contains an extensive discussion on the theories and other factors related to the research questions. The researchers should also state their hypotheses in this section. For example, research regarding distance learning will involve factors like teaching methods and computer literacy. The researchers should then discuss these factors and state that they will take them into account during the data collection.

Methodology:

The methodology section will contain the most important content of the paper. Here, the researchers will discuss their overall methodology. The researchers can add more subsections depending on the nature of their study and their chosen methodology.

Conclusion:

The conclusion will simply summarize the document and state additional information that the researchers did not discuss in the previous sections. If an individual is writing the paper for a project proposal, they may not need to include a conclusion.

A research design is the plan, structure, strategy of investigation conceived to answer the research question and test the hypothesis. The dissertation research design can be classified based on the type of data and the type of analysis.

References:

The reference section is where the writer will list all the sources they used for the document. This should include the sources that individuals used in the theoretical discussion section and other discussions. Similar to the conclusion, a research design for a proposal will not require a reference list. Only a standalone research design paper should include a reference list. [3]

Research Design

The function of a research design is to ensure that the evidence obtained enables you to effectively address the research problem logically and as unambiguously as possible. In social sciences research, obtaining information relevant to the research problem generally entails specifying the type of evidence needed to test the underlying assumptions of a theory, to evaluate a program, or to accurately describe and assess meaning related to an observable phenomenon.

- Identify the research problem clearly and justify its selection, particularly in relation to any valid alternative designs that could have been used,
- Review and synthesize previously published literature associated with the research problem,
- Clearly and explicitly specify hypotheses [i.e., research questions] central to the problem,
- Effectively describe the information and/or data which will be necessary for an adequate testing of the hypotheses and explain how such information and/or data will be obtained, and
- Describe the methods of analysis to be applied to the data in determining whether or not the hypotheses are true or false. [4]

This method includes data collection, analysis, and presentation. It lets the researcher clearly present the problem statement in order to allow others to better understand the need for this kind of research. Without a clear problem statement, you're not doing descriptive but exploratory research. The research design is usually incorporated into the introduction of your paper. You can obtain an overall sense of what to do by reviewing studies that have utilized the same research design [e.g., using a case study approach]. This can help you develop an outline to follow for your own paper.

5.2 The Stages for Developing A Good Research Design are Outlined Below:

The first step in your study design is to figure out what you're going to conduct and why you're going to do it. Many individuals get so engrossed in their endeavor that they lose sight of the forest for the trees and believe that everyone understands the significance of their effort.

A. Determine the Key Unknowns:

It would be best if you studied upon prior work after settling on the broad topic of your research subject and developed a solid justification and purpose for doing it. What are the most significant unknowns and research questions, what gaps does my research project have the potential to fill. Write a "Wider Justification" in which you examine prior work while also identifying knowledge gaps.

B. Determine the Most Important Deliverables:

What will your research's primary outcomes and deliverables be. Understanding, quantification, conceptual, process, analysis, characterization, and determination should all be included in the deliverables.

C. Locate Important Resources:

What are the resources you'll need to do this research project. Will you have to conduct fieldwork, and if so, how long will it take. Are there any particular computer resources, packages, applications, remotely sensed pictures, or computer codes that you'll need.

D. Research Time Period:

A realistic evaluation of the time requirements for each goal should be part of your study plan. Make a Gantt Chart outlining each goal and the amount of time you have available (you can do this in Excel or on paper!).

Calculate how much time each goal will take you in detail, and be realistic about whether you can do it in the time you have available.

E. Make A Workflow Diagram:

After you've completed the stages above, you'll be able to bring it all together into a logical workflow model. These, in my opinion, should be included in all dissertations and grant proposals since they clearly show how the various goals relate to one another.

Write the goal at the top of the page, followed by the hypotheses. Below here, list your resources or inputs. Then, in a separate box, write down each goal and the important deliverables that go along with it.

F. Risks and How to Avoid Them:

If you're going to undertake fieldwork, you'll need to do a risk assessment and explicitly define potential dangers, as well as how you'll minimize or avoid them.

However, you should be aware of broader dangers; do you have the necessary knowledge.

Are the materials you need readily available. Will the prices fluctuate. The following are some potential dangers:

- Unreliable exchange rates
- Wildlife dangers
- Weather
- Hazards to the environment and garbage disposal
- Failure of the equipment

G. Start Your Research:

You're ready to start your research now that you've spent some time properly preparing it. You will research a topic that is relevant, interesting, and enjoyable to you.

You've developed a solid study proposal and are certain that your findings will be useful to society and other scientists. [5]

5.3 Data Type You Need for Research:

Decide on the type of data you need for your research. The type of data you need to collect depends on your research questions or research hypothesis. Two types of research data can be used to answer the research questions:

A. Primary Data:

The researcher collects the primary data from first-hand sources with the help of different data collection methods such as interviews, experiments, surveys, etc. Primary research data is considered far more authentic and relevant, but it involves additional cost and time.

B. Secondary Data:

Research on academic references which themselves incorporate primary data will be regarded as secondary data.

There is no need to do a survey or interview with a person directly, and it is time effective. The researcher should focus on the validity and reliability of the source.

Below are the key aspects of the decision-making process:

- Data type required for research
- Research resources
- Participants required for research
- Hypothesis based upon research question(s)
- Data analysis methodologies
- Variables (Independent, dependent, and confounding)
- The location and timescale for conducting the data
- The time period required for research [6]

The research design provides the strategy of investigation for your project. Furthermore, it defines the parameters and criteria to compile the data to evaluate results and conclude.

Research studies are designed in a particular way to increase the chances of collecting the information needed to answer a particular question. The information collected during research is only useful if the research design is sound and follows the research protocol. Carefully following the procedures and techniques outlined in the research protocol will increase the chance that the results of the research will be accurate and meaningful to others. The more often results are reproduced, the more likely it is that researchers and the public

will accept these findings as true. Additionally, the research design must make clear the procedures used to ensure the protection of research subjects, whether human or animal, and to maintain the integrity of the information collected in the study. [7]

To conduct effective research, you must understand the research process steps and follow them. Here are a few steps in the research process to make it easier for you:

- Step 1: Identify the Problem. ...
- Step 2: Evaluate the Literature. ...
- Step 3: Create Hypotheses. ...
- Step 4: The Research Design. ...
- Step 5: Describe Population. ...
- Step 6: Data Collection. ...
- Step 7: Data Analysis. ...
- Step 8: The Report-writing.

Here are some of the elements of a good research design:

- Purpose statement
- Data collection methods
- Techniques of data analysis
- Types of research methodologies
- Challenges of the research
- Prerequisites required for study
- Duration of the research study
- Measurement of analysis

The research design must contain a strategy for interpreting the analyzed data so as to provide adequate findings and conclusions from the research which will allow the researcher make recommendations or implications based on the study. Research design is divided into three groups: quantitative; qualitative and mixed method research design. The researcher has to decide the most appropriate design which befits the type of research work. [8]

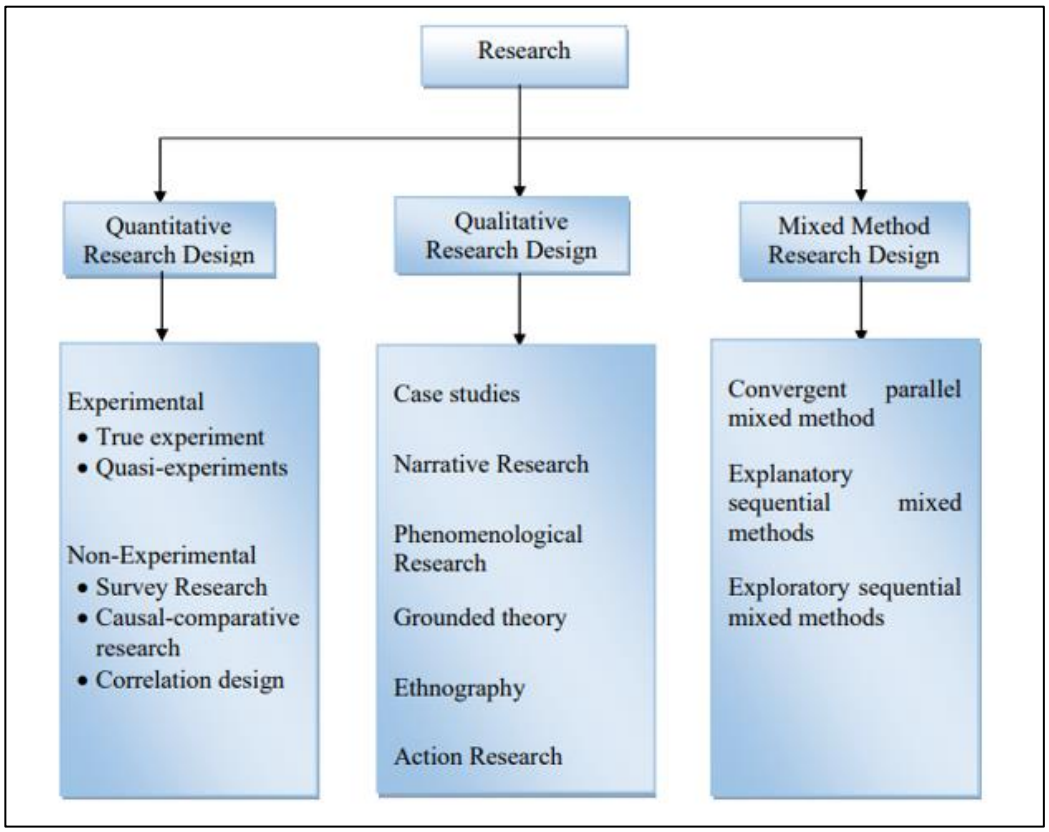

Figure 5.1: Summarized form of research design types

5.4 Different Types of Research Design:

A researcher must be well-versed in different types of research design. Moreover, a clear understanding of different research designs helps choose the proper technique for the research. Research design is broadly divided into quantitative and qualitative research design. We'll walk you through them in detail below.

5.4.1 Quantitative Research Design:

Quantitative research design aims at finding answers to who, what, where, how, and when through the course of research. Moreover, the outcome of the quantitative analysis is easy to represent in the form of statistics, graphs, charts, and numbers. quantitative research design types include descriptive, correlative, quasi-experimental, and experimental types.

- Descriptive. Researchers can use the descriptive design to describe characteristics, trends, means, and other measurable quantities. Studies that aim to quantify a similar factor among a specific demographic will benefit from the descriptive type.
- Correlative. A correlative design aims to assess a quantifiable relationship between different variables. The correlative type is perfect for studies that focus on comparing two or more samples.
- Quasi-experimental. Researchers use a quasi-experimental design to quantify a cause-and-effect relationship between different samples. Studies that focus on a single group will benefit from this type.
- Experimental. The experimental design also aims to quantify a cause-and-effect relationship. However, it involves having an experimental group and a controlled group. This design type is good for any study that aims to assess a causal relationship. [9]

The experimental research is affected by several limitations Human Society reveals inequalities in many choose and find out homogeneous groups for experiments. The purpose of experimental research is to test the hypothesis of a causal relationship between variables. For an experimental study/research, two groups are required, and compared in terms of the assured effect of the experimental variable the validity of an experiment depends on the equivalence between control group & the experimental group chosen.

Table 5.1: Common Application of Research Design [10]

Design	Best for	Also used for
Survey		
1. Cross-Section 2. Longitudinal	Description Description Explanation	Explanation Exploration
Literature Reviews	Exploration	Description & Explanation
Unobtrusive Method		
1. Cross-Section 2. Longitudinal	Description Description Explanation	Explanation Exploration Exploration
Experiment	Experimentation	
Field Search	Exploration	Description Explanation

5.4.2 Qualitative Research Design:

Qualitative research design focuses on finding answers to how and why. It uses open-ended questions and helps the subjects express their views clearly.

Qualitative research is ideal for businesses that aim to understand customers' behavior and requirements.

Qualitative research design types include ethnographic, narrative, grounded theory, case study, phenomenology, and hermeneutics.

- Ethnographic. In ethnography, the researcher directly interacts with the respondents in their natural environment or community. The researcher will take note of their observations and first-hand experiences.
- Narrative. In a narrative design, the researcher writes a narrative about the respondent's life experiences. Researchers use this type if they are studying the life and behavior of a specific individual.
- Grounded Theory. The grounded theory design aims to establish or modify a theory. The method requires the researcher to analyze qualitative data and develop a new perspective regarding the topic.
- Phenomenology. In phenomenology, the researcher aims to understand an event or phenomenon through the experiences of an individual. Researchers often use this method when studying unusual behavior or events.
- Hermeneutics. The hermeneutics design focuses on interpreting the meaning behind words, art, culture, events, and ideas. Researchers studying subjective topics should use the hermeneutic approach in their study.

I have put together a list of 10 steps for you to think about when designing a research project.

Follow these steps for good research design, and for writing a good grant application or introduction to your dissertation or thesis. [11]

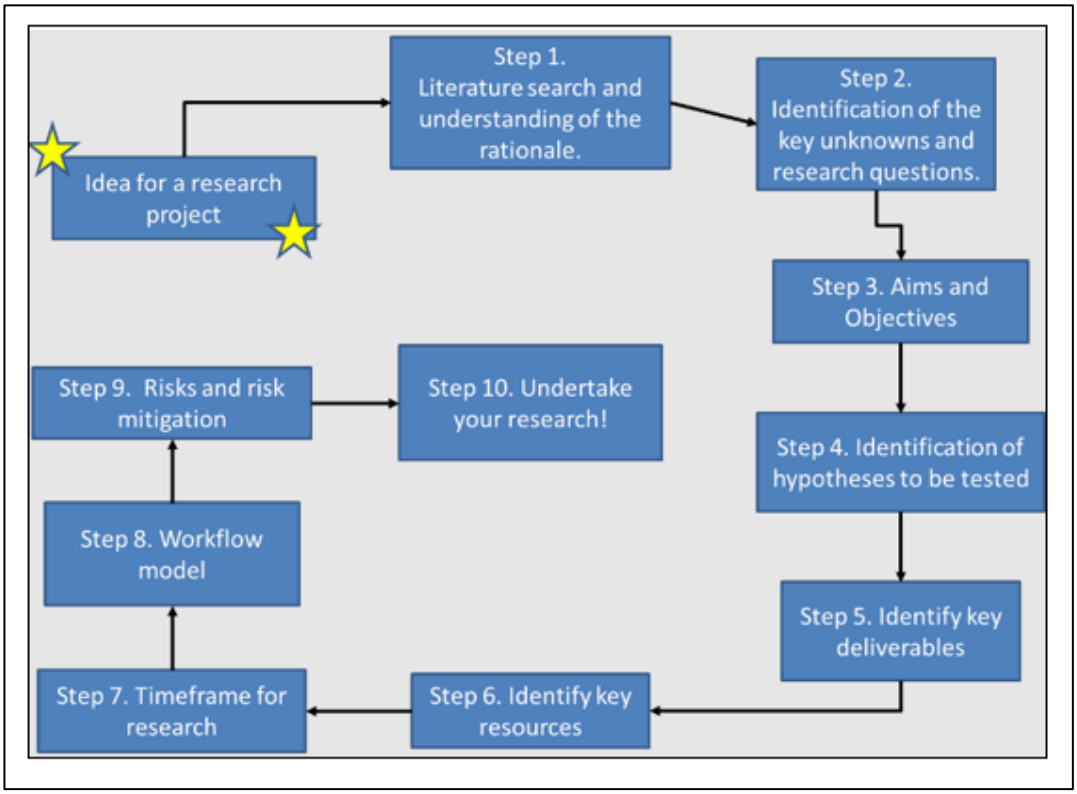

Figure 5.2: Steps for Good Research Design

5.5 Need for Research Design Paper:

Research design is necessary because it makes possible the smooth sailing of the various research procedures, thereby creation research as professional as possible, yielding maximum information with a minimum expenditure of effort, time and money.

For better, economical and attractive construction of a house, we need a blueprint (or what is a community called the map of the house) prepared by an expert architect, similarly we need a research design or a plan in advance of data collection and analysis for four research projects.

Research design stands for advance planning of the methods to be adopted for collecting the relevant data and the techniques to be used in the analysis, keeping in view the objective of the research and the audibility of staff, time and money.13

Designing the research project may result in rending the research exercise unsuccessful. It is, therefore, imperative that an efficient and appropriate design must be prepared before starting research processes. The research design helps the investigator to organize his ideas in a shape whereby it will be possible for him to look for errors and shortages. [12]

5.6 Nature of Good Research Design Paper:

A good research design is regularly characterized by adjectives like flexible, appropriate, efficient, and economical and so on. Generally, the design which minimizes bias and collected & analyses is considered a good design. The design which gives the smallest experimental error in supposed to be the best design in many investigations similarly; a design which yields maximal information many different aspects of a problem is considered most appropriate and efficient design in respect of many research problems. Some of the strategies of good research design are as follows:

- **Theory** - Grounded Good research reflects the theories which are being investigated where specific theoretical expectations can be hypothesized these are incorporated into the design.
- **Situational** - Good research designs make known the settings for the study, this was shown above where a specific need of teacher and administrators was openly addressed in the design plan.
- Similarly, demoralization, intergroup competition and competition might be accessed throughout the use of the additional comparison group who are not in direct contact with the original group.
- **Feasible** - Good design can be implemented. The series and timing of events are cautiously throughout. Possible problems in measurement, devotion to project database construction and the like, are predictable.
- **Redundant** - Good research designs have some flexibility built into them often this flexibility results from the repetition of essential design features. Research in Social Science: Interdisciplinary Perspectives
- **Efficient** - Good research design strikes a balance between redundancy and the tendency to over design. Where it is responsible, other, less costly, strategies for ruling out potential threat's validity cure utilized. [13]

5.7 Conclusion:

The research process involves several steps that make it easy to complete the research successfully. The steps in the research process described above depend on each other, and the order must be kept. So, if we want to do a research project, we should follow the research process steps. he studies will assess the reason behind the dropouts which may include financial constraints, computer illiteracy, motivation, and parental influence. research design should contain detailed information about Research topic, Objectives, Concepts and their operational definition, Variables, Hypothesis, Method of data collection & method of the data process, Analysis and interpretation, Time dimension of study and approximate expenditure involve.

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