**1. Identifying a Research Topic**

**The first step** in selecting a research topic is to identity a general subject area that is related to your interest or expertise.

**Other sources of research topics** are: theories, personal experiences, previous studies that can be replicated and library searches.

**Narrowing the Topic**

For *quantitative researchers* the general topic area needs to be narrowed down to a more specific, researchable one. A broad topic will be a big task of reviewing the related literature, complicate the organisation of the review and tends to result in a study that is general, difficult to carry out and difficult to interpret. Conversely a well-defined, manageable problem results in a well-defined, manageable study. The narrowing down of the research topic should be at the start of the research process.

Conversely for *qualitative research* it starts with a general topic area and after studying the research settings and participants for some time, the qualitative researcher will start to formulate a narrowed research topic.

Selecting a good research topic needs time and effort.

**The characteristics of a good topic are**:

1. The topic is interesting - it holds the interest of the researcher throughout the entire research process.,
2. The topic is researchable - it can be investigated through the collection and analysis of data and it is not stated as an effort to determine what should be done.
3. The topic is significant - it contributes in some way to the improvement or understanding of theory or practice.
4. The topic is manageable - it fits the skill, available resources and time restrictions of the researcher.
5. The topic is ethical - it does not involve practices or strategies that might embarrass or harm participants.

**Writing/Stating a Research Topic**

The research topic for a quantitative research and qualitative research study is different.

**For quantitative research topics**

A well written topic statement generally describes the variables of interest, the specific relationship between those variables and important characteristics of the participants (e.g. gifted students, fourth graders with learning disabilities or teenage mothers).

For example, “The topic to be investigated in the study is the effect of positive reinforcement on the quality of 10th graders’ English compositions.”

The variables to be examined are “positive reinforcement” and “quality of English compositions”. The participants will be 10th graders.

Another example:

“The problem to be studied is the effect of wearing required school uniform on the self-

 esteem of socioeconomically disadvantaged sixth-grade students.”

 Variables are “school uniform” and “self-esteem”. The participants are the

 socioeconomically disadvantaged sixth-grade students”.

**For qualitative research topics**

They are stated in more general terms than quantitative ones. This is because qualitative researchers need to spend more time to learn about the site and the participants before they can come out with more precise research statements.

For example of a general statement in qualitative research as it is drafted in the earlier stage of the research process:

“The purpose of this study is to describe the nature of children’s engagement with mathematics. The intention is to gather details about children’s ways of entering into and sustaining their involvement with mathematics.”

Another example:

“This qualitative study examines how members of an organisation identify, evaluate and respond to organisational change. The study examines what events members of an organisation identify as significant change events and whether different events are seen significant by subgroups in the organisation.”

Another example:

“The purpose of this research is to study the social integration of children with disabilities in a general education third-grade class.”

**The next issue is how to identify a good research topic.**

From the examples given about the writing of a good research topic for deductive and inductive research approaches, it is possible to identify the following factors relating to a good research topic:

1. It indicates the type of research philosophy applied.
2. It identifies the variables such as independent variables and dependent variable at least and their relationships.
3. It identifies the selected participants.
4. It identifies the place or site where the participants are and where the research is to be done.
5. It also indicates the accessibility of the data.
6. It also gives an indication of the research questions and objectives to be established.
7. It also indicates the possibility of the research being done within the available resources and the timeframe.
8. If it is to be an inductive approach, then it can indicate in the research topic.

**Research Topic Statement**

**Importance of the research topic statement**

1. The topic statement is the first component/element that introduces a research process.

2. It gives direction to the remaining research process.

3. It is accompanied by a presentation of the topic’s background to enable readers to understand the nature of the topic.

4. It provides a statement of the problem - explain the problem expected in the proposed research topic.

5. It provides a justification for the study - how it can contribute to a theory or practice.

6. It is accompanied by a list of limitations of the study - lack of participants, small sample, accessibility to data, and other weaknesses such as ethical issues.

7. It helps to develop hypotheses to give some prediction of research findings and to narrow the scope to include only relevant topics in the literature review. (However, this is not the situation in qualitative research; it starts with a broad topic and narrows down to a more specific area of study of a phenomenon.)

**Approaches to generate research ideas**

1. Rational thinking

* Examining your own strengths and interests
* Looking at past project titles
* Discussion
* Searching the literature

2. Creative thinking

* Keeping a notebook of ideas
* Exploring personal preferences using past projects i.e. from past reports
* Relevance trees
* Brainstorming

**Ways to refining ideas:**

* Delphi technique - a group of people examines the research idea to come out with a more specific research idea (Robson, 2002).
* Preliminary study - a review of some of the literature or an informal discussion with people who have personal experience of and knowledge about your research idea.
* Integrating ideas - it involves classifying each research idea into its area, then its field and finally the precise aspect in which you are interested.

**Ways to turn research ideas into research project**

1. By writing out the research questions which help to determine what answers you are looking for.
2. By writing the research objectives from the research questions. The objectives provide the direction and purpose of the research.

Phrasing research questions as research objectives

|  |  |
| --- | --- |
| Research questions | Research objective |
| 1. Why have organisations introduced team  briefing? | 1. To identify organisations’ objective for  team briefing scheme. |
| 2. How can the effectiveness of team  briefing schemes be measured? | 2. To establish suitable effectiveness criteria  for team briefing scheme. |
| 3. How team briefing can be effective? | 3. To describe the extent to which the  effectiveness of criteria for team briefing  have been met. |
| 4. How can the effectiveness of team  briefing be explained? | 4a. To determine whether some of those factors associated with the effectiveness criteria for team briefing being met.4b. To estimate whether some of those  factors are more influential than other  factors. |
| 5. Can the explanation be generalised? | 5. To develop an explanatory theory that  associates certain factors with the  effectiveness of team briefing scheme. |

**How to go about developing a research question**

1. What do you want to find out?
2. Why do you want to research this topic?
3. Why does this research need to be carried out? Is there a gap in the literature or does it contribute to existing theory and/or management practice?
4. What data/information already exists in other similar studies?

 (Adopted from Wilkinson, 2000:16)

**Why research questions are important for conducting a research project**

1. Help to set boundaries when conducting literature review & identifying the key literature.
2. Help propose a suitable methodology.
3. Help produce a refined set of results.
4. Help to allow easier analysis.
5. Help to draw together a reasonable set of conclusions and make reference to previous research.

**How to formulate a reasonable research question**

1. it must not be too easy;
2. it should allow for suitable analysis;
3. it should allow the generation of new insight; and
4. it is to avoid common areas of research.

**Review of Related Literature**

1. The major purpose of reviewing the literature is to determine what has already been done that relates to your topic. It tells you what needs to be done.
2. Previous studies can provide the rationale for your research hypothesis and indications of what needs to be done can help you justify the significance of your study.
3. Another important purpose of reviewing the literature is to discover research strategies and specific data collection approaches that have or have not been productive in investigations of topics similar to yours. This information helps you to avoid other researchers’ mistakes and profit from their experience. It may help you to reformulate your research topic.
4. Becoming familiar with previous research also facilitates interpretation of your research findings/result.

**Guidelines how far you need to do your review of the literature:**

* Avoid the temptation to include everything you find in your literature review. Bigger does not mean better.
* When investigating a heavily researched area, review only those works that are directly related to your specific problem.
* When investigating a new or little-researched problem area, review any study related in some meaningful way to your problem.

**Qualitative Research and the Review of Related Literature**

* For qualitative researcher the literature review is important but may serve a slightly different purpose. It should not be used to be the direction of the research, because it may defeat the inductive purpose of a qualitative research.
* However it is argued that the review of related literature is important early in the qualitative research process because it serves the following functions:
1. The literature review brings out the underlying assumptions (propositions) behind the research questions that are central to the research proposal.
2. It enables the researcher to acquire the knowledge about the proposed research and to defend his research proposition.
3. It enables the researcher to identify gaps in the body of literature and encourage the researcher to direct his research study into the area where gaps exist.
4. It helps the researcher refine the research questions and the development of the hypotheses that provide possible directions the researcher may follow.
5. It identifies the research strategy applied and shows how the process of the qualitative research is being done in that strategy.

***Identifying Key Words***

These key words can help you in your literature search. Sometime you may have to look for alternative words. In looking for the initial key words you can find them at initial sources and probably find additional key words from succeeding sources. After identifying the keywords you are ready to look appropriate sources.

***Evaluating Your Sources***

Once you have a source in hand, you need to evaluate it. The first thing you have to do is to determine if it really applies to your research topic. If it does then evaluate its quality of the information – for example does it come from a scholarly journal or a proper magazine; is the information someone’s personal opinion or the result of a research study? Look at the date of publication and where the source was found. If the research area is a continuing development then look up for the latest references.

Next identify and verify whether the information is objective and impartial. Does the author’s evidence support the interpretations made? Does the information add to the information you have already gathered about your topic? If it does then it is useful and worth paying attention to. Determine that the information is up-to-date and comprehensive.

Perhaps the information you look should relate to the philosophy of the research, research approach, research strategy, research design, the instruments to collect data, the date analysis and the findings (as seen in the honeycomb approach.)

**Abstracting from references**

After you have identified the primary references related to your topic, you are ready to read the article. You will create abstracts by reviewing, summarizing and classifying your references. You do that for 2 reasons:

1. You have made a summary although it may not be a perfect one.
2. You have read the article.

You should begin the abstracting process by reading the latest references because the most recent research is likely to have profited from previous research. Also recent references may cite preceding studies you may not have identified.

For each reference complete the following steps:

1. If the article has an abstract or a summary, read it to determine the article’s relevancy to your problem.
2. Skim the entire article, making mental notes of the main points of the study.
3. Maintain the complete bibliographic reference for the work including the reference to the library classification.
4. Classify and code the article according to some system - a Photostat copy of the article.
5. Summarise the essential points.
6. Indicate any thought that comes to your mind.
7. Indicate any statements that are direct quotations or personal reactions.

**Analysing, Organising, and Reporting the Literature**

A literature requires a technical form of writing that is unlike most of the writing we do. In technical writing facts must be documented and opinions substantiated. The guidelines for technical writing:

* Document facts and substantiate opinions. Cite reference to support your facts & opinions.
* Define terms clearly and be consistent in your use of them.
* Direct your writing to a particular audience.
* Follow an accepted manual of style e.g. the chapter headings, tables constructed, footnotes and bibliographies and their current editions etc.
* Limit big words and avoid jargon.
* Start each major section with a brief overview of the section E.g. In this section, three main issues are examined. The first is ……….”
* End each major section with a summary of the main ideas.

A review of Literature:

* Definition, Purpose and Scope
* Qualitative Research and the Review of Literature
* Identifying Keywords
* Identifying your sources
* Evaluating your sources
* Abstracting
* Analysing, Organising and Reporting the Literature.

**Four Terms used in Research**

**(after the research topic has been established)**

**1. The Purpose Statement**

It is a statement that advances the overall direction or focus for the study. This is usually stated in one or two sentences. It is used both in quantitative and qualitative research and is typically found in the ‘statement of the problem’. It often appears as the last sentence of an introduction. The statement is stated with the phrase “The purpose of this study is …….”

For example in quantitative research:

 *The purpose of this study is to examine the relationship between use of Internet*

 *communication between teachers and parents in a Midwestern school district*

 *and student achievement on tests in high school social studies.*

An example in qualitative research would be written as follows:

 *The purpose of this study is to explore parent stories regarding Internet*

 *communications with teachers about their students in one Midwestern*

 *school district.*

**2. Research Questions**

Research questions are questions in quantitative or qualitative research that narrow the purpose statement to specific questions that researchers seek to answer. Researchers develop them before identifying the methods of the study (i.e. the type of data to be collected, analysed and interpreted in a study)**.** It is done at the theoretical framework stage. There are few research questions being made to fully explore the research topic. Research questions in quantitative research differ from qualitative research because of different elements required in each research.

In quantitative research, the questions relate attributes or characteristics (*variables*) of individuals or organisations. In qualitative research, the questions include the central concept (i.e. the central phenomenon) being explored.

The research questions are typically at the end of the introduction of the “statement of the problem” section or immediately following the review of the literature. An example of a research question in quantitative research:

 *Do parent-teacher Internet communications affect student performance*

 *in the classroom?*

In qualitative research, the research question is as follows:

 *What types of Internet experiences do parents have with teachers about*

 *the performance of the parents’ children?*

**3. Hypotheses**

Hypotheses are statements in quantitative research in which the researcher makes a prediction about the outcome of a relationship among the variables. They serve to narrow the purpose statement to specific predictions. These predictions are based on past research and literature where investigators have found certain results and can now offer predictions as to what other investigators will find when they repeat the study with new people or at new sites.

These hypotheses are stated typically at the end of the introduction or immediately after the review of the literature or in a separate section titled “Hypotheses”. Usually researchers advance several hypotheses such as three or four. For example:

 *Students in high schools in the school district in which parents and teachers*

 *communicate through the Internet will have higher grades than students*

 *whose parents and teachers do not communicate through the Internet.*

**4. Research Objectives**

A research objective is a statement of intent used in quantitative research that specifies goals that the researcher plans to achieve in a study. Researchers often subdivide objectives into major and minor objectives. They appear frequently in survey or questionnaire studies or in evaluation research in which researchers have clearly identified objectives. Like hypotheses and research questions, objectives are found at the end of the “statement of the problem” section, after the literature review, or in a separate section of the study. Objectives can be identified by the phrases such as “The objectives in this study are …………..”

For example: the following represent objectives for a study:

 1. To describe the frequency of Internet communication between parents and

 teachers regarding the parents’ children in high school social studies classes.

 2. To describe the types of Internet communication between parents and teachers.

 3. To relate (a) frequency and (b) types of communication to student achievement

 in the class as measured by performance on tests.

Note: Research questions, hypotheses and objectives are means to narrow and focus purpose statements.

Why are these statements and questions important?

They provide the direction for the conduct of the research study. They direct the identification of the most appropriate research strategy and research design for collecting data. They also provide key components for understanding the results of a project. Good research links the purpose statement and questions to major results.

**Theories and testing of Variables**

In quantitative research we seek to test whether the independent variable influences the outcome of dependent variable. We make this test because we have found past research that suggests that this relationship exists. The researchers may even go further to establish a theory that predicts an impact of the independent variable on the dependent variable. They seek to test this theory. But because the theory deals with humans in unpredictable situations, we say that the independent variable “probably causes” the dependent variable. The idea of probable causation is that researchers attempt to establish a likely cause-and -effect relationship between variables rather than prove the relationship.

Therefore *a theory in quantitative research explains and predicts the probable relationship between independent and dependent variables*.

For example, researchers test the relationship between peer groups’ influence and adolescents. This relationship is tested over and over, with different groups and in other settings. Repeatedly the relationship of a positive effect holds true. Then some comes along, calls this relationship a theory and assigns a name to it. This theory is born, reported in the literature and test by other researchers. Therefore a theory may be thought of as a bridge that connects the independent and dependent variables. Theories are no more than broad explanations for what we would expect to find when we relate variables.

In quantitative research, investigators locate a theory in the literature, examine the predicted relationship, among variables in the theory, and then test the relationships with new participants or at new sites. To test the theory, researchers write purpose statements, research questions and hypotheses that advance the predicted relationship.

For example, a theory on leadership might predict that when managers use consensus-building decision styles, their subordinates feel more supported. Using a theory to test is better than basing variables on your own personal hunches that are subject to challenge by others.

 The process of theory development:

 Inference of the

 A hunch for why independent variable relate to steps in research

 dependent variable

 As a theoretical rationale posed by other authors (literature review)

 based on studies for relationship

 As a conceptual framework often expressed as a (develop conceptual

 visual model by other authors for relationship framework)

 As a formal theory that is expressed by connected (theory)

 hypotheses and variable identified by authors

 **Writing the Research Proposal**

Writing a research proposal is a crucial part of the research process. It can help to get research funding or for approval by the academic research committee.

**The purposes of the research proposal are:**

1. for organising your ideas.

2. for convincing your audience.

3. for contracting with your ‘client’ (supervisor).

**Content of your research proposal:**

1. Title

2. Background - Tell why you feel the research that you are planning is worth the effort. This may be expressed in the form of a problem that needs solving or something you find exciting and has aroused your curiosity.

This is also the section where you will demonstrate your knowledge of the relevant literature (Only an overview of the key literature sources from which you intend to draw.)

3. Research questions and objectives

4. Method

5. Time scale

6. Resources - consider the resources needed - finance, data access & equipment.

7. References

 Questions

 1. Why is it important to spend time formulating and clarifying your research topic?

 2. You have decided to search the literature to ‘try and come up with some research ideas in

 the area of Operations Management’. How will you go about this?

 3. A colleague of yours wishes to generate a research idea in the area of accounting. He has

 examined his own strengths and interests on the basis of his assignment and has read

 some review articles, but has failed to find an idea about which he is excited. He comes

 and asks you for advice. Suggest two techniques that your colleague could use, and

 justify your choice.

 4. You are interested in doing some research on the interface between business

 organisations and schools. Write three research questions that may be appropriate.

 5. What may be the theory underpinning the decision by organisations sponsoring schools?

 6. How would you demonstrate the influence of relevant theory in your research proposal?

 7. How can literature review influence the betterment of the research topic and the research

 strategy in your intended research project?