



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

LCDB7012

ADVANCING TO THE DOCTORAL RESEARCH STAGE

Research objectives, motivation & standard

Amare Desta (Prof)

*Trawsnewid Addysg, Trawsnewid Bywydau
Transforming Education, Transforming Lives*

www.uwtsd.ac.uk



OBJECTIVES OF RESEARCH

The main objective of R is to find out the truth which is hidden, and which has not been discovered as yet and fall into the following groupings:

- 1) **Exploratory or Formulative R Studies:** objective to gain familiarity with a phenomenon or to achieve new insights into it.
- 2) **Descriptive R Studies:** objective to portray accurately the characteristics of a specific individual, situation or group.
- 3) **Diagnostic R Studies:** Objective to determine the frequency with which something occurs or with which it is associated with something else.
- 4) **Hypothesis-Testing R Studies:** Objective to test a hypothesis of a causal relationship between variables.

MOTIVATION IN RESEARCH

- Desire to get a R along with its consequential benefits
 - Desire to face the challenges in solving the unsolved problems
 - Desire to get intellectual joy of doing some creative work
 - Desire to be of service to society
 - Desire to get respectability
 - Directives of the government or society / community
 - Employment conditions
 - Curiosity about new things
 - Desire to understand causal relationships, social thinking and awakening.
- Etc....

BACKGROUND/LITERATURE REVIEW

- Provide context for the R
- What are the main theories / thoughts that have influenced your thinking, or that you are going to test?
- Brief LR
 - Situate the research in a wider academic context
 - Show what kind of reading you will be doing
 - Show your critical evaluation, so far, of the reading
 - Further justify the proposed research

METHODOLOGY

- Detailed explanation of what you are planning to do
 - what data / evidence will be collected and how
 - how access to sources / evidence will be obtained
 - how data / empirical evidence will be analysed
 - justification of your methodological decisions – why were these methods considered the most appropriate for your RQs and context?

LOGISTICAL & ETHICAL CONSIDERATIONS & LIMITATIONS

- What problems do you think you might encounter?
- What ethical issues are presented by this R?
- How will you design your R in order to overcome these difficulties?
- What limitations will your R have? (All R has some limitations, and they need to be acknowledged.)

TYPES OF RESEARCH 1) *Descriptive Vs. Analytical*

Descriptive R includes surveys & fact finding enquires of different kinds.

Objective of a descriptive R is the description of the state of affairs as it exists at present.

The main characteristic : the Researcher has no control over the variables.

The Researcher can only report as to what has happened or what is happening.

Researchers also try to find the causes even when they cannot control the variables.

In descriptive R, the Researchers use survey methods of all kinds, including comparative and correlational methods.

In analytical R , on the contrary, the Researcher has to use facts or information already available. The Researcher analyses the information to do a critical evaluation of the material.

TYPES OF RESERACH : 2) *Applied vs. Fundamental*

- The R can either be applied or fundamental.
- An **applied R** aims at finding a solution for an immediate problem facing a society or industrial/business organisation.
- The **fundamental R**, on the other hand, is mainly concerned with the formulation of theory.
- The **fundamental R** is also called 'pure' or 'basic' R.
- R concerning some natural phenomenon or relating to pure mathematics are examples of fundamental R .
- The R studies concerning human behaviour to make generalisations about human behaviour are also the examples of fundamental R.
- The R aimed at certain conclusions or solutions facing a concrete social or business problem is an example of applied R.

TYPES OF RESERACH

3) *Conceptual vs. Empirical*

- The conceptual R is related to some abstract ideas or theory.
- It is generally used by philosophers and thinkers to develop new concepts or to interpret existing ones.
- On the other hand, empirical R relies on experience and observation alone. This does not give due regard for the system or theory. It is a data-base R. This R comes up with conclusions verifiable by observations and experiments.
- This is in fact an experimental type of R in which it is necessary to get at facts first hand, at their source, and actively to go about doing certain things to stimulate the production of desired information.
- Empirical R, on the other hand, is appropriate when proof is sought that certain variables affect other variables in some way. Evidence gathered through experiments or empirical studies is today considered to be the most powerful support possible for a given hypothesis.

RESEARCH PROCESS *1) Formulating the Research Problem*

- At the very outset, the researcher must single out the problem he / she wants to study; i.e., he/she must decide the general area of interest or aspect of subject matter that he / she would like to inquire into.
- Initially, the problem may be stated in a broad general way and then ambiguities, if any, relating to the problem be resolved.
- Then, the feasibility of a particular solution has to be considered before a working formulation of the problem can be set up.
- Essentially two steps are involved in formulating the R problem; viz., **understanding the problem thoroughly** and **rephrasing the same into meaningful terms from an analytical point of view.**

RESEARCH PROCESS 2. *Extensive Literature Survey*

- Once the problem is formulated, the brief summary of it should be written down.
- It is compulsory for a R worker writing a thesis for a doctorate degree to write a synopsis of the topic.
- At this juncture, the researcher should undertake extensive L.R. connected with the problem.
- For this purpose, the abstracting and indexing journals and published or unpublished bibliographies are the first place to go. Academic journals, conference proceedings, government reports, books, etc. must be tapped depending on the nature of the problem.

RESEARCH PROCESS *3) Development of Working Hypothesis*

- After extensive literature survey, researcher should state in clear terms the working hypothesis or hypotheses.
- Working hypothesis is tentative assumption made in order to draw out and test its logical or empirical consequences.
- R hypotheses are developed to provide the focal point of the R. The hypotheses also affect the manner in which the tests must be conducted in the analysis of the data, and indirectly the quality of the data which is required for the analysis.
- The hypotheses should be very specific and limited to the piece of research in hand because it has to be tested.

RESEARCH PROCESS 4) *Preparing the Research Design*

- The R problem having been formulated in clear cut terms, the researcher will be required to prepare a R design; i.e., he/she will then have to state the conceptual structure within which the research would be conducted.
- The preparation of such a design facilitates research to be as efficient as possible yielding maximal information. The R design is to provide for the collection of relevant evidence.
- But how all these can be achieved depends mainly on the R purpose. The R purposes can be grouped into four categories: **Exploration, Description, Diagnosis and Experimentation.**
- A flexible R design which provides opportunity for considering many aspects of a problem is considered appropriate if the purpose of the R study is that of exploration.

But when the purpose happens to be an accurate description of a situation or of an association between variables, the suitable design will be the one that minimises bias and maximises the reliability of the data collected and analysed.

RESEARCH PROCESS 5) Execution of the Project

- The execution of the project is a very important step in the R process. If the execution of the project proceeds on correct lines, the evidence to be collected would be adequate and dependable.
- The researcher should see that the project is executed in a systematic manner and in time.

RESEARCH PROCESS : *6) Analysis of Data*

- After the empirical evidence have been collected, the researcher turns to the task of analysing them.
- The analysis of data requires a number of closely related operations such as establishment of categories, the application of these categories to raw data through coding, tabulation and then drawing statistical inferences.

RESEARCH PROCESS 7) *Hypothesis Testing*

- After analysing the data as stated above, the researcher is in a position to test the hypotheses, if any, he / she had formulated earlier.
- Do the facts support the hypotheses or they happen to be contrary is the usual question which should be answered while testing the hypotheses.

RESEARCH PROCESS *8) Generalisations and Interpretation*

- If the hypothesis is tested and upheld several times, it may be possible for the researcher to arrive at generalization; i.e., to build a theory.
- As a matter of fact, the real value of the research lies in its ability to arrive at certain generalisations.
- If the researcher has no hypothesis to start with, he/she might seek to explain the findings on the basis of some theory. **It is known as interpretation.** The process of interpretation may quite often trigger of new question which in turn may lead to further researches.

STANDARDS OF GOOD RESEACRH

- Whatever may be the types of R works and studies, one thing that is important is that they all meet on the common ground of scientific methodology employed by them.

One expects scientific R to satisfy the following criteria:

- The purpose of the R should be clearly defined and common concepts be used.
- The R procedure should be defined in sufficient detail.
- The procedural design of the R should be carefully planned to yield results that are as objective as possible.
- The analysis of the data should be sufficiently adequate to reveal its significance and the methods of analysis should be appropriate. The validity and reliability of the data should be checked carefully.
- Conclusions should be confined to those justified by the data of the R and limited to those for which the data provide an adequate basis.

QUALITIES OF GOOD RESEARCH

- **It is Systematic:** structured with specified steps to be taken in a specified sequence in accordance with the well-defined set of rules.
- **It is Logical:** guided by the rules of logical reasoning and logical process of induction and deduction are of great value in carrying out research. Induction is the process of reasoning from a part to the whole whereas deduction is the process of reasoning from some premise to a conclusion which follows from that very premise.
- **It is Empirical:** related to a real situation and deals with concrete data that provides a basis for external validity to research results.
- **It is Replicable:** allows R results to be verified by replicating the study and thereby building a sound basis for decisions.