

Pilot Study

in social sciences

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**Do not take the risk
pilot test first**

- de Vaus (1993:54)

Research Protocol

A research protocol is a document that describes the background, rationale, objectives, design, methodology, statistical evaluation of the data and organization of a research project.

It is a soul of any research

‘ Small scale version(s) or trial run(s), done in preparation for the major study’

- Polite et.al. (2001:467)

Obviating pilot study on the magnitude of time and other resources could be risky though the study has been scientifically planned owing to unforeseen difficulties.

Number of pilot studies positively related to scale of research protocol

Number of Trials	6						High	Generalization	Imp. of Res. Problem
	5								
	4					*			
	3					*	Low		
	2				*	*			
	1		*	*	*				
	0	*	*	*					
		Graduate Study	PG Study	PG Research Study	Doctoral Study	Post Doctoral Study			
	Courses and Research Protocol								
	Minor	Risk				Major			

Reasons for Pilot Testing

Current research climate demands accountability from researcher.

Convenience funding bodies and other stakeholders.

To Know in advance lacunae/shortcomings/grey areas in research project.

To Know where research protocols may not be followed

To Know whether proposed methods are appropriate

To Know whether proposed instruments are appropriate and adequate.

To find potential practical problems in execution.

To judge local politics/problems that may affect the research process.

Importance of a Pilot Study

- Feasibility of study protocol
- Test study instrument
- Questionnaire format is comprehensible
- Test appropriateness of data collection using the selected interview techniques
- Test data collection process
- Test data entry, coding of items & appropriateness of statistical tests.

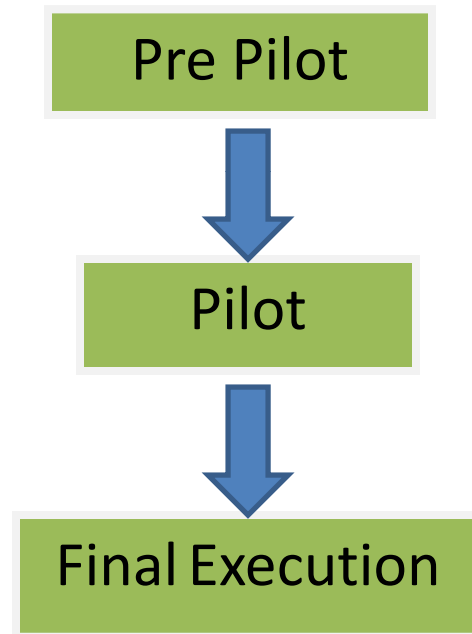
Steps in Pilot Study

Research steps

- Research encompasses various processes which are interrelated and interdependent
- Ultimate aim of Research is to provide prescriptions for problems cited and unearthed during research process.



Steps in Pilot Testing



Pre Pilot

Pre Pilot – Step 1 (pooling information)

Review of Literature

Qualitative Study

Experts Opinion (one to one)

Group discussion (one to all)

Brainstorming

Pre Pilot – Step 2 (organizing Information)

Determine dependent and independent variables.

(Defining reliable outcome measurements/variables)

Theoretical model building.

Preparation of categories and variables

Preparation of data collection instrument

Pilot

Pilot – Step 1 (Execution of Instrument)

Determine sample to meet

Coding of variables

Execute instrument (data collection)

Observe qualitative aspects (situation sample is surrounding with)

Pilot – Step 2 (Analysis of Pilot Data)

Data feeding

Validation and reliability

Test of normality

Testing hypothesis, post facto

Testing of determined data with statistical tools

Pilot – Step 3 (Revise Research Design)

Sampling

Data collection instrument

Repeat step 1 and 2 above

Pilot – Step 4 (Revise Research Design)

Repeat step 3 first and then 1 and 2 above.

Repeat till desired pilot results attained.

Final Execution

Final Execution – Step 1

Repeat final research design of pilot

Qualitative discussions with experts on the basis of findings

Writing report

Preparing synopsis and policy documents

**Lets peep into
depth**

A	Questionnaire/Schedule
B	Missing Data
C	Data entry in spreadsheet
D	Normality
E	Sampling
F	Reliability of Schedule
G	Qualitative Observations
H	Testing of Hypothesis
I	Data reporting

A. Questionnaire/Schedule

Understanding of questions in schedule

Construction of questions

Sufficiency of multiple choices

Sequence of questions

Appropriateness of Structures

Translation of questionnaire in vernacular language

Translated items should be understood in a way similar to the way intended by the questionnaire makers.

Translation results must also be piloted and analyzed.

Identify ambiguities and difficult questions.

Record time taken for filling questionnaire

Identify necessary questions

Confirm whether adequate range of responses is available for all close ended questions

Check questions for low responses and reasons for the same

Verification of schedule informally through experts, seniors, stalwarts in the field add values.

B. Missing Data

Items which need to be reverse recorded.

Researchers must reflect the items which need to be reverse scored, prior to handling and replacing missing values. There is no standard established with respect to the percentage of missing data that becomes problematic.

C. Data entry in spreadsheet

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D. Normality

Checking normality in pilot testing is important. Normality is attained when $n = 30$

Normality tests:

Eye-ball tests – histogram and normal QQ plot

Descriptive statistics – mean median and mode (closer values shows normality).
Skewness and Kurtosis (+ - 2.00)

Statistical tests - KS test, Shapiro Wilk test

Using more than one way for checking the normality put researcher on the safe side.

Know the reasons behind outliers.

E. Sampling

10-20% of the main sample size is a reasonable number for conducting a pilot study (Baker 1994).

F. Reliability of Schedule

Used for newly prepared and schedule (instrument) which is established before

Test – retest reliability.

Parallel form reliability

Consistency – inter-item consistency and Split – Half reliability,

Principle component analysis (PCA)

Variables reduction

Whether to adopt the scale as it is or modify/ add variables?????

G. Qualitative Observations

While executing Schedule ponder on following points

Missing responses (more options are desired by respondents)

Perception of respondent about questions asked (appropriateness of wordings)

Additional information that respondent is willing to share

Late response/ no response to some questions – Reasons for the same

Seeking opinion of respondents about adequacy and coverage of questions/ scope for research

Clarifications required by respondents on particular points (Later on a ready reference sheet can be prepared for field investigators)

H. Testing of Hypothesis

Use of parametric and non parametric statistical tools

One thing the researcher should pay attention that a pilot study is not a hypothesis testing study, however, mentioned that the main purpose of conducting a pilot study is examining the feasibility of the intended approach the researchers will use in the main study (Leon et.al. 2011).

I. Data reporting

Scheme of data reporting

Scheme of data reporting, its sections, nature of tables, number of tables etc. should be revealed clearly in pilot testing.

Reporting of Pilot Studies

- Article on pilot study can be considered on its own merit.
- Article with statistically significant results
- A paper reporting methodological issues

Experts Notes

- Experts notes on research problem can be extended to pilot testing.
- Experts can provide themes to budding researchers after pilot testing.

Ethics in Pilot Testing

- Un-baised treatment and testing.
- Exclusion of pilot study participants in main study.
- After modification of research instrument the same should be tested again for validity. The reasons for which instrument was modified needs to be verified through data.

Discussion

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