Preparing a Research Proposal

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What is a Proposal?

- A formal request for support of sponsored research, instruction, or extension projects

Good proposals quickly and easily answer the following questions:

- What do you want to do, how much will it cost, and how much time will it take?
- How does the proposed project relate to the sponsor's interests?
- What difference will the project make to: your university, your students, your discipline, the state, the nation, the world, or whatever the appropriate categories are?
- What has already been done in the area of your project?
- How do you plan to do it?
- Why should you, rather than someone else, do this project?

Common features of success in proposal writing and success in scholarship:

1. Technical skills (your toolkit)
2. Ability to identify important topics / gaps in our understanding
3. Conceptual skill: linking question – theory – methods – model
4. Teasing out the implications of the findings in meaningful ways, e.g.,
   - implications for the discipline
   - Insightful new understanding of how the system works
   - Implications for policy

Common reasons for rejection:

The National Institute of Health (NIH) analyzed the reasons why over 700 research proposal applications were denied:

- Nature of the Problem (18%)
  - It is doubtful that new or useful information will result from the project (14%)
  - The basic hypothesis is unsound (3.5%)
- Approach to the Problem (38.9%)
  - The research plan is nebulous, diffuse and not presented in concrete detail (8.6%)
  - The planned research is not adequately controlled (3.7%).
  - The research plan has not been carefully designed (11.8%)
  - The proposed methods will not yield accurate results (8.8%)
- Competence of the Investigators (38.2%)
  - The applicants need to acquire greater familiarity with the relevant literature (7.2%)
  - The problems to be investigated are more complex than the applicants realize (10.5%)
  - The applicants propose to enter an area of research for which they are not adequately trained (12.8%)
  - The reviewers do not have sufficient confidence in the applicants to approve the present application, largely based on the past efforts of the applicants (6.8%)

1. Getting started: choosing a topic

1. Problem statement:
   1. what is the problem?
   2. Why does the problem need analysis?
   3. Headline grabbing?
2. Discover the current cutting edge by talking to the academic leaders in the field and ask them about their current research activities
3. Read the relevant literature – iterative process between stages 1-3
4. Identify early on which kind of contribution(s) you are aiming for:
   – Disciplinary
   – Subject Matter
   – Problem Solving
5. Iterative (not linear) process: review of literature / research questions /objectives - data - methods

2. Get a feel for the data

- Don't write the proposal in an empirical vacuum!
- If you have primary data already, run basic descriptive statistics, e.g.,
  - Plot distribution of all variables of interest
  - Skewed? outliers?
  - Distribution of dep var and main RHS variables: $10^{th} - 25^{th}$ -50th -75th -90th percentiles of distribution
  - Example: distance to point of sale
- Rough out "dummy tables"
  - Then fill in – usually tables of the distribution, % adopting, cross-tabs, bivariate relations
- If you don't have access to data, this emphasizes even greater need for solid literature review

3. Iterate back and forth on 1 and 2

- Once you settle on the right set of research questions/hypotheses/issues, then consider:
  - your conceptual framework; theoretical foundation
  - Estimable models and how you derive them;
  - data to be used

4. Introduction

1. Funnel concept: broad to narrow
2. Problem statement
3. What's the likely outcome if the problem remains unresolved
4. How has previous literature addressed this issue, and how is it deficient in some way.
   - Identify the "knowledge gap"
   - Explain why resolving/addressing this issue is important
5. Clear presentation of objectives
   - How will your analysis help to resolve the problem?
   - If a quantitative analysis, use terms like "determines", "estimates", not "explores"
6. How you will achieve these objectives, i.e., methods
7. Who will benefit? / who will care?

5. Flesh out the outline

- I develop my outline usually <u>after</u> fleshing out steps 1-6 of the Introduction.

- Conventional approach for article where model and estimation results feature prominently:
    1. Introduction
    2. Conceptual Framework
    3. Methods / model(s)
    4. Data
    5. Timeline of activities / stages of study

- Use topic paragraphs

6. Conceptual Framework

- Very important to integrate prior literature on the topic
- Doesn't need to be a "lit review" *per se*, but should describe how understanding, theory, and/or viewpoints have evolved over time by citing the relevant studies
- The lit review / concept. Framework should have a purpose – it tells a story that is consistent with your problem statement
- Sometimes appropriate to do this formally, other times not (depends on what kind of contribution you are aiming for – D, SM, or PS)
- Identify again the deficiencies/knowledge gaps in the existing literature – this sets up the contribution you are going to make in the remainder of the paper

7. Methods / model

- This section links the conceptual framework to the generation of findings
  - How do we go about deriving the findings of the study?
  - Best to state limitations and caveats, so that the reader is aware that you are aware
- Draw from economic theory, where appropriate, to derive your model
- Checklist:
  - Is endogeneity a problem? If so, explain how you address it (e.g., simultaneity, omitted variables)
  - Selection bias
  - Attrition bias
  - Does dependent variable have unusual distribution?

Organization of proposal:

Title page

Abstract

Table of contents

1. Introduction – many requirements here
2. Review of literature (including your preliminary work on the topic)
3. Objectives
4. Hypotheses
5. Methods
6. Data
7. A priori expectations / comparative statics (not always needed)
8. Timeline of activities
9. References
10. Budget
11. Annexes
    - CV
    - Letters of support, institutional affiliation, etc.

Some flexibility in organization is often warranted

Title page

- Personal data:
  - Name
  - academic title
  - your position at your own university
  - nationality if appropriate
  - your contact information
  - institutional contact.
- Title of your planned dissertation or research project:
  - words in the title should be chosen with great care: brief, accurate, descriptive and comprehensive
  - Accurately describes the focus of your particular research
  - Strive for the title to be less than ten words
  - Consider "keywords" – ones that others will search for

Title page (ii)

- Indicate realistic time frame toward project completion

- followed by the name(s) of your supervisor(s), university department affiliation, and, if applicable, information about collaborating partner institutions / researchers

Abstract

- **Abstract/summary statement of the research project:**
  - Some organizations specify abstract length. If not specified, aim for 1 to 1.5 pages max.
  - problem statement/knowledge gap
  - why important, possible consequences of failure to address problem, why need for this study
  - Objectives
  - Proposed procedure for addressing the objectives (data, methods, approach)
  - Who will benefit? Alignment with Grantor Strategy

Introduction: I'm repeating here because these points are crucial

1. Funnel concept: broad to narrow
2. Problem statement
3. What's the likely outcome if the problem remains unresolved
4. How has previous literature addressed this issue, and how is it deficient in some way.
   - Identify the "knowledge gap"
   - Explain why resolving/addressing this issue is important
5. Clear presentation of objectives
   - How will your analysis help to resolve the problem?
   - If a quantitative analysis, use terms like "determines", "estimates", not "explores"
6. How you will achieve these objectives, i.e., methods
7. Who will benefit? / who will care?

Review of literature

- Reference the most important contributions

- Demonstrate that you are fully conversant with the ideas you are addressing

- Indicate the knowledge gap / problem / hypotheses that motivate your proposal

- Your preliminary work on the topic

- State how your research will contribute to existing research

Objectives

- No more than 3!

- Consider a paragraph or two after the presentation of the objectives to show how they will address the problems / knowledge gaps identified earlier. How the achievement of the objectives will contribute to our understanding…

Methods

Data

Timeline of activities

Budget

Typical categories

- Researcher time

- Assistant time

- Travel costs (flights, local transport, per diems)

- Field costs (enumerators, petrol, per diems, etc)

- Indirect costs (check grantor and grantee regs on this)

- Sub-contracts to other institutions / contractors

- Materials (laptop, GPS devices, communications, etc)

For big multi-purpose proposals:

- Alignment of activity to Grantor Strategy
- Collaborating institutions and their role
- Description of the Project and its various components / activities
- Theory of change
- Sustainability and scalability
- Project implementation plan
- Policy impact strategy

Review carefully – checklist:

The Bureau of Occupational and Vocational Education comparable study.

- Based on a sample of 353 research grant applications:

- -- 18% forgot to number the pages
-- 73% forgot to include a table of contents
-- 81% had no abstract.
-- 92% failed to provide resumes of proposed consultants
-- 25% had no resume for the principal investigator
-- 66% included no plan for project evaluation
-- 17% forgot to identify the project director by name
-- 20% failed to list the objectives of the project

Best wishes for success and a rewarding grant!