THE RESEARCH PROSPECTUS

Getting the “DNA” of Your Research Design Right.

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Key Prospectus Components

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Introduction

A research prospectus is a brief overview of the key components of a research study. These components together form the “DNA” of the research methodology design. The purpose is to build quality into the proposal process by getting this DNA right before launching into developing a full-blown proposal. Experience suggests that if the DNA is right, the proposal comes together much easier, is more likely to be internally consistent, and requires less rework.

Problem Statement

It all begins and ends with a problem. Identify a real world problem or management dilemma, provide a very brief background on the nature of the issue and our inability or lack of knowledge to solve the problem. See Cooper and Schindler (2003) p. 66 for a description of a management dilemma. All the other components are designed to produce a contribution to knowledge that will help solve the problem.

Purpose Statement

Describe the purpose and significance of the study. What will someone be able to do better once they have the findings from this study? The generic purpose of a research study is to produce credible empirical knowledge. The question here is what is the specific deliverable or contribution to the body of knowledge that this study will produce? The purpose or desired deliverable will drive the research design decisions. The next step is to develop the research questions and conceptual framework.

Conceptual Framework

The next two components - the research questions and the conceptual framework are developed together. While developing the question hierarchy experience suggests that it is very beneficial to also diagram the problem or topic. This is often called a conceptual framework. According to Miles and Huberman (1994), “A conceptual framework explains, either graphically or in narrative form [diagrams are much preferred], the main things to be studied - the key factors, constructs or variables - and the presumed relationships among them.” (p. 18)
Since a diagram is literally worth more than 1,000 words the task here is to create a diagram of the topic that includes clearly defined variables (independent and dependent) along with the relationships of those variables and key factors that influence the variables and the relationships. This task is often done in conjunction with the question hierarchy and it is an iterative process.

Conceptual Framework: The Center of the Research Design

Research Questions
At the same time that the conceptual framework is developed the research questions will emerge. The nature of the questions range from very deductive focused questions about particular relationship to broad descriptive inductive questions about the system. The questions should be designed so that the answers to the questions will produce the knowledge identified in the purpose statement. Cooper and Schindler (2003) propose that there is a question hierarchy that connects what they call the
management dilemma (a.k.a. problem statement) with the management decisions (p. 66).

Develop and describe:

- Management Question(s),
- Research Question(s), and
- Investigative Question(s).

The management questions are those asked by the practitioners faced with solving the problem. The answers to the management questions provide actionable information to solve the problem. The research questions are more specific and focused on the variables, relationships, and factors identified in the conceptual framework. The investigative questions are more specific research questions that drive the measurement plan. In the end there is a direct and hopefully obvious link between the conceptual framework and the questions.

**Literature Review**

The next step is to determine how much we know about the variables and relationships identified in the conceptual framework and the questions. The typical format for this discussion is a literature review. The literature review outlines, discusses and analyzes the existing research findings. At this point (the prospectus) the objective is to simply identify the main contributors to the topic and the key theories that are involved. Keep this very short!

**Level of Existing Knowledge**

Based on the literature review determine the current level of empirical knowledge on the topic. The level of knowledge will drive two decisions - the applicability of hypotheses and the selection of an overall research approach.

**Hypothesis?**

While all research studies have questions - all studies do not include hypotheses. The level of existing empirical knowledge will determine whether a hypothesis is appropriate. A hypothesis is not a wild guess - it is a logical conclusion based on the previous research findings identified in the literature review. A hypothesis is the predicted answer to a research question. The level of existing knowledge and the decision to include or not include hypotheses will drive the appropriate overall research approach.
Overall Research Approach

Based on how much we know about the questions and the decision whether to use a hypothesis determine the overall research approach - qualitative, quantitative, mixed. Identify the overall approach and the rationale for the approach.

The Research Arc:
Factors Influencing the Appropriate

This will depend heavily on whether you will be building theory or testing theory. How much do we know about your topic - the variables, the relationships, etc.? If little is know about the topic then it might be a theory building study, however, if much is known about the topic in general it might be more appropriate to test the theory in a new context or with a new population. Hint: if you are using a hypothesis then the overall approach should be a deductive, fixed, quantitative design. Often, management researchers find themselves some where in between and consequently mixed methodologies seem to be gaining popularity.
Measurement Plan
How will you measure the independent, dependent, and moderating variables? The key here is to identify a way to measure the change in the variables. For quantitative deductive studies non-parametric measurement instruments lead to non-parametric statistical analyses which are acceptable but not as powerful as the parametric statistical analyses. For qualitative studies the measurement might be qualitative descriptions based on the responses to the questions in an interview guide. For mixed method quasi-deductive studies the measurement plan might include both qualitative descriptions and quantitative measures (e.g., survey questions with scales, performance measures such as financial performance). The measurement plan should be consistent with the overall approach identified in the previous step and the conceptual framework and research questions.

Data Collection Plan
How will you collect the data using the instruments and measurement approaches identified in the measurement plan? The data collection plan includes a sampling plan. Be explicit about the nature of your population and sample, the kinds of data gathering instruments you will use, and the circumstances under which the data are likely to be gathered. Include any specific activities that you would propose to reduce bias and increase validity. The level of data that is collected will determine the analysis options that are available.

Data Analysis Plan
The measurement and data collection is typically focused on the variables, factors, and the context - the analysis is focused on the relationships between the variables, factors, contextual factors. The type and level of data that is collected will determine the data analysis options that are available. The type of data (qualitative vs. quantitative) will determine the overall menu. The level and nature of the data will then further limit the options on the menu. For quantitative data the level (nominal, ordinal, interval, and ratio) will determine the specific statistical tests that are available.

Analysis is not limited to statistical tests and thematic analysis. In fact, preliminary exploration of the data using visual displays is a useful way to “get to know” your data. There is not substitute for an in-depth understanding of the data set and what it means prior to submitting it to statistical analyses. How will you display the data and analyze the results of the tests and qualitative techniques? It is helpful to begin with the end product in mind when designing a research study. This helps align the other components of the methodology with the ultimate outcome.

A table is a very handy way to display this information using columns labeled – independent variable, dependent variable, and relationship. The variable descriptions would include the measurement method or scale and the level of the data. The relationship column would identify the analysis of the relationship between the variables.
For quantitative analysis the statistical test(s) that will be performed should be identified.

**Drawing Conclusions**

The final step in the research process is drawing and verifying conclusions, identifying limitations associated with those conclusions, and recommending the future research questions and studies. How will you draw conclusions? Are there limitations that you have identified in the design thus far? The researcher makes many decisions during the research design process that directly drive some of the limitations. It is helpful to identify these limitations when the design decisions are being made.

**Expected Contribution to Knowledge**

With the conclusions drawn what do you expect will be the contribution to knowledge? This should directly address the purpose statement described above.

**Expected Outcome**

Finally, what is the expected outcome of the study? This should directly link to the problem statement.

**Internal Consistency and Congruence**

These components form a research methodology. This methodology must be internally consistent and congruent. As should be obvious at this point, the decisions that are made in each component impact the decisions in other components. The permutations (combinations of components) that are possible are many.

One way to help deal with the complexity of a research design is to focus on the conceptual framework. Each time that a component is changed go back to the conceptual framework. If there is an inconsistency between the component and the conceptual framework you have two options: (1) revise the conceptual framework or (2) revise the component. Of course if you choose to adjust the conceptual framework then you need to review the other components for alignment and consistency. Each time that you change a component go back and check for alignment and consistency with all the other components. This is why working with a brief document such as a prospectus is much easier than trying to achieve basic alignment with a more comprehensive proposal.
Internal Consistency and Congruence:
Using the Conceptual Framework to Guide Integration and Alignment

The “Acid” Text
Once the prospectus is complete and consistent ask yourself three questions:

1. Will the study produce a needed and useful contribution to the body of knowledge?

2. Am I passionate about the topic?

3. Is it doable?

As you adjust the scope to ensure that the study will make a contribution make sure that the study is doable.
Guidelines
A few guidelines for developing the prospectus:

1. The length of a prospectus should be 3 to 5 pages. The maximum number of pages should be no more than 10. If the number of pages exceeds 10 then you have missed the point of a prospectus. The point is to create a document that is small enough that you can deal with the complexity of the methodology design.
2. Avoid including any tutorial text on research methods. Focus instead on the content of the study.
3. Use bullets instead of lengthy passages.
4. Be specific and avoid abstract descriptions.
5. Even after you develop the full-blown proposal keep the prospectus up-to-date and use it to quickly test the appropriateness of changes to the proposal.

Summary
Developing a research prospectus is an iterative process. The goal here is not to have everything completely determined before the literature review but rather to have a starting point to work from as the literature review unfolds. This framework is designed to facilitate and document the results of that process and help get the most from the multiple iterations.

References