Thesis Proposal – Methods Section

Introduction

You should open the Methods section (Section V) with a description of the methods that you will be using. If you plan to conduct research that lies more at the social science boundary, you should state in the first sentence that you will be using the case study research method (Yin, 2013). In most cases, students using the fifth edition of Robert Yin’s textbook use a secondary method. Should interviews be used to supplement the literature research, students are advised to use the text, “Interviewing Principles and Practices” (Stewart and Cash). Any other survey method used to help complete your data set, must be presented with the proper reference.

If you plan to create your own data using scientific experimentation, you must cite a published reference for every element of the research. This would include the quality control checks on the database and all statistical and other methods used to analyze the data. Some students use the case study research method as the overarching method and conduct experiments to create the data necessary to complete the information required.

Once the method(s) is stated, each of the following items must be addressed in the methods section of your thesis proposal:

- Research Design
- Collection of Data and Information
- Analysis of Data

The final section in the methods section will be a description of the research protocol. This section will be followed by a description of the Limitations of Methods (Section VI).

Research Design

The research design is needed to structure your research effort. Elements of the design are described both in the Yin (2013) text and in the Social Research Methods internet site (Trochim, 2006). The protocol for the design of the method can be presented in the form of a table:

<table>
<thead>
<tr>
<th>Research Design Protocol</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Question</td>
<td>State your research question</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>State your hypothesis</td>
</tr>
<tr>
<td>Unit of Analysis</td>
<td>Yin (2013) and Trochim (2006)</td>
</tr>
<tr>
<td>Logic Linking Data to the Hypothesis</td>
<td>Case study design and analytical methods</td>
</tr>
</tbody>
</table>
The research question and the hypothesis have already been covered in this course. This information can be entered directly into the table that you will insert into this section of your thesis proposal. While only one research question is presented in the Research Problem Section, you can enter sub questions that are part of the research question in the table. Scientific-focused research may have multiple hypotheses. They can be submitted in the table.

The word, “case,” can mean something different than you might expect. As a guide, the definition of the unit of analysis is the same as the definition of the case and is related to how the research question was stated (Yin, 2013). The term, unit of analysis, is used because it is the analysis you do in your study that determines what the unit is (Trochim, 2006). Selecting the unit of analysis is very important to help identify the relevant information to be collected. Without the unit of analysis, you may be tempted to collect and compare too much information. The more the case study has a well-stated research question and answer combined with a defined unit of analysis, the more it will stay within feasible limits for your masters’ level research (Yin, 2013). Your unit of analysis should be revisited as a result of discoveries during your data collection.

Using the knowledge gained in considering the “Role of Theory in Design Work” (Yin, 2013) and the “Foundations” information (Tochim, 2006), you should explore your case study design (Yin, 2013). Will you use a single-case design or multiple-case designs? The case study design is entered into the table above along with the analytical method(s). If you are using multiple case designs, they can be arranged into a quadrant diagram that shows the different elements of the analysis that will be conducted. You should include a figure in the thesis proposal showing the quadrants and their topics should you choose this design.

Once the case study design is selected, it is important to conduct four tests to establish the expected quality of the research:

- Construct validity
- Internal validity
- External validity
- Reliability

Each of these tests will be used to guide the sampling and measurement phase of the research where the data from the literature research and the other information from experimentation or
conducting interviews will be placed into the evaluation structure selected in this design step (Yin, 2013; Tochim, 2006).

**Collection of Data and Information**

There are two chapters in Yin (2013) that provide guidance on how to address the collection of your data and information:

- Preparing to Collect Case Study Evidence
- Collecting Case Study Evidence

Yin (2013) discusses six sources of evidence that could be used in conducting the research. It would be useful to list the sources of evidence that you will be depending on for your research. This can be done using a table inserted into the text.

Tochim (2006) covers a number of considerations under the topics of sampling and measurement.

The evidence will be sorted into a case study database using the format of the quadrant or other interpretive structure used in your research. Keep in mind the “unit of analysis” when placing the data into the analytical structure. It is important to maintain a chain of evidence when storing the data (Yin, 2013).

A short section should be included in the methods section that addresses how you will use this information in your research.

**Analysis of the Data**

If you are using the case method research approach, you will probably be relying on pattern matching and/or explanation building (Yin, 2013). Tochim (2006) presents additional analysis methods. You should collect information on the method(s) that you choose and explain how you plan to use it in this section of the Methods section.

**Research Protocol**

The thesis proposal should include a diagram of the research protocol that you plan to use. It should provide the research advisor and the thesis director that you have mastered the information presented above and can use it to describe how you plan to conduct your research consistent with the schedule provided near the end of the thesis proposal. You should briefly describe the elements and sequencing of the information provided within the figure.
References


