**Doing Research and writing it up**

**(Prepared on the basis of the book “Doing Economics: a guide to understanding and carrying out economic research” by Greenlaw (2006))**

**Title**

A good title it designed to capture the reader’s interest. Best way is to pose the research question in the title. A good title will have an enigmatic quality

***Examples:***

Is Divorce Indebting Our Children?

Intergenerational Mobility: Do First-generation Immigrants Lag Behind?

All Men Created Unequal: Trends and Factors of Income Inequality in the United States

Wage Discrimination in the NBA: Does It Exist for Foreign-Born Players?

***Bad Example:***

Aggregate Reflections of Brand Loyalty or Unravelling the Size Effect

**Abstract**

A good abstract is a summary of your argument. The abstract should be placed either on the title page or with the first page of text.

**Table of Contents**

Any book-length research report of thesis will benefit from a table of contents. Make this a separate page. A table of contents is not usually included in a journal article.

**Acknowledgements**

It is considered good form to acknowledge any substantial assistance you received in a research project. Acknowledgements in an article are usually positioned in an initial footnote under the title. For theses and other book-length reports, acknowledgements are put on a separate page and pages.

**Introduction**

The purpose of the introduction to the research report is to provide the rationale for the research. This rationale should address four issues: What is the nature of the issue or problem the research investigates? Why is it worthy of investigation? What have previous researchers discovered about this issue or problem? What does your research attempt to prove? In other words, what is the contribution that your research will make to the literature?

Start the introduction by sketching out the problem that the research addresses. What evidence can you offer to describe the issue? Why is it a problem? Is it a public policy issue, a social problem? Is it purely an intellectual puzzle? Who would be interested in the problem? It is often helpful to cite appropriate statistics to illustrate the magnitude of the problem or, better yet, use a figure or chart.

***Example:***

Researchers are unsure of when and where the human immunodeficiency virus that causes the Acquired Immune Deficiency Syndrome originated. What is certain, though, is that HIV/AIDS has become a pandemic disease since its widespread recognition as a major global health crisis in the late 1980s and early 1990s.

This disease represents a severe development crisis in sub-Saharan Africa, the most afflicted region in the world. More than 29.4 million people are living with HIV/AIDS in sub-Saharan Africa including 3.5 million new infections in 2002. Sadly, an estimated 2.4 million Africans died from complications with HIV/AIDS in the past year. National audit HIV prevalence has reached astronomical proportions, exceeding 30% of the adult population in four southern African countries: Botswana, Zimbabwe, Swaziland, and Lesotho. Even South Africa, widely considered the most developed country in Africa, has been touched by the far-reaching socioeconomic consequences of HIV/AIDS. It has become the most afflicted country in the world, with 4.9 million people living with HIV/AIDS.

Though it is not yet clear where this introduction going, the reader should have no doubt that the HIV/AIDS epidemic in southern Africa is a substantial social problem.

**Write the Introduction Last!**

This makes sense since you want to hook your reader with the introduction, so you’ll want to know what your paper says before you write its beginning. Alternatively, you may draft the introduction first but revise it last. Note also that if you have written a research proposal, much of the proposal itself can form the basis for the introduction to your report.

**Literature Review**

A literature review is a summary of the major studies that have been published on a research topic. The literature review should accomplish the three goals:

1. It should identify the major findings on a topic up to the present.
2. It should point out the principal deficiencies of these studies or provide a sense of what is lacking in the literature.
3. It should conclude by leading into your research question, by explaining how your research proposes to contribute to the literature or address some shortcomings of a previous study.

Thus, the primary purpose of the literature review is to provide a justification or rationale for your research.

**Theoretical Analysis**

You must clearly describe the theory you are applying to your research problem, explain in detail why it is relevant, and then sketch out how it diagnoses the problem. This diagnosis is the research hypothesis.

***Example:***

In order to demonstrate that consumers prefer financing incentives, the theory of demand will be applied to the sale of new automobiles in the United States. According to the theory of demand, the demand for a certain good is a function of change in price of that good, the disposable income of consumers, and consumers’ preferences…. Because a change in the interest rate on a loan used to pay for a good is effectively equal to a change in the price of a good, the two variables should have [a comparable] impact on the sale of new automobiles …. I hypothesize that the interest rate elasticity of demand for automobiles will be larger than the price elasticity of demand…. [I]n accordance with the theory of demand, I predict that the price and rate elasticit[ies]… will be negative and that income and measure of consumer sentiment elasticit[ies] … will be positive. (Beck, 2003).

If you are modifying an existing applied theory, you should first restate that theory in enough detail so readers can fully understand what the earlier researcher did. Next, you need to explain how your research is an application or extension of that applied theory.

***Example:***

I use an empirical model similar to Ehrenberg et al. (2001) to analyse the factors influencing the salaries of liberal arts college presidents. In addition to college performance variables and human capital variables [use by Ehrenberg et al.], I include social capital variables that trustees may value in a president – leadership skills, social capital, academic and managerial reputation (Sorokina, 2003).

**The importance of explaining the theoretical analysis**

The purpose of empirical testing is to validate your hypothesis. Most undergraduates can successfully apply statistical software to a data set to perform a statistical analysis. The underlying question for any statistical analysis, however, is what does it mean? The results of the statistical analysis have no economic meaning unless they are interpreted in the context of an economic theory. The theory always has to come first. The theory explains where the hypothesis came from. The hypothesis is a proposition about cause and effect. if the statistical results are consistent with the hypothesis, then and only then do they support a causal interpretation.

**Empirical testing**

* **Testing methodology**

You have to provide a clear statement of the testing methodology, including the type of statistical analysis employed and a brief description of the scope of the test. You may wish to explain why the statistical methodology is an appropriate method for testing the hypothesis.

* **Empirical model**

The empirical model is the actual version of your theoretical model that you test empirically. As such, there should be a clear correspondence between the variables identified in the theoretical model and those employed in the empirical model

* **Data**

Explain the sources and methods of the data used to test the hypothesis. What is the data set, and where did you obtain it? What data transformations, if any, did you perform?

* **Hypothesized Results**

Before you present your actual results, it is critical for the validity of your test to identify the results that are predicted by and thus would support your hypothesis. For example, you should state the algebraic sign and magnitude (if this can be predicted by the theory) for each variable in a regression equation.

***Example:***

I expect certain relationships between these economic factors. I predict that as advertising (my measure of tastes and preferences) increases, demand for diamonds will also increase. Likewise, as consumers’ personal disposable income increases, so will the demand for diamonds. There should also be a positive correlation between marriages and number of diamonds demanded. Finally, I predict that as the price of diamonds increases, the quantity of diamonds demanded will decline, although I do not expect this correspondence to be as strong as the other relationships.

* **Actual Results**

Display your empirical results in a table or figure that is clearly visible in the text. The table should include the sample size, estimated coefficients for each explanatory variable, some measure of statistical significance (e.g. p-value, t statistic, or standard error) for each variable, and goodness of fit information (e.g. adjusted R-squared). It should also include any relevant test statistics for possible econometric problems (e.g. Durbin-Watson statistic).

* **Interpretation of the Results**

Once you presented the empirical results, you need to **interpret** them for the reader. How do the estimated coefficients compare with the predictions of the hypothesis? Were the estimated coefficients statistically significant? Were they economically significant? How do the results compare with those of previous studies? What can you conclude about the results from goodness-of-fit statistics? Were there any statistical problems that need to be corrected in order to obtain valid results? If so, make clear that these are the corrected results.

**Conclusions**

In this part of the report you summarise your findings, that is, to restate your argument and conclude whether or not it is valid. In light of the statistical results, what can you infer about your hypothesis? To what extent did your empirical testing confirm your analysis?

Based on your empirical tests and results can you rule any alternatives out? If not, you should admit this in your concluding remarks.

If the testing did not confirm the hypothesis, can you suggest reasons why it didn’t? Were the data or testing methodology flawed? What do you know now that you wish you had known when you began the project? What could be done to improve the results, given additional time and effort?

Finally, what can be concluded about the research question more broadly? What have you learned from the project that might help other researchers in the field?

**References**

The reference list should provide complete bibliographic information for those sources that you cite in your paper, using the appropriate bibliographic style. In general, it is not a good practice to include references for “background information” or any sources that you did not mention in the text. Such references are usually an indication of padding.

**Data and other appendices**

Appendices contain details that are not essential to grasp the researcher’s arguments, but that some readers may wish to have easy access to (e.g. survey questionnaires). A data appendix includes all the data you used in the empirical testing of the research project, along with complete information about your sources and methods.