Writing About Operations Research – The Introduction

- A OR project report typically contains the following sections:

  1. Introduction
  2. Literature Review
  3. Input Data
  4. Model
  5. Experiment Setup
  6. Results
  7. Conclusions and Future Work

- The purpose of the **introduction** is to give your reader the big picture of your project:

  ○ What is your project about?

  ○ Why is it important or interesting?

- Here is a suggested outline for an introduction:

  1. **Background.** Start by providing some background information on your project.
     ○ Remember that your reader might know nothing about your project.
     ○ Therefore, you need to give your reader some context.
     ○ This background information should also explain why your project is interesting or important.
  2. **Problem description.** Next, briefly describe your problem. This includes:
     ○ how the system works (e.g. constraints),
     ○ the performance measures or objective functions you plan to study.
  3. **Methodology.** Finally, give a short overview of how you propose to solve your problem.

- Writing the introduction (and all the other sections) is an iterative process.

  ○ With high probability, you won't get your introduction right the first time around.

  ○ Your problem description and methodology will probably evolve as you work on your project.

  ○ This is natural! You can always go back and revise it.

  ○ This is also useful. Having a formal description of your problem, even if it is going to change, gives you something concrete to latch on to as you begin the technical work on your project.

  ○ Experienced researchers and analysts do this all the time – e.g. grant proposals.