

PROJ 302

Project Report, Poster and Digest Guidelines

for Industrial Engineering Students

Summer 2017

General Notes

- Read this document carefully before writing your internship report, poster, and digest.
- Use the rules outlined in this document along with those of PROJ 302 Handbook of the Internship Office.
- Use the internship report and poster presentation as an opportunity to improve your professional writing and presentation skills. You will need these skills all your life.
- In your report, if you will not be able to provide information under a particular heading in the template, indicate why.
 - o *For example: The firm may not want to share a certain piece of information.*
- If a question requires a long answer, do not provide all details.
 - o *For example: Do not list the names of 150 products of the firm.*
- The name of your files should adhere to the following convention (using your first name, last name and the date of submission):
Proj302_FinalReport_FIRSTNAME_LASTNAME_DDMonthYYYY.doc
Proj302_Poster_FIRSTNAME_LASTNAME_DDMonthYYYY.pptx
Proj302_Digest_FIRSTNAME_LASTNAME_DDMonthYYYY.pptx
- The size of your report and poster files should be less than 10MB (each). The digest will be a one-slide long PowerPoint document. The primary reason for having very large files is using high quality pictures/figures in the document. Learn how to reduce the quality/size of these figures, if necessary.

Internship Report Template

TITLE PAGE (separate page)

This page identifies the topic and author of the work. A well-formatted and professional looking cover page is an ideal way to begin any report. The care taken in preparing the first page of the report creates the impression that the author has taken similar care in preparing the contents of the remainder of the report. The Title Page should include:

- Header
- Running Head
- Title

- Student Name and ID Number
- Internship start and end dates
- Company/Institution Name
- Internship Supervisor
- Submission Date
- Faculty of Engineering and Natural Sciences
- Sabancı University
- Program

ABSTRACT (separate page)

The abstract provides a concise summary of the internship final report. Typically written last, the abstract is prepared after a final reading of the report, during which the reader looks for the report's main ideas. The main ideas in each section are conveyed in the order in which they appear in the report. As in any document, the abstract should begin with an introduction, follow with a body and end with a conclusion. Given the limit of 250 words, all superfluous ideas and words must be omitted. The

Abstract should include:

- Company/Institution Description
- Internship Project Description
- Internship Project Analysis
- Recommendations

TABLE OF CONTENTS (separate page)

The Table of Contents organizes the internship final report with section headings and page numbers, helping readers locate desired information. It should use the same headings as the paper; this is achieved by default when the heading style is used properly in MS Word.

Use the heading styles of MS Word to indicate the hierarchy of sections in the document. The headings should be numbered, starting from "1. Introduction". Learn how to use headings properly, and how to automatically generate the "table of contents" for the report

The Table of Contents should include:

- Section headings and subheadings
- Page numbers

1. INTRODUCTION

In the introduction, give a short overview of the Internship Final Report. The introduction should allow the reader to anticipate what information will be presented in the report and its relevance. The Introduction should include:

- An outline of the structure and contents of the report
- An explanation of the importance of the project

2. COMPANY INFORMATION (3 pages maximum)

- Full title, address, contact telephones, web page
- Short history
- Facilities: Factories, headquarters etc.
- Parent company, if any
- Industry, main competitors
- Products
- Major customers
- Major suppliers
- Number of employees
- Organizational chart: Indicate the departments and shortly explain their functions

3. PROJECT BACKGROUND

3.1 Department information (1 page maximum)

- Provide detailed information about the particular department(s) within the firm related to your project. For example, a project on forecasting might be conducted within the “demand planning” department while the production planning department is also involved with the project.
- Provide the names and emails and the titles of at least three people with whom you worked in relation with the project.

3.2 Status of the project and/or the problem at the beginning (1 page max, excluding figures)

- Describe the business processes related to the project. For example, discuss how the firm is currently conducting forecasting activities.
- Consider using process flow diagrams to explain the material and/or information flows.

3.3 Motivation and /or problem definition (1 page maximum)

- If the project is trying to solve a certain business problem, it is very crucial to clearly discuss the symptoms of the problem. If the main project goal is to develop/design a tool/product, you have to explain the motivation.
- For a business problem,
 - **Symptoms:** How does the firm know there is a problem to be solved, or a possibility for improvement? For example, the firm has been running out of stock for some products while having excess unsold inventories for some other products.
 - **Problem definition:** You should clearly state the problem in a couple of sentences. For example, “*Current forecasting procedure is not accurate*”.
- For a tool/product,
 - **Motivation:** Discuss the main need for the tool/product. For example, the firm may not have any tools for forecasting; they may be forecasting the demand simply by using expertise knowledge.
 - **Project description:** Discuss what type of tool/product the project is achieving to develop/design. For example, at the end of this project, the demand planning department will be using a decision support system to determine the weekly stock levels of each product.

3.4 Related literature (3 pages maximum)

- Provide background information on the analytical/quantitative methods related to the problem and your solution methodology. For example, discuss the major forecasting models when you are working on a forecasting project.
- Include references indicating the sources you benefited from or used in understanding/solving the problem and/or conducting the project.
 - Academic references: Find at least three books or academic articles related to your methodology.
 - Business references: Similar problems have probably been faced by other firms. Use your research and search skills to find similar business examples over the web. Such examples are truly helpful in developing your own solution.

4. INTERNSHIP PROJECT

4.1 Project objective

- This section should be more elaborate than the problem definition and/or the project definition you did earlier. For example, the objective may be stated as “improving the accuracy of the forecasting procedure to at least 90%”.
- Comment on the boundaries of the project. Indicate what will and will not be considered within the scope of the project.
- Explain how the “project” or the “proposed system” will address the “problem” the firm needs to solve or achieve the tool/product the firm needs.

4.2 My responsibilities

- In some cases, your work is only part of the project. If this is the case, clearly explain what exactly your contribution within the project is.
- List the activities you conducted: collecting data, conducting statistical analysis, developing a forecasting model, running simulation, etc.
- Provide information on the roles of the other team members (for small teams).

4.3 Methodology / tools

- Provide a summary of methodologies/tools you use. For example, in a forecasting project, you may have
 - used a software to analyze the past data,
 - employed some particular techniques in order to choose the best-fit forecasting approach,
 - implemented your model by using a programming language, or a spreadsheet, or a solver.

4.4 Expected outcome and deliverables

- The outcome of the project should focus on the objective. State clearly how this objective is to be achieved.
- During the conduct of the project and/or at the end, there might be several deliverables.
- For example, the outcome of a forecasting project would be a new forecasting model and, the corresponding deliverable might be a software tool to assist demand planners in forecasting.

4.5 Details (10 pages maximum)

- This is where you provide the details of your project work. The exact structure of this section depends on the particular project. You should provide a structured explanation. For example,
 - If you solve an optimization problem, clearly explain the objective function, parameters, decision variables, constraints by developing and presenting a mathematical model along with the solution approach.
 - If you develop a computerized decision support tool (i.e., a software), discuss the users and their roles, input data and data structure (tables, fields etc.), algorithms and the implementation code, outputs along with a set of sample screenshots, and provide the software itself, if possible, together with the user manual.
 - If you use some unique methodology associated with the firm or the business, make sure that you explain it clearly. Do not assume that the reader will be knowledgeable about that particular method.
 - If you conduct repetitive work, limit the detailed discussion to a few representative examples. The rest of analysis should be summarized in an Appendix. For example, provide the forecast modeling details for only 3-4 products. The analysis for the other 150 products can be summarized in an Appendix.
 - Provide flowcharts, tables and graphs.
 - Use bulleted and numbered item lists rather than long paragraphs of discussion.

4.6 Results (1 page max)

- Is the project completed? If not, what progress is made? Provide quantitative results as much as possible. Is the project implemented (put into action)? When will it be implemented?
 - If the project is implemented already, what has been the impact?
 - If it is not going to be implemented, why not?

5. INTERNSHIP EXPERIENCE (3 pages max)

5.1 Learning

- Discuss what you learned from the internship.
- Has the internship experience changed your career plans? If yes, explain shortly.

5.2 Relation to undergraduate education

- Have you used methods/approaches you learned in your university courses? Shortly discuss at most three of them.
- Is there any particular skill you wish you learned at the University?

5.3 Difficulties

- Discuss the three major difficulties you encountered during the internship and how you overcome them.

5.4 A typical day (1 page max)

- Describe a typical day you spent at the company.

6. CONCLUSIONS (1 page max)

Give a concise summary of the major points of your internship. Discuss major conclusions you reach as a result of the internship project and internship experience. Do not include any new information or repeat the introduction in this section. The Conclusion should include:

- A summary of the project and internship's main points.
- A brief discussion of major conclusions.

7. RECOMMENDATIONS (1 page max)

Describe your recommendations for future Project 302 students. Consider the knowledge that would have helped you prepare for and execute your internship. Summarize the information future Project 302 students need to know and the proactive steps they should take that will allow them to benefit from the internship experience. The Recommendations section should include a description of the following:

- The preparations students should make before the internship period.
- Work culture considerations and expectations student might not be aware of. (Be sensitive to the contents of this section, as internship sponsors may request to read these reports.)

8. REFERENCES

A list of references must be included with the relevant information for all sources used in the report. Formatting guidelines are discussed in the Project 302 handbook.

9. APPENDICES

Appendices are attached to the end of the report, if necessary. Not all reports will include an appendix. An appendix should only be used if material is discussed, but its inclusion in the report would distract the reader due to its length. Include lengthy data such as computer codes or long mathematical proofs in this section.

Writing Guidelines

- Font: Times New Roman, 12 Point size
- Page margins: 1 inch from all sides
- Paragraph style: Use double spacing. Do not insert an additional space between paragraphs. Indent the first line of each paragraph five to seven spaces (use the tab key). The body text is either justified or left-aligned (note that the right edge will be jagged when left-aligned), but the abstract is always justified.
- Overall, the report should “look good”. Make sure that you make a final check with print preview before submitting your document. There should not be any empty pages, unnecessary empty spaces, misaligned paragraphs, inconsistent font sizes etc.
- Do not write as if you are telling a story. Write formally with a structure. Create an “outline” first.
- If your level of English is not sufficient, ask help from friends and from the Writing Center. Use word's spell-check feature.

- Insert page numbers.
- Do not print with color unless necessary.
- Consistency issues: Make sure that you read through the whole document before submission for consistency issues below:
 - o Consistency in format: This includes, for example, the font types, font sizes, indentations, the justification (left, center, right etc) of paragraphs, the heading styles etc.
 - o Consistency in writing style: This includes, for example the “tenses” used.
 - o Consistency in “spacing”: This includes, for example, paper margins, the spacing between paragraphs, between the lines in a paragraph, below and above figures.
 - o Consistency in “terms”: Do not use more than one term to refer to the same concept.
- Figures & Tables
 - o Try to use figures and tables rather than long discussions. This makes your report easier to read and understand.
 - o Do not present a figure or a table without a figure/table number and title.
 - o If a figure/table is presented, it should be referred to somewhere in the text.
 - o Horizontally center the figure/table in the document. The width of the figure cannot exceed the width of the paragraphs. If the figure/table is too wide, consider placing it on a separate “landscape oriented” page.
 - o Large figures or tables should be placed in the Appendix.
 - o In tables (and also in spreadsheets such as MS Excel), do not use more decimal digits than necessary (for example, more than 2 decimal digits).
- Lists (numbered, bulleted)
 - o Try to make use of lists. For example, in explaining the steps of a process, use the following list rather than writing a long paragraph
 - 1)...
 - 2)...
 - 3)...

Section and subsections should be numbered according to our template (such as “3.1 Department information”). Their heading should be made using the “heading” functionality of MS Word such that main section headings are formatted as “Heading 1”, subsection headings are “Heading 2” etc. If this is done correctly, the table of contents can be generated automatically by MS Word (use the “Table of contents” button in the “References” tab).

There should be proper spacing before section/subsection headings.

Do not begin a new section if there is little space left at the end of a page. Start a new page instead (using “page break” button in the “insert” tab).

Guidelines for Poster and Presentation

You will make a poster presentation of your work to your supervisor. You will print out your poster slides and post them on a panel (provided by the school). Poster panels will be outside the FENS building. The exact date and location will be announced by the Internship Office.

Your supervisor may ask you to make your presentation next to the panel, or in his/her office. You should contact your supervisor and make an appointment for your presentation.

Here are the rules and guidelines for poster document and its presentation:

- The poster should be ready on the panel before the announced beginning time of presentations (which is usually 10:00 am).
- Your poster must be prepared with the same font as in the report (Times New Roman) but with a possibly different font size.
- You should have at least 12, at most 20 slides (A4-sized) printed.
- Your poster must summarize the motivation and/or problem definition, the objective of project, the methods&tools used, the outcomes and deliverables, and the results.
- Do not use dark slide backgrounds which cause excessive printer ink usage. Respect the environment.
- Learn how to make effective presentations (use figures and tables, bulleted lists, avoid excessive written material etc.). Choose your slide titles wisely.
- Alternatively, you can print a real “poster” of your work. There are alternative MS Office tools to help you do this; but, instead, you may design and develop one single very large MS Power Point slide, and arrange everything you want to present on this slide. You can find examples of such posters in FENS corridors. You may check http://www.posterpresentations.com/html/free_poster_templates.html for alternative templates. You can have these printed in certain specialized print/copy companies.

Guidelines for Digest

As a digest, you must prepare a one-slide long PowerPoint document summarizing the project. In your slide, after giving the project title, company name, internship duration, your name, you must describe/list the project objectives and expectation. This must be followed by a description (or list) of outcomes and deliverables. You may refer to the PROJ 302 Handbook for an example. The digest must be prepared with the same font as in the report (Times New Roman) but with a possibly different font size.