

Technical Project Report

A report is a

Reconstruction of
an investigation

Reconstruct: build
or form
(something) again

The project report

The project report is the **formal record of the entire process you undertook** to complete your **Personal Project**.

Anatomy of a Report

Format and Components

- Prefatory Parts
- The Text
 - Chapter 1 – Introduction
 - Chapter 2 – Literature Review
 - Chapter 3 – Requirements / Analysis
 - Chapter 4 – Design
 - Chapter 5 – Implementation and test
 - Chapter 6 – Evaluation
 - Chapter 7 – Conclusion
- Supplementary Parts

Development FYP Report Format

1. Introduction
2. Research on existing products
3. Project Vision
 - 3.1. Problem Statement
 - 3.2. Business Opportunity
 - 3.3. Objectives
 - 3.4. Project Scope
 - 3.5. Constraints
 - 3.6. Stakeholders Description
 - 3.6.1. Stakeholders Summary
 - 3.6.2. Key High Level Goals and Problems of Stakeholders

Development FYP Report Format

4. Software Requirement Specifications

4.1. List of Features

4.2. Functional Requirements

4.3. Non-Functional Requirements

5. Iteration Plan

6. Iteration 1 (all artifacts mentioned in Table 1a)

7. Iteration 2 (all artifacts mentioned in Table 1a)

and so on ... (for subsequent iterations)

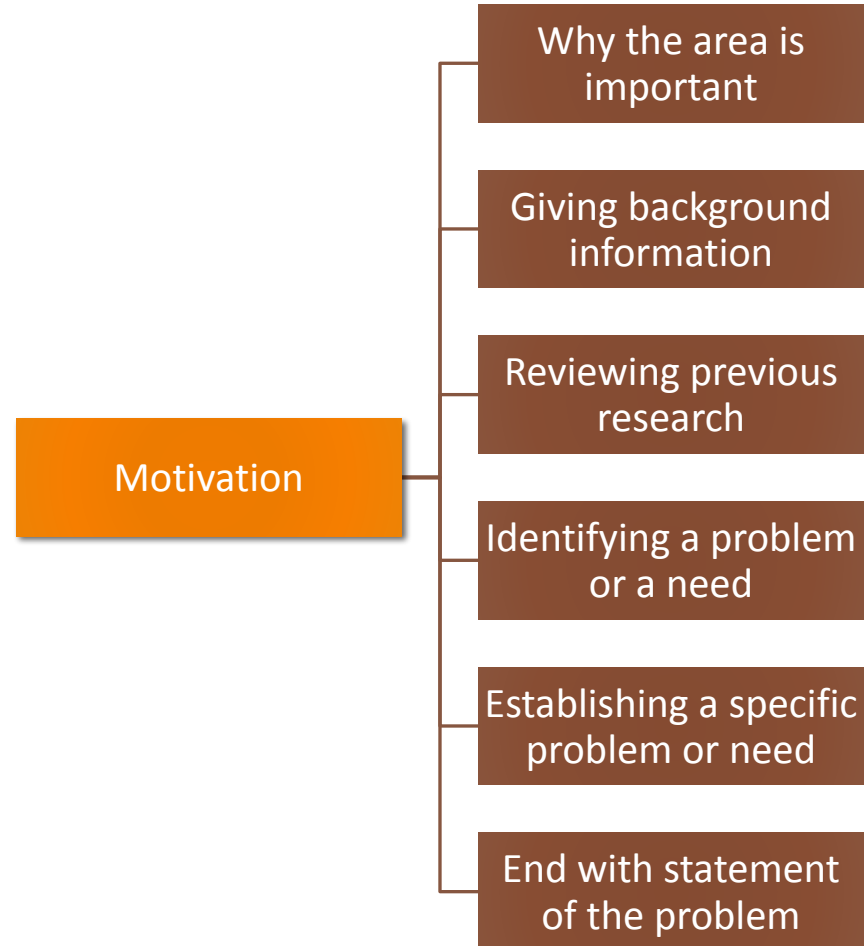
8. Implementation Details (not the programming code but the algorithmic and procedural details especially related to the hidden/ backend algorithms that are not covered in the design)

9. User Manual

References

Appendices

Introduction Chapter/Section



Introduction- Format and Components

Project Vision

3.1. Problem Statement

3.2. Business Opportunity

3.3. Objectives

3.4. Project Scope

3.5. Constraints

3.6. Stakeholders Description

3.6.1. Stakeholders Summary

3.6.2. Key High Level Goals and Problems of Stakeholders

Example

The project designed and developed an airline reservation system which the users can use to book a flight and obtain flight details.

1. To simplify the flight reservation process for customers
2. To provide the users with a safe and secure online payment gateway
3. To allow users to obtain all flight details including departure time, delays, check in time

Examples of Objectives

The objectives of this Online Examination System are:

- To automate the testing activity.
- To centralize control of all the units that are involved in the online testing system.
- To provide data security from unauthorized users.

Examples of Objectives

The main goal of this online pharmacy is

- to assist the user in easily finding medicines that are available
- To suggest alternate stores if the medicine is unavailable
- To provide the admin with a mechanism to determine the validity of a prescription

The project developed a computerized menu system which automates the process of placing and tracking orders for any eatery or restaurant.

The objectives of the project are

1. To provide a detailed menu to the customer
2. To present reviews of different items
3. To enable the customer to place order through a mobile application
4. To inform the customer about the delays in orders or time remaining in serving of the order

Scope of the Project

Project scope is the part of project planning that involves determining and documenting a list of specific project goals, deliverables, tasks, costs and deadlines. The documentation of a project's scope is called a *scope statement* or *terms of reference*. It explains the boundaries of the project, establishes responsibilities for each team member and sets up procedures for how completed work will be verified and approved.

Scope of the Project

Project scope is description about what you would be delivering at the end to the client and are what the boundaries of your project.

What is Included in the Project Scope Statement?

The project scope statement helps visualize the complete project and its deliverable. It includes the following:

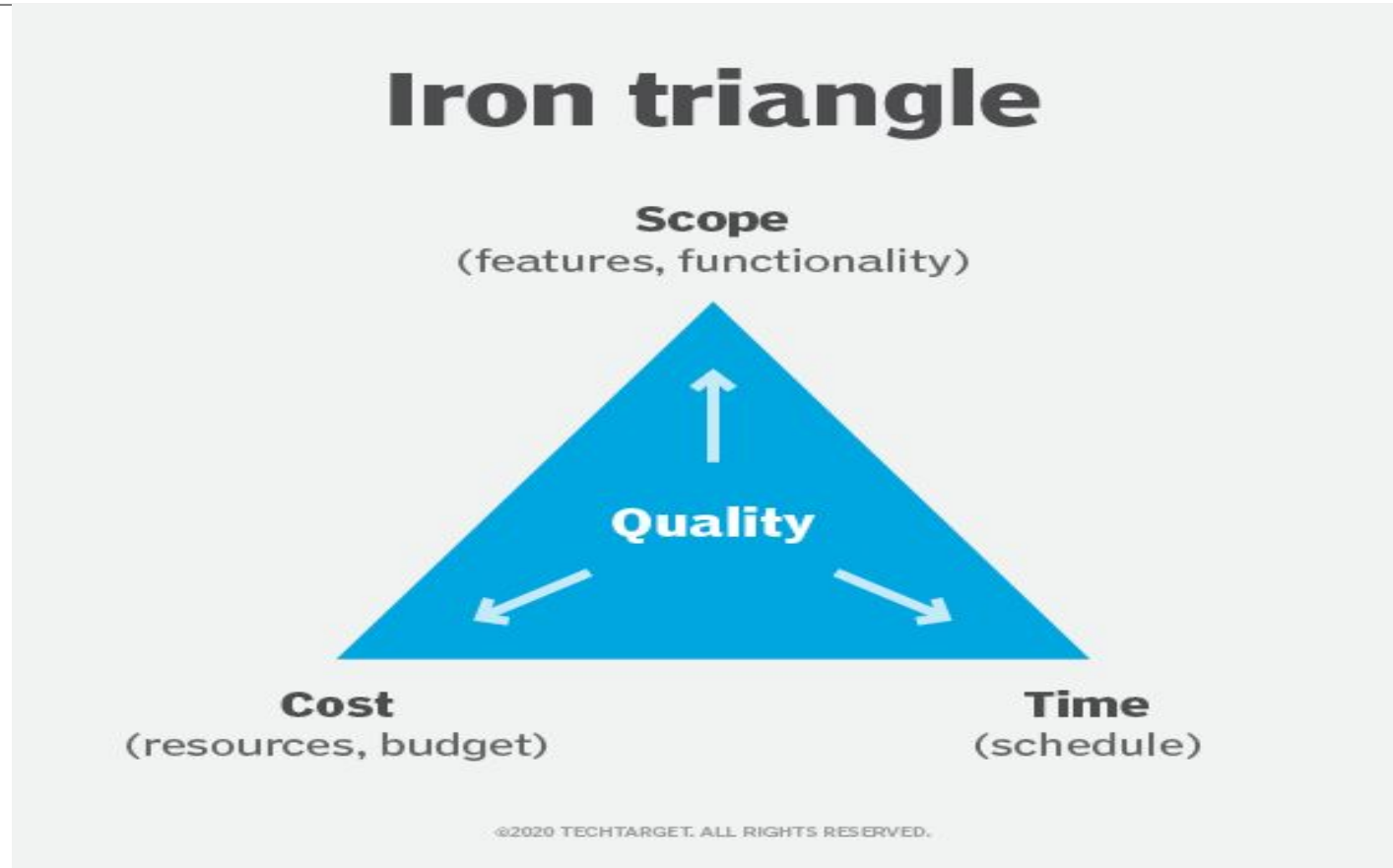
1. **Product Scope Description:** A detailed description of the product to be produced.
2. **Product Acceptance Criteria:** These are the criteria by which the consumers will readily accept the product as it satisfies their expectations.
3. **Project Deliverables:** These are the project output, including elements like software or documents.
4. **Project Exclusions:** These elements are outside of the project's boundaries.
5. **Project Constraints:** These include resource, organizational, political, technological, and any other constraints that affect performance.
6. **Project Assumptions:** These are conditions accepted to be true for your project to function smoothly—for example, the availability of employees when required.
7. **Milestones:** Significant stages in a project's timeline where crucial events occur.
8. **Agreement:** This shows stakeholders' sign-off at the end of the statement, indicating their support.

More on Scope

<https://pmstudycircle.com/project-scope-statement/>

<https://www.betterup.com/blog/project-scope>

Introduction Chapter/Section



Constraints in Projects

Introduction Chapter/Section

A constraint in [project management](#) is any restriction that defines a project's limitations. For example, a project's scope is the limit of what the project is expected to accomplish.

The three most significant project planning and management constraints are time, cost and scope. They are sometimes known as the [triple constraint](#) or the project management triangle or the iron triangle.

Introduction Chapter/Section

Scope refers to the breadth and depth of features and functionalities incorporated into the software. It defines the boundaries of the project, outlining the project's specific capabilities.

Cost represents the financial investment allocated to various aspects of software development, including initial development, necessary resources, and ongoing maintenance. Cost includes financial investments in not only the software itself but also labor, vendors, quality control, tools, etc.

Time dictates the deadlines for project delivery and establishes key milestones throughout the development process. This also includes the project's schedule and the time at which each part of the project should be completed, including final delivery.

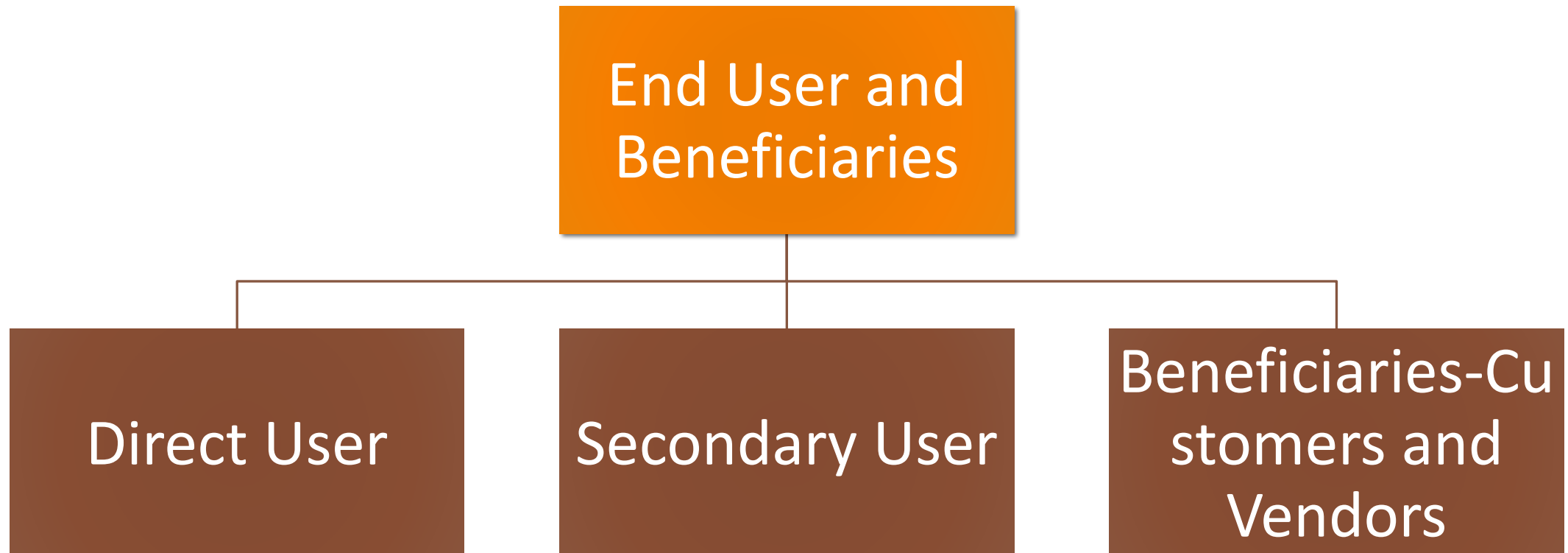
Introduction Chapter/Section

More reading on Constraint

<https://www.techtarget.com/whatis/definition/constraint-project-constraint#:~:text=A%20constraint%20in%20project%20management,are%20time%2C%20cost%20and%20scope.>

<https://www.apriorit.com/dev-blog/how-to-manage-constraints-in-software-development-effectively>

Who are stakeholders?



Who are stakeholders?

Direct users

Those who will use the software directly are usually most concerned with how it will fit into their current workflows. They want to know that it solves a significant problem or otherwise makes their job easier.

Secondary users

Direct users interact with the software itself. Secondary users rely on the products of the software. New software needs to produce results in a format that fits into secondary users' workflows. Forgetting about this group can cause one problem while solving another, like suddenly generating reports in a format secondary users can't integrate into their analytics.

Beneficiaries

These are all the people affected by the software's products. The term encompasses a huge base of customers and vendors who focus more on results than process. Their input should revolve around the services or information the software will provide.

Literature Review Chapter

A literature review is a piece of academic writing **demonstrating knowledge** and understanding of the **academic literature** on a **specific topic** placed in context. A literature review also includes a critical **evaluation of the material**; this is why it is called a literature review rather than a literature report. It is a process of reviewing the literature, as well as a form of writing.

Literature Review Chapter

Introduce Research Area, technology

Define it

Discuss its significance with respect to stakeholders and business benefits

Discuss how the tech solves different problems for the stakeholders and provides different benefits

Literature Review Chapter

Discuss current state of the art of the technology, everything it can do, research niches, major achievements

Discuss latest research studies on the tech

Discuss the studies method wise and feature wise

Discuss limitations/weaknesses of the studies acknowledging their contribution

Literature Review Chapter

Now create a need for a solution

End with your research problem

Re-discuss your project objectives

Bonus: tools, languages, software packages, etc.

Method


Specifications-S
DS

Software Design
Specifications-S
RS

Implementation

Tests to be Run

Results and Evaluation

- 
- 1 Describe the tests you will run.
 - 2 Provide reasoning behind the choice of tests
 - 3 Provide a comprehensible summary of the results of all the tests conducted
 - 4 Describe the extent to which you achieved your goals

Conclusion and Recommendations

Conclusion

- Summary of all previous chapters except literature review

Appraisal of project

- Critically evaluate your results
- Describe strengths and weaknesses
- Compare your work with others

Conclusion and Recommendations

Recommendations

- For stakeholders, encourage them to use the proposed solution
- For researchers---provide practical idea about how to extend the project
- Discusses project limitations and provide ideas about improvements