# Chapter 2: Analysis

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## 2.1 Introduction to Analysis:

Analysis is the phase of the software development life cycle (SDLC) which describes the requirements phase of the project and helps to solve the problem arises among clients. Requirements specification is the final product at the end of this stage. By outlining the goals and without considering the implementation of project, requirements gathered with the help of user interaction.

In spite of the fact that requirement gathering is the main aim of this stage, analysis focuses on:

* Information should be gathered and analyzed for feasibility purposes.
* Requirements should be defined and enhance the aims of system
* Requirements should be prioritized and define the alternatives for requirements.
* System Requirement Specification (SRS) should prepared that helps in specification of hardware, software, functional and non-functional requirements of project.
* Conceptual System Design should prepared that helps to give direction for the Management Information System.

## 2.2 Analysis Methodology:

The development team followed a series of structure to develop a system called System Development Life Cycle (SDLC). SDLC consists stages like planning, analysis, design, implementation and maintenance of the project. Analysis and Design are the core part of the SDLC. Like SDLC analysis phase also have own techniques and methodologies that helps us to gather user requirements and functionalities of the system that is being developed.

For this project I have chosen **Soft Approach** as an analysis methodology among different other analysis methodology like **People-Oriented, Process-Oriented, Object-Oriented, Hard Approach, Combined Approach** etc.

**Soft Approach:**

Soft Approach for system analysis consists of both technical and human aspects to develop a complete system. This approach based on the people-focused analysis and user-interaction acts as an important technique.

The consideration of human, social activity and technical functional requirements belongs into this approach.

Following are the number of steps undertaken while using this methodology:

1. **Human activity analysis of soft approach involves rich picture, root definition and conceptual model**

**Rich picture:**

Rich picture is a collection of pictures, symbols, text and many other things that helps to show the relationships, connections and problem arises between these things.

**Root definition:**

The processes and problem of the system clarify with the help of root definition. There are two types of root-definition i.e.:

Primary task root-definition: focuses on system processes

Issued-based root definition: focuses on problem statement

**WHAT, HOW AND WHY** are the three elements of root definition that defines:

WHAT: defines the aim of the system

HOW: reason for achieving the aim

WHY: longer term aim

**CATWOE** analysis helps to define a root definition.

**CATWOE**

**CATWOE** stands for

**C Customers/Clients**

**A Actors / Agents**

**T Transformations**

**W World Wide**

**O Owners**

**E Environment**

**Customers** are the important things to run the business. Customers also known as users they accept services through using system**. Actors** must be defined employees, suppliers, agencies and officials. **Transformation** is changes occurred by the system for the easiness of user. **World Wide** covers the issues arises in the system. Issues may be short-term or long-term. **Owner** is the person who owns the problem they must be the parts of its solution or both. Available resources, budget, laws and regulations comes under **Environment**.

**Conceptual Diagram**

The conceptual diagram of expenses management system represented as follows:

1. **Social-technical aspects of analysis and design**

Social and technical aspects of analysis and design of Expenses Management System is cover by **Feasibility Study,** which is describe in another portion**.**

1. **Human-Computer Interface design**

To remove duplication of data and diagram human-computer interface design of Expenses Management System is used.

1. **Design of technical aspects**

Technical aspects of Expenses Management System cover System Requirement Specification (SRS). System Requirement Specification (SRS) portion of the project is describe in another part.

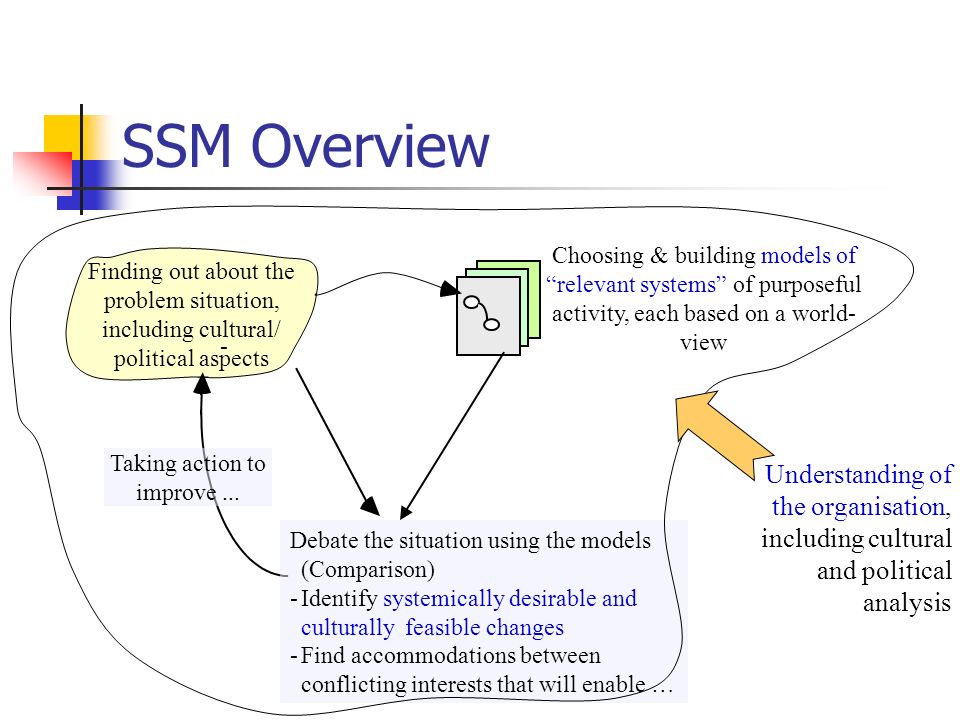
1. **Social and Cultural aspects**

Social aspects of this project covers the social view towards society i.e. do not effects society in any any way and do not arises problem in the society with the use of this application. Cultural aspects represents the culture of the country. Culture of the country do not effect with the use of this application.

1. **Political aspects**

The application that we will develop does not effects the politics policies of the country. Before to develop this application we have to know the political policies of the country.

**Overview of the Soft System Methodology:**



Above screenshot represents the overview of the soft system methodology. The problem arises due to cultural and social aspects is manage with the use of this methodology. Human interaction is an important factor to control the problem. In addition, human interaction managed the misunderstanding between developer and users. For sustainable running this application and to build trust between users and developer, human interaction plays important role.

**Advantages of Soft Approach over other Methodology and its areas of focus:**

I have chosen this methodology because this methodology consider both human and technical factors of the system. Following are the reasons to choose soft approach over other approach are:

* This methodology cover the human, technical, cultural and political part of the system analysis.
* User participation involved during the analysis and design phase of the system.
* To get more user-friendly application user’s knowledge and skills taken as an input parameter for analysis proposes.
* This methodology provides cooperation and stakeholder’s participation to develop complete system.

