

1.1.2. Constraints identification

Project specifications and statement of work (SOW)

Specifications are crucial for project development and must first be established by the client. Client requirement specifications are intended for the whole project lifecycle but are first applicable to the design phase and must be followed by designers in their work. Specifications are usually derived from product requirements which in turn are influenced by external and internal factors affecting the outcome of production. The aim of the client is to maximise product specifications so that the project may accomplish requirements with the constraints imposed by other factors (e.g. cost, quality, time available for project development and so on). Therefore, specifications often require trade-offs which the client has to decide upon. Moreover, specifications have both quantitative and qualitative aspects. The former are usually more perceptive to the project team whereas the latter must be carefully established so that they may be accomplished by the project output. There are several types of specifications, for example, *technical specifications*, the *project target budget* and the *Master Programme* among others.

Designers also establish their specifications for the construction phase. *Designer specifications* follow from client requirement specifications but are much more detailed at the design phase. Design specifications are an important component of design output and must be followed at the construction phase. Most designer specifications are technical and are devoted to several aspects of project materials, project components and the project output as a whole. Quality, safety and performance aspects are typically addressed in designer specifications. Nowadays, several international institutions have developed project specifications for a number of different types of projects as well as check-lists for verification of project performance.

The SOW must describe the work to be performed and designate all applicable specifications. It should identify measurable, tangible and verifiable acceptance criteria, so that there is no uncertainty as to whether the product is in fact acceptable. It is essential that the client establishes such criteria but unfortunately many projects fail to have them clear at the beginning. This can lead the project team to erroneous interpretation of client needs. Further to the SOW issued by the client, designers must produce their own SOW. It is essential that similar criteria are included thus allowing the final construction product to accomplish client project objectives.