

PROBLEM DEFINITION

When can the method be used?

A Problem Definition is usually set up at the end of the problem analysis phase. A problem always has to do with dissatisfaction about a certain situation. Because satisfaction is a relative concept, problems are also of a relative nature. They are defined from the perspective of a problem owner. The problem owner might foresee problems if nothing is done – but decides to do something to prevent them. For instance, imagine that winter is coming, but you do not have warm clothing. There is nothing you can do to turn back nature's clock, so the winter is not the problem. The real problem is your lack of appropriate clothing. You can avoid getting cold by making or buying a sweater and thick jacket.

For defining a problem this implies that it is not sufficient to describe the current state. As a result, a description of the situation is a description of the current state plus the relevant causal model(s), including the assumed patterns of behaviour of the people and organisations involved. A situation is only a problem if the problem owner can and wants to do something about it. This implies that a situation that is more desirable than the present one must be described: the goal situation. In the case of our example, this goal is to be comfortably warm during the winter.

How to use the method?

Designers often underestimate the work required to find and define problems. As a young and ambitious designer you are probably keen to design an innovative water kettle, car or chair. It takes some experience and courage to discuss with your client that the real problem might be something completely different. For

Designing is often referred to as problem solving. Before you start solving anything, you need to be sure that you are working on the right problem. Finding and defining the real problem is a significant step towards a solution.

example, a potential car buyer's real problem concerns transportation, not the fact that he does not own a car. So instead of *owning* a car, the *use* of a car can be a solution as well. This kind of thinking has led to a concept like car sharing, where a service replaces the product.

Possible procedure

- Answering the following questions will help to create a Problem Definition:
- What is the problem?
- Who has the problem?
- What are relevant context factors?
- What are the goals?
- What are the side effects to be avoided?
- Which actions are admissible?

The outcome is a structured description of the design problem, with a clear description of the desired end situation (goals) and possibly the direction

of idea generation. A well-written Problem Definition provides a shared understanding between you, your client and possible stakeholders.

Limitations of the method

- Defining the problem does not solve the problem.

Tips & Concerns

- When analysing problems there is always a tension between the 'current situation' and the 'desired situation'. By explicitly mentioning these different situations you are able to discuss their relevance with other people involved in your project.
- Make a hierarchy of problems. Start with a big one and divide it into smaller ones by thinking of causes and effects. Use post-it notes to make a problem tree.
- A problem can also be reformulated as an opportunity or 'driver'. Doing this will help you to become active and inspired.



Parking Problem? The most unique features of Volkswagen Autostadt (Wolfsburg, Germany) include the two 60-metre glass silos used to store new Volkswagens. The towers are connected to the Volkswagen factory by a 700-metre underground tunnel. When purchasing a car from Volkswagen, the customer can choose to travel to Autostadt to pick it up. The customer gets free entrance to the museum, meal tickets and a variety of events building up to the point where he or she can follow on screen how the automatic elevator picks up the selected car and lowers it down at 1.5 metres per second. The car is then transported out to the customer without having driven a single metre, and the odometer is thus at "0".