



Cognitrix Ltd.

Thinking Logically, Communicating Clearly

Root Definitions For Clarity

Dr. Peter Checkland's *Soft Systems Methodology (SSM)* is an approach to understanding human systems, such as organisations. When using *SSM*, one of the steps is to determine the *Root Definition (RD)* of a purposeful activity which you wish to understand better.

What Is A Root Definition And How Is It Constructed?

A *RD* is a three part statement that explicitly links a *rationale* with an *objective* and the *method* by which this is to be accomplished. A *RD* typically has one of three structures:

Because of $\langle X \rangle$ we require $\langle Y \rangle$ which will be produced by method $\langle Z \rangle$.

We will accomplish $\langle Y \rangle$ by means of $\langle Z \rangle$ in order to $\langle X \rangle$.

We will do $\langle Z \rangle$ in order to produce $\langle Y \rangle$ which is necessary because $\langle X \rangle$.

Let's look at the three parts of the *Root Definition*:

The Rationale

"Because of $\langle X \rangle$... "

" ... in order to $\langle X \rangle$."

Why is a change sensible and/or necessary?

Why is (...) relevant, useful, novel or timely?

The Objective

" ... require $\langle Y \rangle$... "

" ... accomplish $\langle Y \rangle$... "

" ... produce $\langle Y \rangle$... "

What change is necessary and sufficient to satisfy the rationale $\langle X \rangle$?

The Methodology

" ... by method $\langle Z \rangle$."

" ... by means of $\langle Z \rangle$... "

" ... do $\langle Z \rangle$... "

How can the objective $\langle Y \rangle$ be accomplished, delivered or produced?

The *Why-What-How* or *Rationale-Objective-Methodology (ROM)* formulations can serve as shorthand reminders of the structure and content of a *Root Definition*.

Why Is A Root Definition Relevant And Useful?

Root Definitions are useful because they help you to:

- check your reasoning or overcome hasty conclusions;
- foster a thorough consideration of feasible options;
- resolve competing or incompatible positions;

Root Definitions For Clarity

- check the logic of a personal or professional decision;
- develop sensible and feasible mission, vision, values statements; or
- clarify your message when communicating with others.

Check Your Reasoning Or Overcome Hasty Conclusions

Too often people jump to a conclusion about *what is needed* or *what should be done* without pausing to think the matter through. A *RD* helps to check the logic behind the proposals. Whenever you are provided with only one part, then ask questions to define the corresponding missing portions.

Example 1

"We must lay-off 30% of staff." This proposes a *method*.

- What does 30% layoffs accomplish? ⇒ *objective*
- Why is this sensible and necessary? ⇒ *rationale*

In this example, we have started from a suggested *method* and we asked questions about the unstated *objective* and *rationale*.

Example 2

"Sales must increase by 50% this year." This is an *objective*.

- Why is an increase of 50% in sales required? ⇒ *rationale*
- How can the 50% increase in sales be achieved? ⇒ *methodology*

In this example, we are checking that the stated *objective* has a sensible *rationale* and feasible *methodology*.

Foster A Thorough Consideration Of Feasible Options

When it is used from the beginning, a *RD* is a useful way to guide our thinking and develop options. For example:

1. Why is a change required?
→ Because we will go bankrupt if we don't become profitable.
2. What is necessary and sufficient to satisfy the requirements?
We could become profitable either by:
→ increasing revenues; or
→ decreasing operating expenditures.
3. How can this change be effected or produced reliably and feasibly?
 - (a) To increase revenues, we could:
 - introduce new products;
 - improve our existing products;
 - sell our products in new markets;
 - improve our marketing;
 - modify our pricing; *etc.*
 - (b) To decrease operating expenditures, we could:
 - close poorly performing stores;

Root Definitions For Clarity

- sell an unneeded factory;
- outsource some functions that are required irregularly;
- stop hiring expensive management consultants, etc.

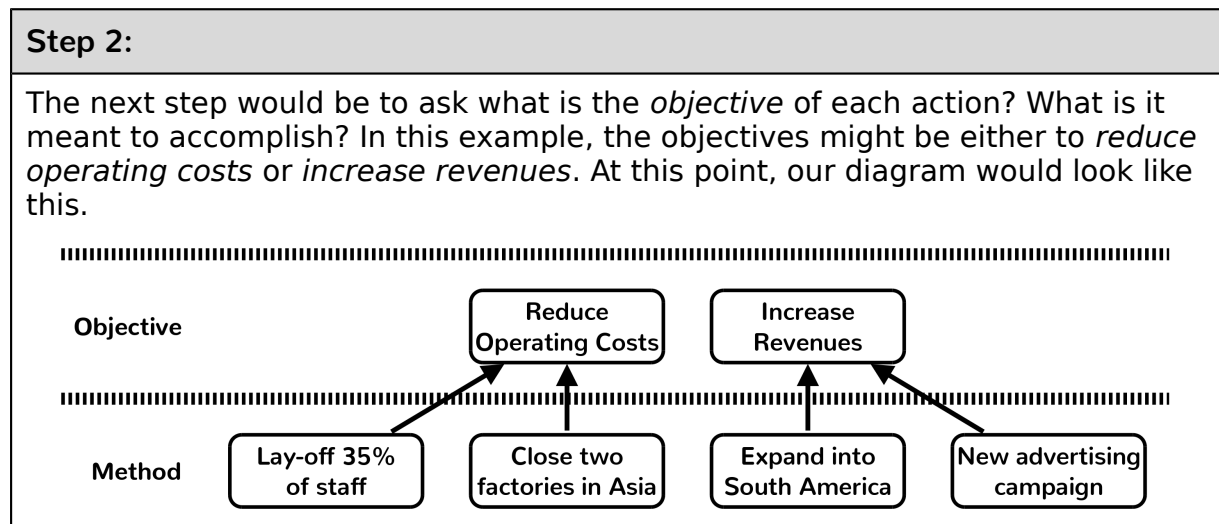
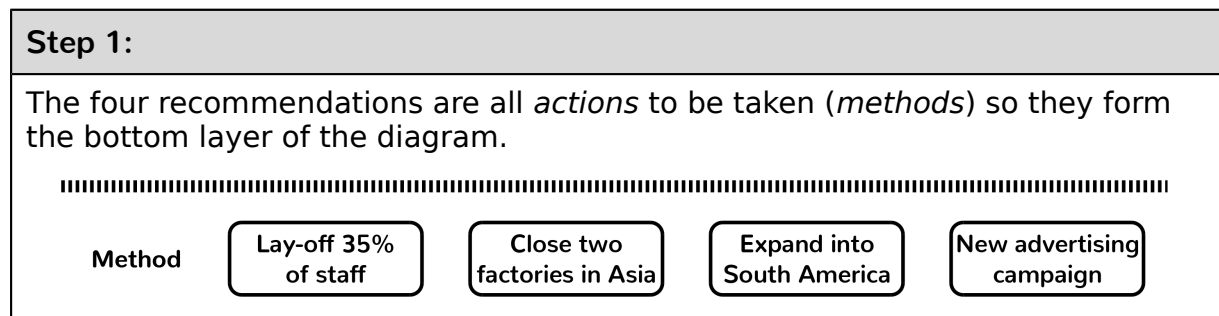
Having considered the options more thoroughly, the best choice may involve a combination of these options.

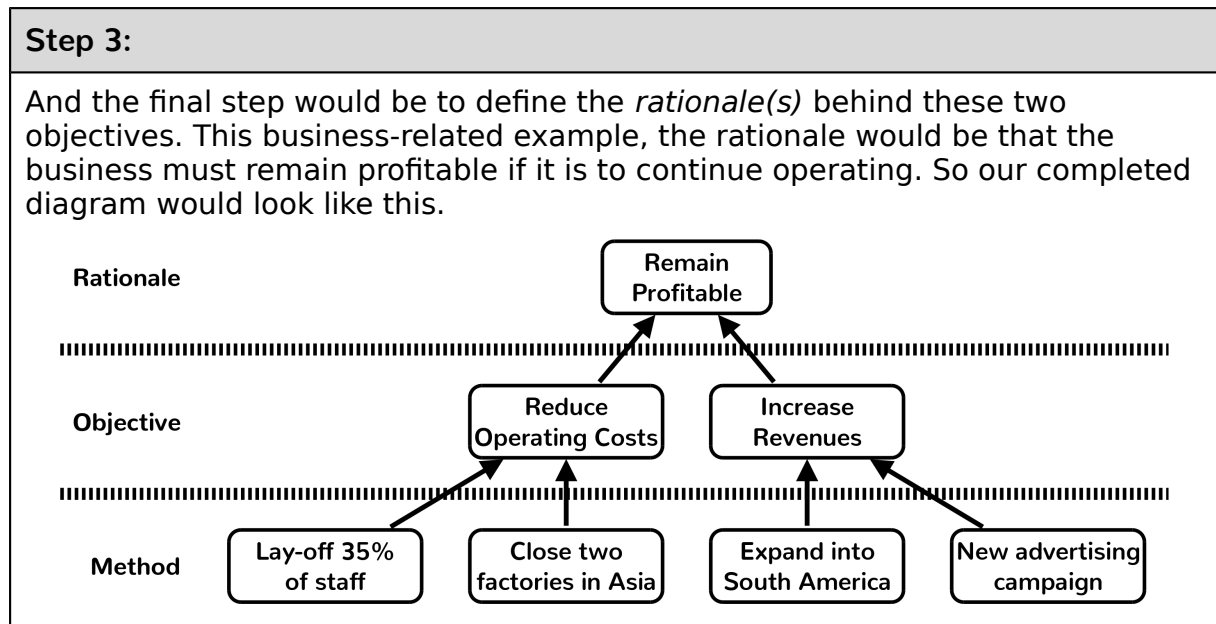
Resolve Competing Or Incompatible Recommendations

Many disagreements within an organisation arise because various parties have differing *Root Definitions* which lead to competing recommendations. When this happens, it can be helpful to construct the *Root Definitions* side-by-side vertically. This makes the logic of the differing recommendations more visible and discussion can focus on reasons and evidence rather than personalities.

As an example, let's imagine that four recommendations have been presented to upper management.

- lay-off 35% of staff;
- close two factories in Asia;
- expand into South America; or
- have a new advertising campaign.





Once the methods, objectives and rationale have been mapped out, then upper management can examine the logic and assumptions used to justify each step in the reasoning (represented by the arrows). This consideration will reveal:

- steps in reasoning that are not justified or are weaker than other branches;
- assumptions which are unsubstantiated and possibly over-optimistic;
- aspects or factors that have been overlooked;
- other possibilities that haven't been presented.

After this consideration, upper management can make a more informed assessment of the four recommendations.

Check The Logic Of A Personal Or Professional Decision

Let's imagine that a company needs to make a business-related decision. They might begin by defining their customer's purchasing *Root Definition* as follows:

1. What does the customer want?
2. Why do they want it?
3. How do they want it provided?

The business would then attempt to define a corresponding *RD*, namely:

1. What do we provide?
2. Why is (...) relevant and useful to the customer?
3. How do we provide it?

The business could then consider whether their customer's *RD* has changed or not. The business could also consider how well their current *RD* matches that of their customer and whether or not it needed to be revised in view of changed circumstances or events. When the *RD* of the business matches the purchasing *RD* of the customer, then the customers will be more willing to pay for the product/service.

Develop Sensible And Feasible Mission, Vision, Values Statements

Many times, when companies produce mission-vision-values statements these are so vague that the reader isn't sure what business the company is in. This is compounded when the vague generalities are dressed up in grandiose and pretentious language.

Using a *Root Definition*, your organisation can define its own MVV statement that will make sense to the public, won't sound pompous and won't cost a fortune because some MVV image/PR consultant was hired!

- Values = Why you are in business (your rationale)
- Vision = What you want to accomplish (your objective)
- Mission = How you will do this (your approach)

Clarify Your Message When Communicating With Others

When communicating with other people, they will find your message more convincing when you give them a full *RD*. This is because you are making your reasoning, objective and proposed method transparent:

1. Why is this important?
2. What is needed as a result?
3. How can this be accomplished?

So the next time you find yourself becoming lost in a *what* or a *how*, remember to stop and ask about the other parts of a *Root Definition*. It will make a difference to your thinking and decisions.