11 Information procurement decisions

11.1 Information procurement as a decision at the meta-level

When tackling a decision problem, the actor always has to work on two levels:

- The first is the problem itself: the actor has to analyse and understand the problem, to identify solution options, to assess these and finally to make a decision.
- In addition there will be a number of tasks at the meta-level. We have already seen that the problem-solving work must be planned; the various tasks will need to be allocated to different staff and this work must be coordinated. A further major task at the meta-level is to decide whether to proceed with problem-solving on the basis of existing information or whether the level of information should first be improved.

New information may come from internal or external sources and may vary in its degree of detail and in its reliability. In problem analysis, and when developing options, there are choices to be made about how detailed the information base must be. However, the pivotal meta-decision for procurement or non-procurement of additional information is required at the stage of the evaluation of options. The question is this: Should the final decision be based on what is already known or should one invest additional resources to obtain more detailed information about the effects of the options?

The more is invested in information procurement, the greater the probability that good options will be found and the best one selected. However, the procurement of additional information inevitably involves additional expense. Moreover, it prolongs the procedure for resolving the problem and thereby delays a decision. How great these disadvantages are will depend very much on the type of problem.

To decide whether to obtain additional information is simple in principle. Obtaining new information always makes sense if the additional benefits it brings outweigh the costs involved. If this is not the case, one should desist. But a general statement of this kind needs to be
extended by more detailed recommendations of how this rule may be
applied in particular cases.

11.2 Recommendations for decisions on information
procurement

The best-known principles for making information procurement deci-
sions were developed by Bayes and these principles are introduced in
Inset 11.1. Since Bayes’ ideas are subject to a large number of condi-
tions, some of which are highly restrictive, they are rarely directly appli-
cable. What we have done here is to draw out some generalizations
from Bayes and combine these with our own experience to produce a
set of recommendations for making information procurement decisions.

Inset 11.1: Bayes’s approach for establishing the value of
additional information

In order to be able to make specific recommendations, Bayes for-
mulates a number of assumptions, some of which are highly restric-
tive:
1. First we must note that all of Bayes principles are valid only for
univalent risk decisions (Weibel, 1978, p. 11). In other words
Bayes assumes that the actor only has to deal with a single deci-
sion criterion and will be required to evaluate the options for a
number of scenarios for which probability values are available.
2. Bayes assumes, moreover, that the actor already knows the op-
tions, the environmental scenarios and their probabilities, and the
consequence values and would therefore be able to make the
decision on the basis of this information. The question at issue is
whether he/she should judge on the basis of the present decision
matrix, or whether it is worthwhile postponing the decision and
improving the quality of the decision matrix through the procure-
ment of additional information. With this exclusive focus on the
decision matrix, Bayes ignores the question of additional informa-
tion in earlier phases of the decision-making procedure: problem
analysis and the development of options.