Professor Klaus Spremann

Swiss Institute of Banking and Finance (s/bf)
University of St.Gallen, Switzerland
www.spremann.com

2. Framing Problems

MGMT 232 – Business Consulting
Aug – Nov 2011
Singapore Management University

Table of Contents

Five key points

- The issues the client wishes to address are typically numerous and vague. Sometimes too many aspects are involved, and at other times too many interrelations appear.
- This section tells you how to formulate a clear-cut description of the more important questions that will be addressed.

Key points:

- 2.1 Identifying the key questions
- 2.2 Mapping the Issue Tree
- 2.3 Defining Focus Areas
- 2.4 Thinking about interdependencies
- 2.5 Formulating precisely

Key point 2.1: Identifying key questions

- Try to translate all the issues and problems and impacts mentioned into a set of clear-cut questions.
- Are any of these questions already answered in the literature?

Key actions:

- 2.1.1 Translate vague issue into questions
- 2.1.2 Anticipate the answers
- 2.1.3 Identify questions that are already answered

Key action 2.1.1: Translate vague issue into questions

- Translate the broad and vague issues of the LOC into a number of important questions and work on their precise formulations!

- Starting from the general topic and from the broad issues which are mentioned in the LOC, you must develop new questions which serve as a basis for your further study.

- This “translation” of the original topic follows three purposes:
  1. Increase the importance of what finally will be done!
  2. Gain precision in the formulation!
  3. Increase solvability.

Example

- Kit Kat is a confection which was first created by Rowntree Limited of York, England, and is now produced worldwide by Nestlé, the Swiss company which acquired Rowntree. Nestlé wishes to enhance sales the chocolate biscuit.
- The consultant translates this general issue first into questions like:
  1. Who is demanding Kit Kat und how can could demand by these group of persons can be boosted?
  2. Should the product characteristics be modified?
  3. How does Nestlé address retailers?
- After having done this, the consultant suggest the company to focus the study on Question 3. He immediately understood that the company does not like to change the product characteristics and does not want to get proposals how modify the market segment.
- Thus, the study will be focused on the relationship between producer and retailers. The consultant immediately anticipates that this relationship can be studied by interviewing retailers.

Key action 2.1.2: Anticipate the answers

- Before the final formulation of the key questions, try to anticipate the most likely answers!
- When you formulate a question, you should already have a rough idea in mind how to find its answer.
- Don’t pose and formulate a question, for which you don’t know or command a method to find an appropriate answer.
- Formulating questions is like a dialogue: You pose the questions and you are also the person who must afterwards answer them!

Example

- An international logistics firm which mainly offers transportation services and market knowledge, whishes to decide whether organic growth or an acquisition should be the next move to extend market coverage.

- The target of the acquisition is already selected, although not yet addressed. Thus, it makes not much sense to work on questions which definitively require private information of the acquisition target. This information cannot be obtained now.

Key action 2.1.3: Identify questions that are already answered

- Identify those key questions which are already answered by previous research and publications!

- Some of the questions you formulate are already answered in the literature. Don’t worry, identify these questions, find where the answer is published, cite it in your own piece of work, and maybe you can improve the answer a little bit or customize it better to the present environment!

Example

- There is an extensive literature on how consumers respond to price changes.
- Before designing a field study on the subject, it is therefore strongly advised to browse the web and to screen the literature.
- After that, an own field study might nevertheless be necessary. But it will become a different form, presumably it will be simpler, and maybe concentrated on the estimation of one parameter in the price-quantity functions.

Key point 2.2: Mapping the Issue Tree

- The questions might be still quite general, such that it may be impossible to give a precise answer.
- So the next step of the analysis requires decomposing each of these general questions or problems into more specific sub questions or sub problems.

Key actions:

- 2.2.1 Think MECE
- 2.2.2 Set up the hierarchical problem structure
- 2.2.3 List all elements generated

Key action 2.2.1: Think MECE

- MECE stands for “mutually exclusive and collectively exhaustive.“
- “Mutually exclusive” requires you to split up a broader object/question/problem into finer sub problems, which are so specific that they can be seen as separate, independent sub problems.
- “Collectively exhaustive“ requires you that the sub problems cover all the possibilities, i.e. they should “exhaust” the possibilities.

Key action 2.2.2: Set up the hierarchical problem structure

- Build the pyramid!

- Following MECE repeatedly, the general issue is decomposed into sub problems, and each sub problems will be decomposed into further sub problems. All these sub problems form layers of a pyramid. The top-down decomposition ends when the generated sub problems are so narrow, that they can be addressed by appropriate solution techniques. The problems at the bottom of the pyramid are also called “elements” or areas”.

Example

- The general problem or topic “relationship between producer and retailer” first leads to sub problems such as the ones related to price, service, or additional sales support.

- Each of these sub problems will then be decomposed again. At the bottom of the pyramid the agent could have “sub sub problems” or areas like that one: “How often the product is placed as an eye catcher in the retailers outlets?”

- This specific question can be answered by a survey and a descriptive statistic.

Key action 2.2.3: List all the elements generated

- In most cases, the elements or areas pose questions which are completely different in their nature. For that reason, they require different solution techniques.
- It is now the time to leave the pyramid (for a while) and to concentrate on the set or list of elements / areas and to assign to each element /area the appropriate methodology for finding a solution.
- List all the elements or “areas” at the bottom of the pyramid and name the appropriate methodology to find a solution.

Example

- The general problem at the top “relationship between producer and retailer” leads, after a number of stages to an area like: “How often is the product in the retailers shop placed as an eye catcher”. This elementary question can be answered by a descriptive statistic.

- Another elementary question: “Is there any significant difference in sales between retailers who get a guarantee or not from Nestlé to redeem unwanted quantities? This answer this question, a statistical test is required.

Key point 2.3: Defining Focus Areas

- Not all the specific questions or sub problems, from now on called “areas”, can be addressed in the work. You have to proceed with a selection of areas.
- How to select? There are three principles that help you in making a selection. The resulting areas are called “focus areas.”

Key actions:

- 2.3.1 Do first things first
- 2.3.2 Identify critical sub problems
- 2.3.3 Consider the 80/20 Rule

Key action 2.3.1: Do first things first

- Generally, there is some notion of importance given by beforehand, very often supported by intuition.
- Which are the most important areas according to this intuition? These areas are ranked “first”.
- Naturally, you should address “first areas” before we look at “secondary areas” – first things first!

Example

- Why are Singaporean households using so few dish washers although they are prone to take care of a maximum of hygiene which is warranted by dish washers?

- This general issue can be decomposed in many “sub sub problems”such as price or space. But observing that many Singaporean households delegate work to maid and like to go to restaurants, the general question definitively will find an answer which is related to common behavior patterns in family and society.

Key action 2.3.2: Identify critical subproblems

- Another technique to select among the whole list of elementary questions or areas is to make a quick check which areas could become crucial for finding certain answe4rs your study must give.

- That is, the answer of this particular elementary question could be decisive whether a more general conclusion is directed towards yes or no, for example.

- Identify critical areas! Select crucial areas as your focus!

Example

- At one stage of its development, the Taiwanese producer of mobile-phone chips MediaTek had to decide whether the low-cost policy should be continued or an own brand should be established.

- The answer turned out to be crucially depending on the growth rates that can be sustained in the long term for both strategies.

- So, the focus was put on one area only, the long-term growth associated with the two strategies.

Key action 2.3.3: Consider the 80/20 Rule

- The third technique to select focus areas is merely “economical” in the sense of balancing results against effort. Empirical evidence indicates that by focusing on a small selection of areas it is possible to cover the original issues in a way that is sufficiently broad.

- The well-known 80/20 Rule says, that with 20% of the effort already 80% of the results might be gained.

- Work economically and effective, think of the 80/20 Rule. According to the effort required, focus on some 20% of the elementary questions or areas (and expect some 80% of the effect).

Key point 2.4: Thinking about interdependencies

- Before we address the selected specific subquestions and subproblems (in a parallel or sequential way), you should identify any interdependencies between the focus areas
- For instance, the solution to one focus area might be a required input to another focus area.

Key actions:

- 2.4.1 Find possible kinds of interferences
- 2.4.2 Identify key interdependencies between focus areas
- 2.4.3 Compose a graphical presentation

Key action 2.4.1: Find possible kinds of interferences

- Although the list of elementary questions or areas was generated by MECE, thus looking for independence, a number of the elementary questions or areas can still be interrelated in some way.

- Thus, even after concentrating on focus areas, interferences among the focus areas can still exist. They must be identified. One technique to find them is to look at the focus areas and to start a brainstorming session, involving a few experts.

- You can set up a group of experts for a brainstorming session or you can adopt other creativity techniques to find interferences.

Example

- Mary Mint shows all the focus areas, that is, all the selected areas, on a white board. Then she goes through and is noting the solution technique to each focus areas. After that, she is asking which information generated elsewhere, in particular which information coming from the solutions of the other focus areas will be required as an input. Any connection between input and out put variables is then indicated by an arrow.

Key action 2.4.2: Identify interdep'cies between focus areas

- Concentrate on a few, more important interferences!

- Again, the selection from the set of all found interferences follows the three principles mentioned when focus areas have been selected within the set of all areas: Follow your intuition, identify "critical" interferences, believe in the 80/20 Rule.

Example

- Mary Mint is then concentrating on the more “important” arrows, a selection which obviously requires experience.

- But she strictly adheres to the tree principles:
  1. Which arrow is important according to her intuition?
  2. Which arrow could be of a crucial importance, meaning, the results could change their qualitative content of the arrow is factored out?
  3. Which arrow should be excluded according to the 80/20 Rule?

Key action 2.4.3: Compose a graphical presentation

- Develop a tree which shows how your work will be organized!

- After having defined the focus areas and the key interdependencies, a new tree structure is emerging. It shows the basic questions and how their answers is input for the next questions to be addressed.

Example

- Frank Fauns favors very simple analysis. He selects focus areas so substantially that in the end there are only three focus areas. Among the arrows he usually selects two arrows. Thus, he comes up with a very simple work plan, and later he is able to present what he did. If someone in the audience is asking about additional areas and additional arrows, he answers that it woukld be certainly advisable to continue the engagement to explore their impact.

Key point 2.5: Formulating precisely

- Formulate all sub problems in a concrete and precise way.

Key actions:

- 2.5.1 Choose the appropriate language
- 2.5.2 Be aware of tautologies
- 2.5.3 Try to come up with testable statements

Key action 2.5.1: Choose the appropriate language

- Generally it is important to formulate focus areas and the key interferences precisely in an appropriate language.

- Use words, tables, numbers and diagrams to develop a clear description of focus areas and key interferences!

Example

- Joe Hold has learnt a rule during his university years. The rule says that a good presentation comprehends three parts. This rule was meant for presentations in the university, however. The first part allows people to understand the original question. The second part should impress the audience and show the advanced techniques applied. The third part should be so general, that everybody can ask questions.

- After becoming a consultant, Joe takes the highest speed to come up with the results. Formal language, math and statistical solution techniques are contained in the appendix. But Joe adds: “You never can skip math, it must be there, but it will not be shown in the general presentation.”

Key action 2.5.2: Be aware of tautologies

- When formulating statements, think about it:
  - Do the statement convey news to your client?
  - Are these news important to her or him?

- Statements that are true by definition (“tautologies”) contain no informational value. Avoid tautologies, because they just fill in space.

Key action 2.5.3: Try to come up with testable statements

- All statements about the real world must be formulated in a testable way!
- Scientist often prefer formulations which, by their wording, can never be rejected – just to say always something which is correct.
- But these statements do not enhance our knowledge, and they are not offering additional help in making decisions.

Example

- Unfortunately, is not so easy to reject a hypothesis. It is much easier to “confirm” or “support” a hypothesis. Then, additional techniques of conclusion should be added.

- Ralf Beck, a senior consultant, circumvents the command to come up with testable statements and to test by referring to examples. He is always saying that “a good example says more that a whole theory”. This trick worked for many years of his professional life, but nowadays more and more his audience finds the reference to anecdotes to be outdated. Not that they would not love Ralf’s stories, but they themselves have to justify resources by delivering statistics and tests.

Lessons of Section 2

- The issues the client wishes to address are typically numerous and vague. This section told you how to formulate a clear-cut description of the more important questions that will be addressed.
- Try to translate all the issues and problems and impacts mentioned into a set of clear-cut questions.
- If the questions are still quite general, the next step of the analysis requires decomposing each of these general questions into more specific sub questions.
- Since not all (sub-)questions can be addressed, you have to select certain “focus areas.” There are principles that help you in making a selection.
- Before we address the selected specific (sub-)questions, you should identify any interdependencies between the focus areas.
- Formulate all sub problems in a concrete and precise way.