TBM in Innovation Management: Case Study Chemicals/Pharma Industry

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9.1 Description of the Client[1]

Elastogran GmbH is a subsidiary of BASF, one of the 50 largest companies[2] in the European Union according to market capitalization, and the world's biggest chemical company The subsidiary has its headquarters in Lemförde in northern Germany. As a market leader in developing, manufacturing, and distributing polyurethane basic products, systems, and elastomers, the client has production facilities, technical centers, and a commercial presence in France, Great Britain, Hungary, Italy, Spain, Turkey, and Russia. Its core products are used in the automobile, building, furniture, shoe, electronics, and sports and leisure industries.

Despite the economic turmoil, the client was able to top its record 2000 turnover by 4% to EUR 1.46 billion in 2001. Quite contrary to the industry norm, the client increased expenditures on research and development (plus 20% from 2000) in 2001. Moreover, 52 people were hired in 2001.

As a major player in producing and marketing polyurethanes, however, the company is subject to the price of crude oil and thus to the events in the Middle East. In times of growing competition, innovations in products and technologies play a major role in economic success.

[1]Figure are taken from group's and client's financial reports 2001 and 2002.

[2]The group has been among the EuroStoxx 50 since September 2002.

U. G. Seebacher, *Template-based Management*, Management for Professionals,
https://doi.org/10.1007/978-3-030-56611-1_9

9.2 The Contingency Situation

9.2.1 Industry Situation

When we worked for the client in 1997, the situation in the chemical industry looked quite different from the way it does now.[3] Nevertheless, Elastogran and the entire group was always customer driven and committed to fulfilling their clients' needs. This utmost client focus in particular was the driving force for success even during the rough times the chemical industry was facing in those days. Even more so was the global and international approach of the client's mother BASF—developed, intensified, and sustained to keep up a sound business, when competitors were struggling and looking for ways to escape the difficult times.

9.2.2 Client's Situation

Under these circumstances, we were called in by the director of the subsidiary's department Elastomers, Dieter Strubel, with the objective of helping him to improve even further the existing innovation management system. Elastogran has always been very innovative and on the leading edge, as can be seen from their list of clients and significant innovations, whether they be parts or modules of products, or entire solutions or tools.

Major innovations realized by the Elastomers department during the past years are, for example,

- New TPU systems with halogen-free fire protection reagents
- TPU for fibers
- Super-soft TPU to broaden the possible field of application

Owing to this overall understanding and the culture of an innovative market player, Elastogran in those days had already established a structured innovation management process, which differentiated our client from many of its competitors.

But the idea was to leverage the existing process by developing a database-supported approach for the structured gathering, documentation, and evaluation of all the latent ideas, enabling Elastogran to keep even better rack of its know-how. More important to Dieter Strubel, with his openness and spirit for promoting and nourishing new ideas was the provision of a tool allowing and facilitating him and his entire team to follow up fresh ideas efficiently.

We were called in to accelerate the process of drafting, evolving, and finally implementing this feature, rounding out the already existing innovation management system. As you can imagine, the timeline was particularly short, the budget was small, and the director was watching every single step. Moreover, Dieter Strubel

[3] Please refer to Chap. 3 for a detailed description of the current state of the chemical industry.

indicated to us how important the involvement of his team was to him, as he was convinced that only the full integration of his people would really add value to the working system. He ran the Elastomers unit in a very open and direct manner and therefore could not have accepted our running a project without intense involvement of the team.

Thus, we had to come up with an idea of how to enable the team to do the tasks without us having to be with them all the time. An extensive session of brainstorming and discussion brought up the idea of trying to solve our problem by using structured but blank transparencies—forms that we now call templates. We sketched four phases for going about this, with which you are already familiar. They reflected, more or less, today's "Four Phases of TBM."

9.3 Problem Definition and Understanding

I have already briefly outlined the challenge that we faced. Basically, it was to develop a smart tool that would help to file new ideas during a very early stage. Normally, what happens in organizations with massive Research & Development departments is that new ideas seem to be neglected, as nobody spends enough time really letting the idea mature—only the idea owner. But to communicate the idea, create awareness of and understanding for it, a certain structure for sketching one's idea has to be pre-set. Based on this pattern a team of colleagues can then easily understand the underlying concept and decide—based on their experience—whether to keep going and give it a "go" or to stop it immediately.

One of the most famous cases without doubt is 3M and their little sticking scratchpads. It was only by coincidence that this idea became a huge market success. Of course, no smart database-filing system could have helped to get this idea going, but the point is that Dieter Strubel was uncompromising in his aim to help new and unfledged ideas to grow. Therefore, he wanted to combine the existing innovation management process with the database-filing tool, where someone could log in and check out new ideas, probably get some input for nurturing her own idea, or maybe only an understanding of the stage a specific concept at which was at the moment.

To get a better understanding of the problem, we talked to a couple of people within the department and outside it. We limited our discussions to those people we thought were key. Through the talks, we were also able to screen the people or ask who would be most suitable for the teams we envisioned using the templates for drafting, documenting, and evaluating the underlying processes and for developing the structure for the required database tool.

Soon we developed a clear understanding of the task to be delivered:

- Design a database tool for the innovation management process at the Elastomers unit to fortify the already existing innovation management process.
- Ensure maximum involvement of the entire team, as they in the end would have to live and work with the enhanced innovation management system.

9.4 Process Evolvement and Abstraction

In the second phase of the project, we designed a problem-solving process representing a mix of the operational and the HR-consulting processes described in Chap. 6. Basically, we asked ourselves how we could go about reaching our objective. However, we did not go through all of the steps outlined in Chap. 6 as part of consulting in the area of systems optimization, since time was running out. Consequently, we agreed with Dieter Strubel to run neither an external nor a quantitative analysis (Fig. 9.1).

The problem-solving process, in a nutshell, appeared as follows:

1. Internal as-is analysis (processes, IT tools and roles and responsibilities)
2. Definition of target database system (processes, IT tools, roles, and responsibilities)[4]
3. Qualitative process modulation and optimization
4. Implementation
5. Evaluation

Since it was of the utmost importance to Dieter Strubel to actively engage his people, we thought about ways to best realize this involvement. Therefore, we abstracted the problem-solving process. This means that we did not go straight into doing the internal as-is analysis, for instance, ourselves. Rather, we reflected on what steps and tasks an as-is analysis usually comprises and how we could best offer the client's employees a tool to conduct it themselves.

We approached Dieter Strubel with the idea we had evolved and indicated to him what this would mean for the team, how this would work, and finally ensure the hands-on contribution of the Elastomers unit group. This was essential, as the commitment and awareness of Dieter Strubel would be key at that moment when we initiated the operational project work and asked the team to deliver essential pieces of the project based on the use of our pre-developed templates.

The next step was to produce the templates. It is important to note at this point that the templates we designed back in 1997 were not at all very sophisticated. Rather, they were structured in a very rough way and did not contain any high-class graphical elements. It was not rocket science that we did. This was due to the time pressure we were subjected to. Furthermore, we did not ourselves know-how the employees would work with the templates and whether they would accept them or not. Above all, we were lacking experience in using templates and consequently had to consider the diverging project experience of the involved team members. What we did not know then was that the entire team disposed of excellent project management

[4]The definition had to be "ongoing" because no formally documented innovation system existed before. Therefore, we had to continuously redefine the target system, as new findings were coming up every day.

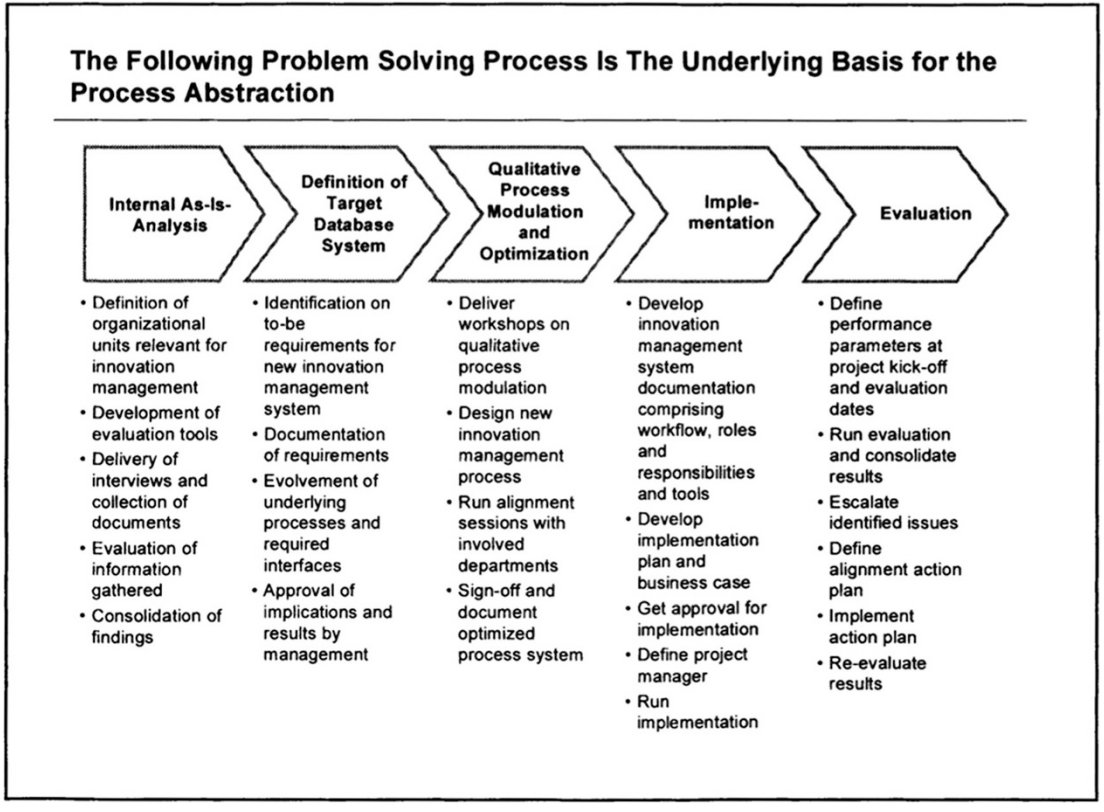

Fig. 9.1 Process description

as well as delivery capabilities. This, in the end, was of course vital to the terrific project delivery.

The use of the templates was a very big step for us to take; the whole attempt could have backfired, as we did not have any experience with meta-level learning and with our consequently changing role as consultants. Therefore, we owe gratitude to Dieter Strubel and his entire team, as the learning experience was and still is key for the final development of the TBM approach.

Frankly speaking, the rather low "complexity" of the templates means that I do not need to discuss the next phase of TBM—template generation—in great detail. The following case studies, however, will contain a comprehensive description of how a single template and a set of templates were produced.

9.5 Template Generation

When we generated the templates, we always paid attention to the key elements. Since we did not have the time for thorough coaching, we particularly stressed the importance of *user-friendliness* and *clearness of expression*. By doing so, we guaranteed that the employees could quickly work through all the tasks. This was the most vital aspect, as we were committed to really helping the client in delivering results to the board on time. Because we ourselves were not aware of how innovative a thing we were doing, the entire generation was quite hands on and pragmatic.

First, we sketched a couple of templates based on materials from other projects that we considered useful for delivering certain tasks such as the collection of data on who is doing what, where, and when in a given team or department. Then we decided which ones were most appropriate for the given tasks and showed them to the employees after having cleansed them of the client's data. With their feedback, we were able to improve and fine-tune the templates and had them finalized in a couple of hours.

It was time to give the final versions of the templates to the potential users. It was time for TBM to become reality!

9.6 Project Work Implementation

Six teams were built that would ultimately use the templates. The team members came from different competencies both within the R&D department and from outside (i.e., Production, Marketing. . .). These employees were instructed to conduct the internal as-is analysis of the innovation process. Moreover, they were given parts of the task to define the target innovation system, because knowing about the as-is situation automatically entails coming up with suggestions for enhancement.

Each team was given a set of templates that would allow them to deliver results on the as-is situation of the innovation activities. That set of templates contained several that allowed them to conduct brainstorming (see Fig. 9.2), as well as ones that would

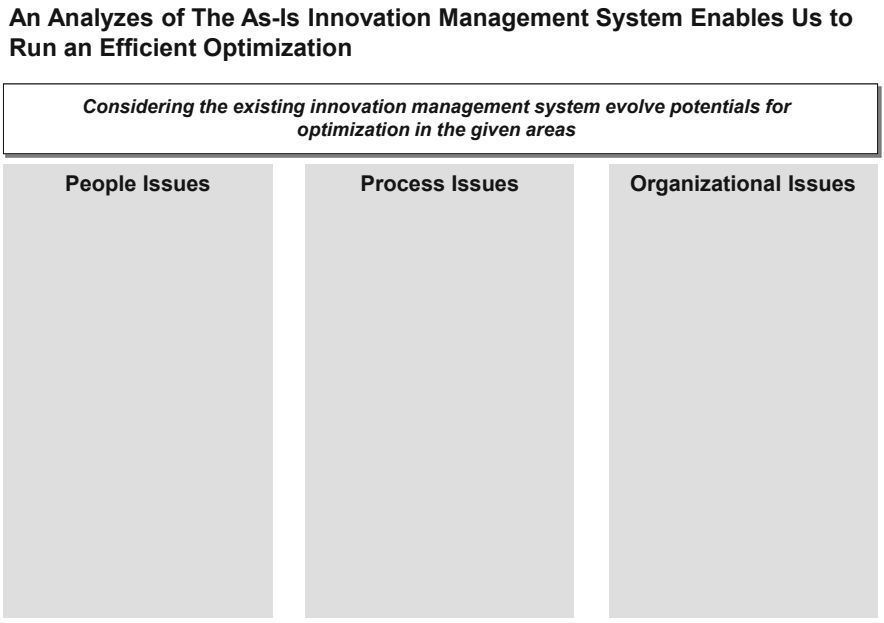

Fig. 9.2 Brainstorming template for teams

enable them to analyze every single set of activities of the innovation procedure (following figures).

The template below allowed the various teams to freely write down anything they thought would have to be improved concerning the three dimensions of an innovation management system (roles and responsibilities, processes, and IT). We explained to the employees why it was important to analyze the innovation process along these three dimensions. However, we did not want to tell them too much in advance, so as not to manipulate their objectiveness and influence their creativity.

Then we gave them the tools to analyze each single component of the innovation management process with regards to the three dimensions. In Fig. 9.3 you will find one of these templates mapped. This template, for instance, helped the team members in examining the sub-process "idea gathering." Because the team members had to ask their peers what they were doing, we also designed a template that would allow them to structure the activities. The blank areas of the template had to be filled by the team members evolving the objectives of the specific process and sub-process modules, which then were used for further analyses on each single sub-process. This template is very important, since most people profit from having their daily, weekly, or annual activities structured sequentially, as they often have no clear idea of how their own activities contribute to the overall work process. This still happens to me quite regularly and takes me by surprise. Hammer's and Champy's "Business

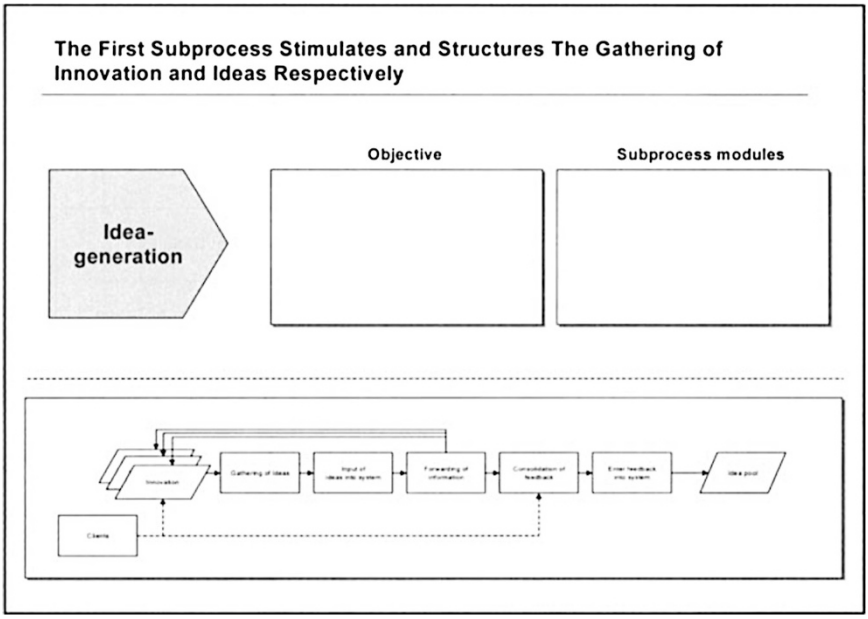

Fig. 9.3 Template for analyzing the sub-process "idea gathering"

Process Reengineering"[5] is coming of age, and many people do not think or act in processes. Only in a second or third start-up are they able to structure their actions.

It appears interesting to mention, given the experience we now have with TBM, that we provided the teams with the overall process flows—as you can see below, the process flow was already drafted as part of the graphical module of the template—as we did not dare to outsource this task to them as well.

The whole purpose of this was for the team members to develop a "zig-zag" evaluation diagram that would disclose information on the flow of actions and their nature (see Fig. 9.4). The nature of the various actions could be described as

- "Value-adding" (any activity that would lead to the innovation being enhanced in form or content).
- "Logistical" (referring to a transfer of the innovation from one source to another).
- "Validating" (giving approval concerning budget, purpose, design...), and "waiting" (the manipulation of the innovation being stopped for any reason).

[5]Hammer, M; Champy, J.A.: Reengineering the Corporation – A Manifesto for Business Revolution, HarperBusiness, 1996.

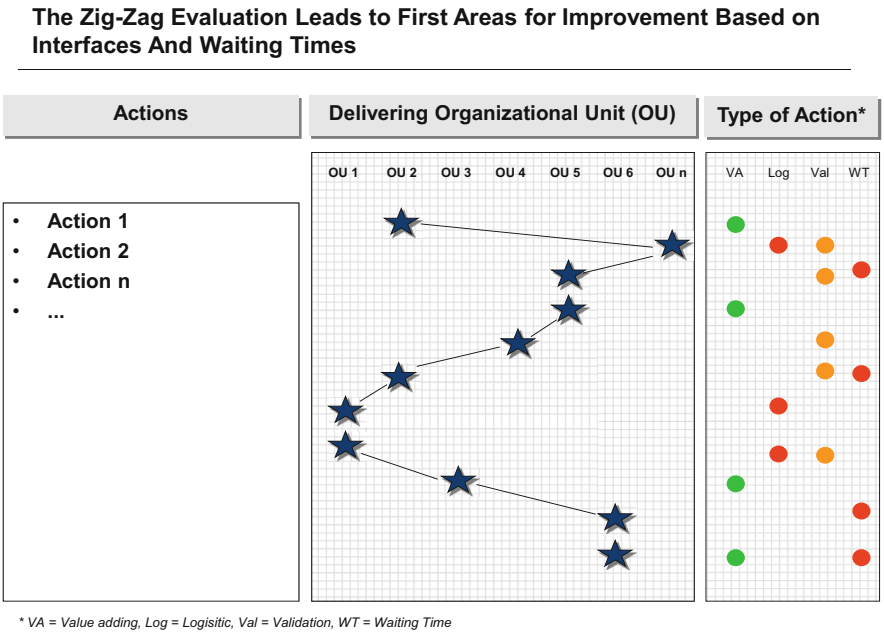

Fig. 9.4 Zig-zag evaluation template

The result was that activity interfaces and possible overlaps could be pictured. On this basis, the template in Fig. 9.5 could be used to define and ultimately to create a possible target innovation process flow.

Based on the work delivered so far, the teams could evolve one commonly agreed process landscape for innovation management. The next step then tackled the other areas of an innovation management system, the roles, and responsibilities of the involved parties. Using the template (Fig. 9.5) the teams developed an in-depth process understanding and could define the tasks and activities required for completing the innovation management system. Furthermore, as part of the textual module at the bottom of the template, we directly integrated an interface with the conceptualization of the implementation phase. In the "Required Activities" field the teams had to enter their ideas on how to install the defined roles and responsibilities.

The results were then considered during the development of the implementation plan.

With the necessary assistance and coaching, a number of teams delivered very good results and some even excellent ones. To us, this proved that this approach would be a very effective and efficient one if done right. For me, this was all very exciting, as I learned how positive work with clients can be. As the people at Elastogran were so responsive, engaged, and positive about the achievement, we jointly realized that, based on their feedback, we as consultants could profit tremendously in learning how to best use templates. We instructed the team on how to use the templates and they came back to us identifying areas for improving

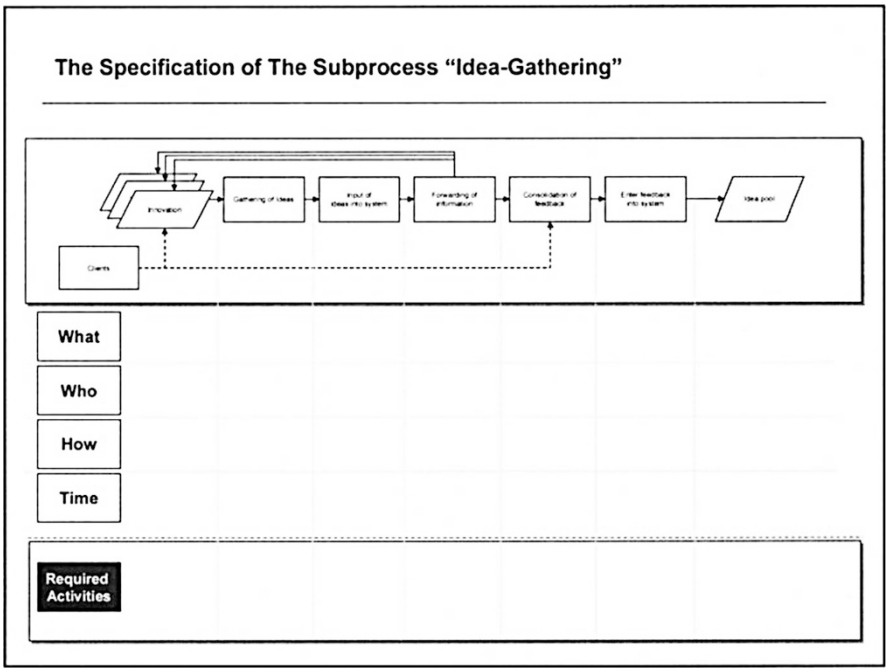

Fig. 9.5 Roles and responsibilities template

our pre-defined templates. We told the people about the purpose and how our work would relate to the other consulting tasks, and they told us how we could even improve our services when using templates—the origins of dual-level coaching.

9.7 Quantitative and Qualitative Project Results

The project results were astonishing. They manifested themselves both quantitatively and qualitatively.

The *quantitative* consequences of applying—even unconsciously—the prototype of the TBM approach were probably most astonishing, since they were visible immediately or after a short time. First, by "outsourcing" some activities to the client's employees and enabling them to deliver good results via the use of templates, the project could be completed within both the timeframe and the budget. In just 4 weeks, we and the team members managed to go through the whole consulting process.

Some of you may be skeptical about the quality of our work. But let me assure you that the effect of our collaboration was very positive. The team members, as "internal consultants," were at the pulse of things, enabling the project to thrive—even later after the end of our engagement.

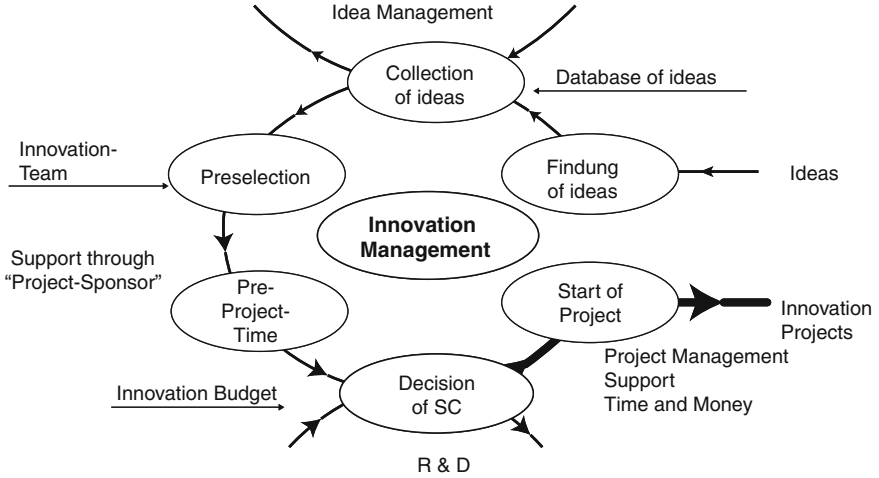

Fig. 9.6 Elastogran's innovation wheel. (Source: Published with permission of Elastogran Innovation Management)

Qualitatively, probably the most vital aspect for the evaluation of the initially defined project goal, and thus the overall success of the project, is the fact that we were able to develop and install the database tool as part of the innovation management system at the Elastomers unit. That database allowed researchers and inventors to easily access any information concerning a topic on which they were doing research. Thus they could find out who worked on what and how far he or she had advanced in the area.

Since 1997, this database has been used actively and further developed. The maturation of the entire innovation management system is reflected by the fact that the tool is meanwhile being used all across Europe, and the idea of Dieter Strubel, to help new ideas to thrive at a very early stage, to get them going, was taken over by the whole Elastogran organization from just the one business unit Elastomers.

Moreover, innovation management (Fig. 9.6) as such has been installed as part of the organization and is now in charge of the innovation management process, comprising the complete process from the starting point, the idea, to the institutionalized innovation project. The organizational unit innovation management provides guidelines and policies, as well as tools such as the database, and supports the process flow. Core elements of the leading edge system are

- The innovation manager as an institutionalized role
- The idea database
- An innovation team
- Its own budget as venture capital
- The steering committee, which makes the final decisions.

This innovation team consists of six members from different business units, who discuss the ideas with the inventors and choose the ideas to be presented to the steering committee "Ideas and Innovation." The steering committee is comprised of the board, the business unit heads, and the head of Research and Development. Crucial to the success of the Elastogran system, though, is that the budget, i.e., the venture capital, is flexibly dedicated and spent throughout the year by the steering committee. This means that there is always money available for new ideas. The organizationally high positioning of the steering committee at the board level is key for such a procedure and its inherent requirement of flexibility, as based on this system even more ideas in the area of products, technologies, and new business segments can be supported more efficiently than in the past.

At this stage, let me take the opportunity to thank the entire project team of the client, even though most of them have proceeded to new positions or left the company. Furthermore, special thanks go to Dr. Claudia Merk and Dr. Günter Scholz, who both played an important role during the development of the case, as they provided us with insights into how Elastogran's innovation management is working today. For me, this project is still one of the most important I have handled, as for the development of the TBM approach this was a vital and long-lasting experience.