

## Process Benchmarking at the German Fraunhofer Information Centre Benchmarking (ICB)

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### Introduction

In times of severe competition in global markets the continuous search for and exploitation of potentials are ever more important success factors for the competitive capacity and survivability of a company. Here Benchmarking supports the goal-oriented search for new ideas – whether it be methods, procedures or processes - within and without one's own branch.

“Benchmarking is an ongoing process in which several companies compare their products and services, and, particularly, their methods and processes of operational functions. The goal is to reveal the differences between the companies, to determine the particular reasons, and to identify areas of improvement. One's own company is usually compared with a company that exceeds the standards of the studied methods or processes. These companies are often referred to be „best in class“ (CAMP 1989).

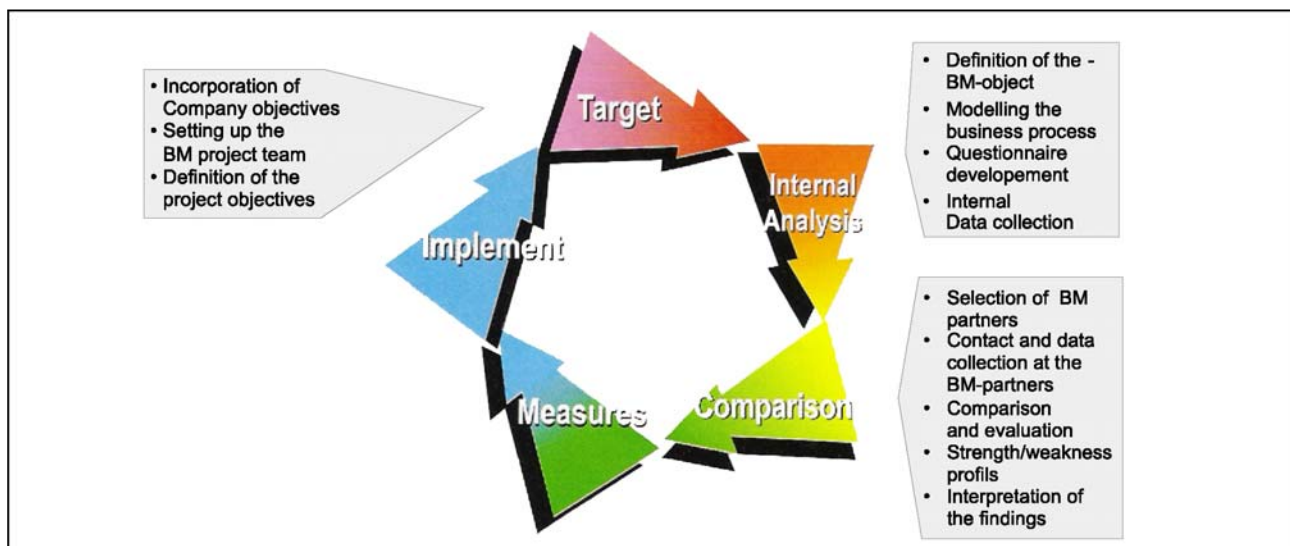
Benchmarking has a much longer tradition in the USA than in Germany. But in the last decade this new management method has increasingly established itself as an important tool. Since the foundation of the Information Centre Benchmarking (ICB) in 1994, as the first Benchmarking-Centre in Germany, and the foundation of the Global Benchmarking Network (GBN) with the ICB as one of it's founding members in 1995, there is a noticeable interest in Benchmarking as is revealed in the increasing number of projects carried out by the ICB. This article introduces the benchmarking approach of the ICB and resumes a project that has been carried out by the ICB, lately.

### The 5-Phases Concept for Process Benchmarking at the Fraunhofer ICB

Lately, the ICB was assigned to conduct a process benchmarking project by a major manufacturer from the automotive industry in Germany. The project was supposed to focus a single business process, i.e. the inspection of water and oil pumps, by conducting operating and endurance tests.

The methodological approach used in this project was based on the 5-Phases Concept developed at ICB. Accordingly the starting point for the benchmarking project is the target setting phase. In this phase the focus of the benchmarking project and the benchmarking object are defined. Based on the objectives, an internal analysis of business processes is conducted in the second phase. The comparison phase includes the search for benchmarking partners and the comparison of the processes. In the fourth phase actions are defined and implemented in the fifth phase.

Figure 1: The 5-phase concept of process benchmarking at the ICB



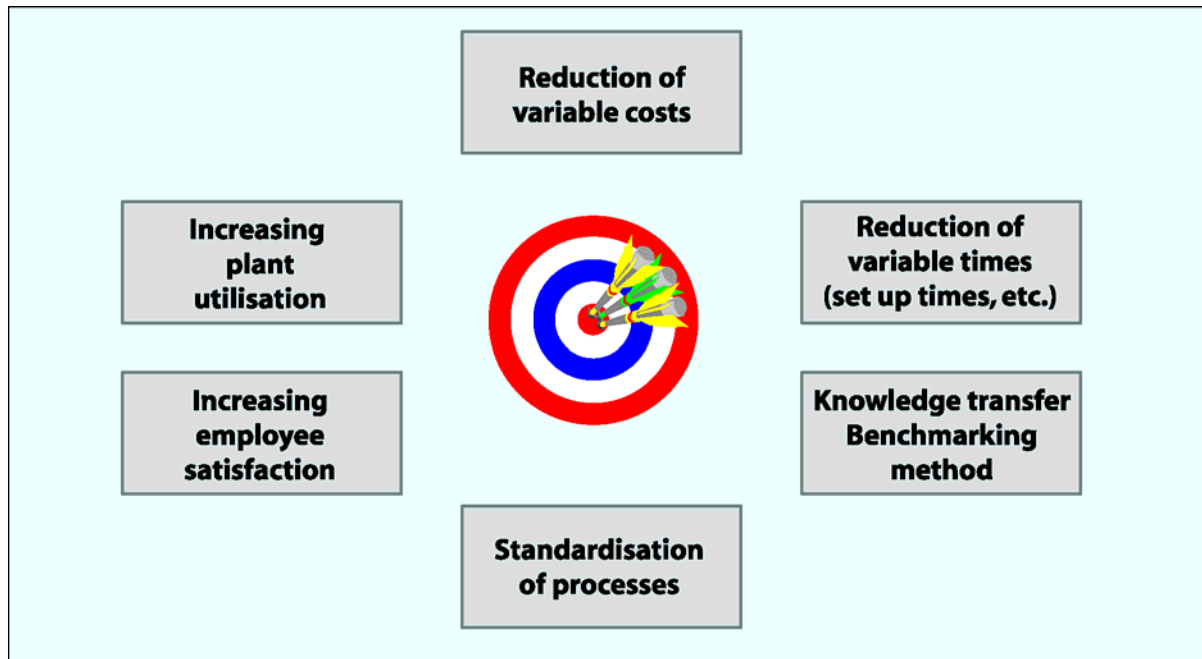
As it had proven to be reasonable to conduct an introductory training the project started out with an instruction of the benchmarking method and its tools.

A project team was set up that held responsible of the contents and timewise controlling of the project.

Members of the project team also defined the process that

was to be benchmarked, the goals of the project and criteria to measure its success after completion. The major goals of this project are displayed in figure 2.

Figure 2: Targets of the project according to the project team



Based on the findings of the target phase the project team set up a project plan which made it possible to carry it through within only four months. Usually the duration of like projects should not fall short of six months. But a tight project organisation with defined milestones and meetings at regular intervals as well as the allocation of two employees of the customer company and two from the ICB made this brief project duration possible.

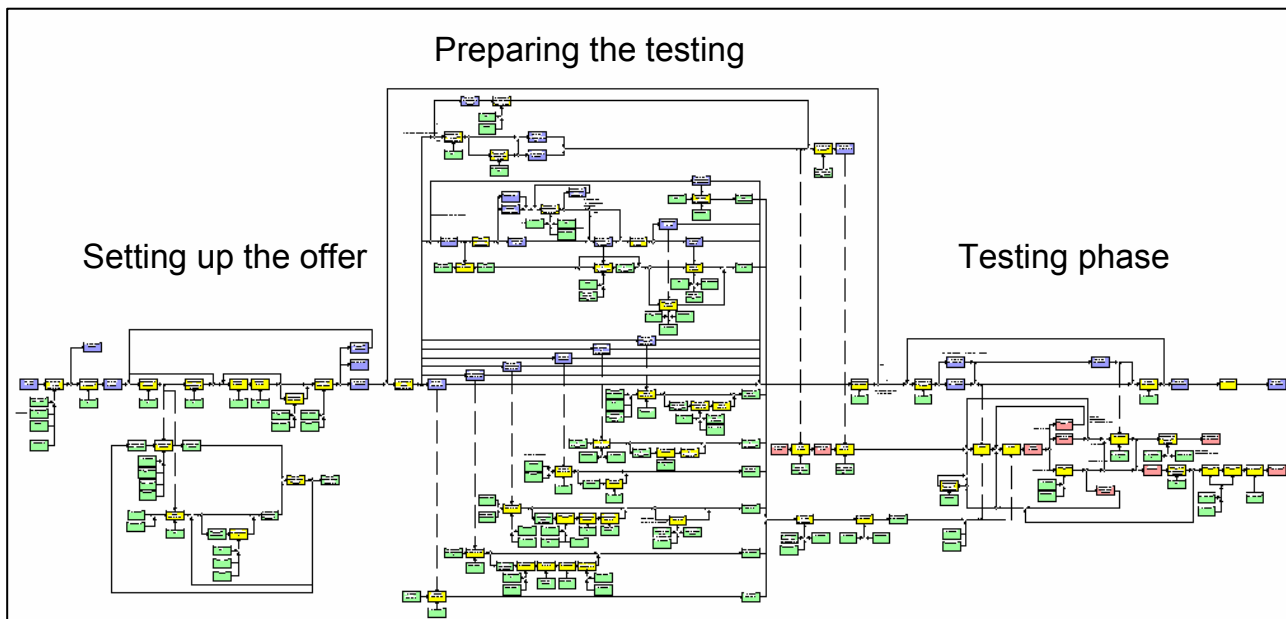
After the findings of the target phase had been compiled by the project team and had been communicated to the management for approval the analysis phase started in phase two. This included interviews with employees within and beyond the process (interface view) in focus.

This phase included the internal analysis of the selected process „workflow in the testing field“. The results of the interviews and the screening of documents, such as quality- and organisational

handbooks, were used in the graphic representation of the process.

Due to the high complexity of the process the business process modelling tool MO<sup>2</sup>GO was used. Modelling the process also helped to achieve a common understanding of the process itself.

At the same time the process model would later serve as reference model for the process analysis at the benchmarking partners. The process model is displayed in figure 3.

Figure 3: The process model as displayed by MO<sup>2</sup>GO

First results of the internal analysis already showed a considerable room for improvements. Three aspects were noticeable right away:

- Only a few process steps contributed directly to value creation.
- Especially in the preparation phase for experiments the necessary process steps were very networked.
- Various actions could be handled parallel.

The process modelling was followed by the definition and survey of operating figures via a benchmarking questionnaire. The questionnaire thereby takes into account the goals of the project and the findings of the process model. It is independent from the search for benchmarking partners. The following criteria needed to be fulfilled by the questionnaire:

- Questions needed to be non-ambiguous.

- The answer alternatives needed to be target-oriented to avoid time-consuming requests.
- The questions needed to be of a kind that makes an efficient answering possible (should take less than 3 days).

A number of app. 60 questions was chosen, although the time it took to answer the questions varied a lot. In a first testing of the questionnaire the criteria for the quality of the questionnaire itself were reviewed. Then the data was collected for the customer company and the questionnaire was optimised in a few aspects.

#### Comparison Phase

The third project phase focused the search for and selection of benchmarking partners as well as the subsequent comparison of processes and operating figures.

A list of companies that were to be evaluated was created through the following tools for a benchmarking partner search:

- Brainstorming,
- Analysis of literature,
- Word-of-mouth propaganda of successful companies,
- Analysis of markets,
- Award-winners,
- Expert findings.

This resulted in a list of app. 15 potential benchmarking partners, who signalled a principal willingness to participate. Since the customer company was a renowned manufacturer from the automotive industry the feedback was generally positive.

Based on the results from the process analysis and a first appraisal of the qualitative and quantitative data the project team worked out an evaluation matrix for potential benchmarking partners (see fig. 4).

Figure 4: Matrix for the evaluation of benchmarking partners

			Criteria for comparison							
1 = not true; 5 = true			Size of company	Number employees in the department	Likeliness for openness	Best Practice likeliness	Comparability	Accessibility	Existing contacts	political appropriateness
emphasis			10%	10%	20%	20%	10%	10%	10%	10%
company	rating									
A	2,9	74%	4	4	3	1	2	5	5	1
<b>B</b>	<b>3,4</b>	<b>87%</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>
C	2,3	59%	4	3	2	2	3	1	1	3
D	3,2	82%	4	3	3	4	1	4	3	3
E	2,9	74%	4	4	2	4	4	2	2	1
<b>F</b>	<b>3,9</b>	<b>100%</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>5</b>
G	3,3	85%	4	4	3	5	2	5	1	1
H	2,2	56%	2	3	2	3	3	2	1	1
I	2,8	72%	3	3	1	4	5	5	1	1

This procedure led to the selection of two benchmarking partners: a company from the transportation branch and an automotive supplier. Due to restrictions in personnel as well as time the restriction to two benchmarking partners seemed an appropriate and resource saving procedure. In general the number of benchmarking partners should be set according to the objectives and the complexity as well as the existing room for improving the business processes. A benchmarking with only two partners therefore marks the minimum.

It proved very helpful to have a third party - in this case the ICB - conduct the initial addressing of the potential partners. This helped to create the necessary confidence that was further fostered through the benchmarking code of conduct.

The first personal interviews with the respective benchmarking partners had two major objectives. Obscurities and misinterpretations with the questionnaire were cleared up.

At the same time a first business process model was generated while the interest lay mainly in the differences between the processes and the diverging practices. Also, the questionnaires were sent to the benchmarking partners. Results from the interviews as well as the questionnaire were used in the modelling with MO<sup>2</sup>GO. In order to achieve consistency in the process models, which is crucial for their comparability, the modelling was conducted by the ICB as well. On the one hand this procedure ensured that the modelling knowledge was available. On the other hand it provided for the neutrality that allowed to discover room for improvement and avoid one sided views and organisational blindness. The validated process models were then critically compared.

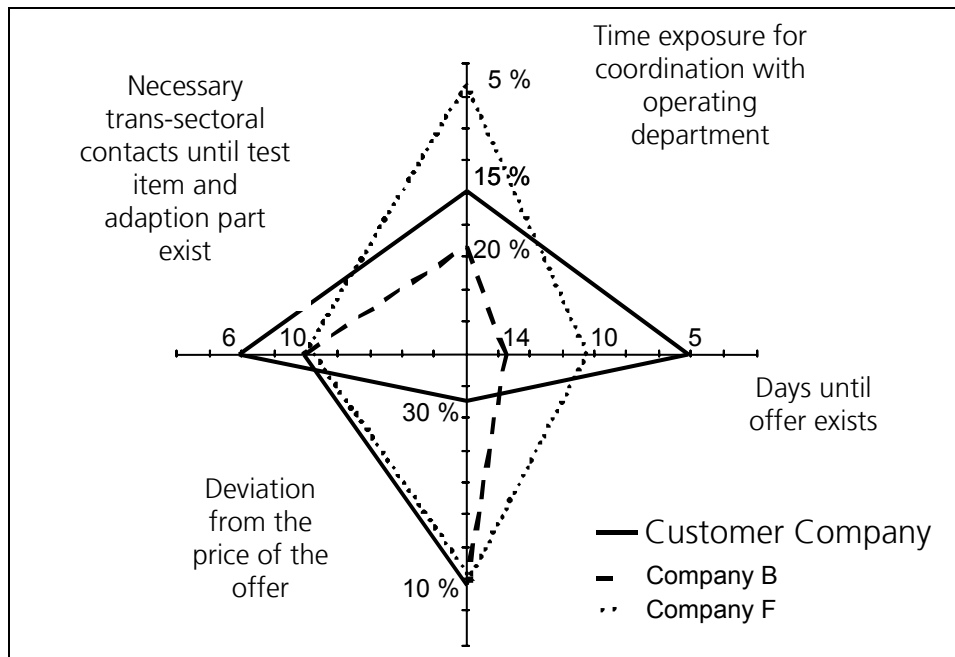
The findings had a clear result. Each of the benchmarking partners showed individual strengths and high class solutions in their quality management processes as well as clear potential for improvement. Therefore each

of the participating companies could profit from the project and implement measures to optimise their processes.

**Measures and Implementation phase**

For the visualisation of the differences between the benchmarking partners graphic representations were used (for an example see Figure 5). The results were then transformed in organisational objectives and measures. For the measures it was crucial to define figures that help to evaluate success and define clear responsibilities. Regarding the implementation phase it was important to communicate measures and the resulting changes early on. Especially measures affecting personnel needed to be explained in a transparent and truthfully atmosphere. The implementation of the measures was limited to six months in order to have a manageable timeframe and allow for a prompt evaluation of the project outcome.

Figure 5: Example for the graphic comparison of interrelated variables



**Summary**

After four months of project duration and another five months of implementation, the planned measures could be realized. The customer companies controlling verified the meeting of the objectives. Already in the first six months

the substantial costs for the project could be amortised. Additionally it should be stressed that these one time costs must be seen alongside ongoing savings in the process. The successful benchmarking project served as a pilot and was followed by a number of projects carried

out with the same method. Thus the management tool benchmarking, if used as an initiator of a continuous improvement process, can review the company's business strategy and strengthen the competitiveness sustainably.

**Present position and research activities:**

Holger Kohl is Senior Researcher at Fraunhofer Institute for Production Systems and Design Technology (IPK), Berlin, Germany and Head of the Information Centre Benchmarking (IZB). His primary research interests referring to his dissertation are in the area of Benchmarking, Total Quality Management and EFQM, especially for Small and Medium Enterprises (SMEs).



**Memberships:**

As Researcher at the Information Centre Benchmarking, Holger Kohl is member of the following Benchmarking Networks: European Company Benchmarking Forum (ECBF) and Global Benchmarking Network (GBN).

**Among his publications are:**

- Mertins, K.; Heisig, P.; Kohl, H.: Learning from the Best - Benefits of Benchmarking for Private and Public Companies: Benchmarking in Europe, Spring 2000, pp. 62-63,

published by PSI Group, Stockport/UK 2000

- Supporting Benchmarking for Enterprises - Best Practices in Strategic Support Services for SMEs, presented at the International Concerted Action Seminar from the European Commission - DG Enterprise, the Hellenic Republic Ministry of Development and the Hellenic Organization of SMEs and Handicraft, Athens, Greece, May 15th-16th, 2000