

Tim Stapenhurst

# The Benchmarking Book

A how-to-guide to best practice for managers and practitioners



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Practice for Managers  
and Practitioners

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Tim Stapenhurst



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- (b) Bar chart of the performance of 20 participants split by performance levels

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# List of Case Studies and Examples

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8	Tupolev Tu-4 Aircraft	The Russians reverse-engineer a crashed American B-29 bomber and developed the Tupolev Tu-4 bomber on their findings.
9	Why Xerox Invented Benchmarking	Summarizes the history of how and why Xerox developed benchmarking as a business improvement tool.
27	Xerox and L.L. Bean Distribution Benchmarking	Xerox visited L.L. Bean after reading about their distribution process and later developed their own system based on what they had learned.
27	Formula 1	A manufacturing organization visited a Formula1 racing team to learn how to set production lines effectively and efficiently.
32	Review Benchmarking	Review Benchmarking process example also shows the importance of understanding participants' working environment.
65	Solomon Refinery Benchmarking	Facility benchmark study.
66	Valve Trialling	Product benchmarking: an organization buys different makes of valves and installs them to see which perform best.
72	Team Charter: Order Fulfillment	Abbreviated example of a project charter.

Page	Case study/example name	Summary
77	Maintenance Process Benchmarking Study Scope	Example of defining a project scope for a process.
77	Processing facility Benchmarking Scope	Example of defining a project scope for a facility.
81	Logistics Objectives	Worked example showing how objectives are linked.
85	Warehouse Benchmarking Objectives	Typical internal benchmarking study objectives.
93	Aircraft Maintenance Benchmarking Participants	Example of competitive, non-competitive and cross industry benchmarking studies.
96	Difficulties of Cross-Economic Zone Benchmarking: Work Hours	Difficulties of cross-economic zone benchmarking due to differences in working hours.
96	Diavik Mine, Canada	Benchmarking between different physical environments.
98	Benchmarking with a Business Excellence Award Winner	One organization benchmarked with a Business Excellence Award winner only to find out that the winner's performance was little better than their own.
99	Using Criteria to Rank Preferred Potential Participants	Example of how to rank potential participants for a benchmarking study based on selection criteria.
107	Importance of Consistent Data – Late Deliveries and Reliability	The effect of participants using different definitions for reporting "Late deliveries".
110	Variation in Late Deliveries	Example of how an unusual event may distort normal operations data.
116	Normalizing by Selection for Oil Well Drilling	Selecting wells for benchmarking based on their attributes.
117	Weighting Factor Normalization Airline Maintenance 1	Use of a weight factor to normalize for different types of aircraft.

Page	Case study/example name	Summary
117	Weighting Factor Normalization Gas Processing 1	Use of a weight factor to normalize for different types of equipment at processing facilities.
118	Weighting Factor Normalization Airline Maintenance 2	Worked example of comparing performances using weighting factors.
118	Weighting Factor Normalization Gas Processing 2	Worked example of comparing performances using weighting factors.
120	Deriving a Weighting Factor for a Hospital	Example of how to derive Weighting Factors for different treatments at hospitals.
121	Applying the Weighting Factor to Hospital Treatment	Worked example of comparing performances using weighting factors for hospital treatments.
127	Transport Arrival Delays	Calculating a ranked performance.
128	Scoring Using a Business Excellence Model	Shows how to benchmark performances using the results of a Business Excellence Award model assessment.
132	Choosing Between Categories, Weighting Factors and Modelling: Cancer Treatments	Worked example using categorizing, weighting factors and modelling for benchmarking cancer survival rates.
133	Infrequent Activities: Maintenance	Illustrates the problem of benchmarking major infrequent maintenance activities when reporting over a fixed period which may or may not include the major activity.
136	Benchmarking Infrequent Maintenance Events	Describes how participants learned how to experiment with reducing major maintenance activities.
140	Revising the Scope: Information Technology	A project team revises the scope of a project at metric selection stage.

Page	Case study/example name	Summary
141	Revising the Scope: Oil Well Drilling	Participants decide to reduce scope at metric development stage.
142	Identifying Wasted Effort	Example showing how reviewing a regularly produced report resulted in improvements to the report and reduction in wasted effort.
147	Analysing a Mission Statement to Develop Metrics for a Passenger Railway	Shows how to develop metrics from a mission statement.
149	The Purpose of the Balanced Scorecard for a Call Centre	Demonstrates a typical problem of focusing on one performance metric.
149	The Purpose of the Balanced Scorecard for a Police Force	Demonstrates a typical problem of focusing on one performance metric.
155	Flowchart Metrics for Oil Well Drilling	Example of how one company used flowcharts to help identify performance metrics.
155	Hospital Records Retrieval	Shows how a common step in flowcharts was selected for measurement.
157	SWOT Analysis for Business Expansion	Shows how a SWOT analysis can be used to identify potential areas for measurement.
158	Cost of Poor Quality for a Mail Order Company	Shows how a Cost of Poor Quality study identified weaknesses that were targeted for measurement and benchmarking.
164	Efficiency and Effectiveness: Hiring Personnel	Example of efficiency and effectiveness metrics.
165	Economic Viability in the Extraction Industry	Shows that however efficient an organization may be there are factors beyond their control that may make them economically unviable.

Page	Case study/example name	Summary
167	Availability Metrics: Port Loading Facility	Example comparing availability metrics: planned and unplanned downtime, availability and loss.
168	Testing Theories: Maintenance	Example showing the use of scatter diagrams to test relationships between variables.
173	Effect of Short Term Maintenance Cutback	Demonstrates the risk of reducing maintenance too far.
174	Internal and External Metrics for Purchasing	Demonstrates the need to consider customer centred metrics.
176	Environment	Considers at the metric development stage how data will be analysed.
180	The Risk of Non-Productive Time as a Metric	Example demonstrating how minimizing Non-Productive Time (and similar metrics) may not be appropriate.
181	The Importance of Definitions	Example of how developing a definition of a “failure” halved failure rates.
182	The Importance of Maintenance	Shows how clarifying a definition of maintenance effort resulted in a change in the best performer.
184	Clarity of Metric Name	Example of providing clear metric names.
184	Use of General Definition	Example of a general definition.
185	Use of Inclusions and Exclusions	Example of what is included and excluded as part of a definition.
185	Use of Examples	Example of how to use examples in a definition.
185	Specifying Context	Example of explaining the context for a definition.
186	Use of Widely Accepted Definitions	Example of widely used definitions for safety statistics.



Page	Case study/example name	Summary
187	Situations Where There are No Definitions	Example of where definition agreement between participants is unlikely.
188	Use of Estimates	Example of the need to use estimates when data are not available.
201	A Domineering Participant	Example of a domineering participant and his effect on a participant meeting.
202	Presuming on Commitment	Example of an opinion leading participant later withdrawing from a study.
224	Learning from Zero	A participant reported zero effort for planning activities. On querying the data it transpired that the participant had an unusual planning process.
225	Data Validation: Use of a Scatter Chart	Example of using scatter diagrams to validate data.
226	Validating Unexpected Values: Stores Area	Demonstrates the importance of querying unexpected values.
226	The Value of Logging Queries	One participant asked for data from previous years' data submissions. Because the data and data queries had been kept the facilitator was able not only to supply data but changes to the data and explanations of specific data values.
233	Learning from a Participant Query	A participant asked the Help Desk how to report shared security costs. The participant's situation was unusual and on explaining it to the facilitator, the facilitator realized that this would be a useful learning point for the study.

Page	Case study/example name	Summary
233	Mitigating Circumstances	A facilitator queried data from a participant showing slow progress and learned that it was due to a labour dispute.
234	Learning from Site Visits.	Example of how a facilitator found a major opportunity for improvement because he visited the facility and witnessed how the organization ran.
238	Relating Targets and Technical Limits.	Related to golf, a technical limit is a hole in 1 and the target is par.
243	Deducing Management Philosophies	A data analyst spotted that a participant had fewer stoppages than other participants. By investigation she deduced the management philosophy which was then presented in the report for the consideration of other participants.
257	Benefits of a Pre-Report Review Meeting.	Advantages of a pre-report review to participants.
263	Benchmarking for Planning	Common methods of planning: based on opinion, tough targets and stretch targets and the fact that they are not based on what is appropriate in a commercial environment.
264	Benchmarking Manning Levels	One organization used benchmarking to ascertain whether planned manning cuts were appropriate.
265	High level Benchmarking as a Method of Initiating Detailed Benchmarking Studies	A study benchmarked all hospital activities at a high level. This allowed participants to identify which activities they wanted to benchmark in detail for improvement purposes.

Page	Case study/example name	Summary
266	Benchmarking as a Driver for Improvement 1	Explains how an organization used the results of a benchmarking study as a driver to begin a systematic review of activities which resulted in improvements.
266	Benchmarking as a Driver for Improvement 2	Explains how an organization used the results of a benchmarking study as a driver to begin a major multi-year improvement drive including for example, training of all staff and setting up of improvement teams.
271	Offers of Help for Installing Software	Describes how one participant received offers of help during an informal conversation during a meeting break.
273	Working Groups	Facilitators do not always hear about improvement activities that participants agree amongst themselves.
273	Organizing a Visit	One manager asked the facilitators to identify the best participant in a particular aspect of the study and organize a site visit.
276	Unexpected Benefits from Site Visits	One participant remarked that quite incidentally to the purpose of a site visit he picked up a useful safety tip when entering the facility.
282	Learning During the Benchmarking Process	Explains how a major benefit of benchmarking for one participant was the development of a set of metrics that they could use to manage their business.
290	Volvo Quality Circles and Suggestion Schemes	Describes how Volvo failed to reap the same benefits of suggestion schemes.

Page	Case study/example name	Summary
290	Suggestion Schemes and Management Committees	Example of why one company failed to reap the benefits of suggestion schemes.
292	Mis-Reporting Accidents	Example of how paying bonuses for safe working resulted in covering up of accidents, not necessarily a reduction in accidents.
293	Theory X and Theory Y	Explanation of how McGregor's Theories X and Y lead to different practices and different business results.
295	From Mental Models to Results: John Lewis Partnership, Measurement and McGregor's Theory X	Describes how Mental models are related to results using three short case studies.
304	Lunch-and-Learn Sessions	Describes how one organization used "Lunch-and-Learn" sessions to host benchmarking related events for anyone within the organization to attend.
305	Management Involvement in Training	Describes how a senior manager would give a presentation on benchmarking courses as a way of demonstrating his commitment.
305	Result of Lack of Management Support	Describes how management did not support a Quality Circle initiative. Staff were expected to meet after work with no extra pay or time off in lieu.
306	The Result of Using Benchmarking as an Appraisal Tool	Two brief case studies describing the results of management using benchmarking as an appraisal tool.
307	Demonstrating Priorities	Shows how one manager demonstrated his priorities at a monthly meeting.
308	We're Unique, Just Like Everybody Else	Acknowledges that every organization and every group believes that they are unique.

Page	Case study/example name	Summary
309	Smoke Screen	One manager was challenged to provide examples of organizations where benchmarking had worked, but even having provided examples, was challenged to provide more and more.
310	Short cut to Cutting Costs	Describes how one manager wanted to benchmark manning levels to ascertain what an appropriate level would be. His managers said they didn't have time to benchmarking. Being concerned for the deepening financial problems of the company, he decided to act by just cutting staff ng.
311	We are Doing Well Enough (Xerox)	Xerox thought they were "doing well enough" before they were nearly swept away by Japanese competition. (from Prophets in the Dark xiii)
331	Citigroup IT Benchmarking	IT benchmarking study using Global Information Partners as consultant.
341	Drilling Performance Review	Project benchmarking club for drilling oil wells.
367	Dundee City Council	Describes a public sector body's approach to benchmarking in general and how they benchmarked a One-Stop-Shop facility with another council.
368	Recycling	Describes how a local authority monitor domestic recycling rates and adopt practices from better performing authorities.
370	Servicing of Aircraft and Hospitals	Explains that one authority benchmarked hospital servicing with aircraft servicing.

Page	Case study/example name	Summary
374	One-Stop-Shop	Explains how an authority carried out site visits to learn how to implement a authority one-stop-shop for services.
377	Best Practice Club	Describes the services offered by an on-line benchmarking community host. Includes 3 short case studies.
381	The Highways Agency	Benchmarked how to implement a Management System.
382	High Street Retailer	Benchmarking Scenario planning.
383	Health, Safety and Environmental Interest Group	Group that meets regularly to learn from and work with each other to improve HSE.

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# Preface

When I started out in benchmarking in 1993 I knew very little about the subject. A good place to learn, I thought, was to read some books. The first book I read was *Business Process Benchmarking* by Robert Camp, the recognized father of benchmarking. Useful though his book is for an organization wanting to benchmark by visiting other organizations (called One-to-One benchmarking in this book), there was little mention of groups of organizations wanting to work together to benchmark and improve. What I needed was help on facilitating benchmarking meetings, developing metrics for benchmarking studies, expediting, validating and analysing benchmarking data... in fact I needed practical help and advice on all aspects of running successful benchmarking studies. That was in 1993, and I believe there still is a dearth of benchmarking books giving this type of practical guidance.

Together with various colleagues I have learned many different ways to benchmark – simply by responding to clients' needs and being open to new methods. I learned, for example, how to run benchmarking clubs; how to benchmark using a database of performance levels; how to organize benchmarking visits and how to facilitate learning between organizations.

My aim in writing this book is to provide a practical “how-to” guide for benchmarking and the sharing of Best Practices. It is based on experience and practice, illustrated with many case studies (based on actual situations we encountered) and examples (hypothetical situations developed to illustrate a point).

One of the many things I have learned is that there is no single “right” way to benchmark. Each study needs to be tailored to meet the needs of the organizations involved in it. However, there are common phases and tasks that need to be considered by all benchmarking studies. We need, for example, to determine our objectives, decide with whom we want to benchmark and select which performance metrics, if any, we want to compare. For some benchmarking studies some of these steps will be very easy or may even be omitted, whilst the same tasks may require considerable time, effort and research in other studies. What is important is that each task is addressed appropriately. The aim of this book is to explain and provide practical guidance on each of these tasks, highlighting pitfalls for the unwary and giving tips to help make every study a success.



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# Acknowledgements

As the author of this ‘ ‘how to’ ’ book I am v ery aware that the infor mation it contains is a conglomeration of w hat the many people I have worked with over the last 16 years have said or done. Even the ideas and practices that I developed were usually developed in conjunction with, or at the prompting of others. There are too many people to list them all, and in an y case the source of some ideas, practices and methods are lost in the mist of time.

To start at the beginning, I owe much of my benchmarking experiences to Peter Rushmore, and am grateful to his and Helen’s agreeing to my using the Drilling Performance Review as an excellent project benchmarking club case study . My thanks also to Alexander Janssen and his team at Juran Institute: we have worked together for over 10 years and many of my experiences of benchmarking derive from the work we have done together.

There are also man y participants of the benchmarking studies and lear ning events I have been involved with whose ideas, requests and obser vations are included throughout this book.

The aim of this book has al ways been to illustrate the wide v ariety of benchmarking methods. One key method of doing so has been to elicit a cross section of case studies from both par ticipants and consultants, in dif ferent business sectors, using dif ferent benchmarking methods. In addition to the Drilling Performance Review which is used to benchmark projects, my thanks go to Ray Wilkinson at the Best Practice Club for submitting a case study of how on-line communities can benchmark, lear n and improve together. My thanks also to Caleb Masland of Infor mation Management Forum for the IT benchmarking study with Cityg roup, a major international f nancial services organization. Many people see benchmarking as appropriate only for industry, and so I am g rateful to Paul Carroll for his case study e xplaining several different benchmarking methods used by city councils and for his explanation of the One-Stop-Shop case study.

Thanks to Michael Conway at the British Quality Foundation who encouraged me in the writing of this book and allowed me to carry out a benchmarking survey of the British Quality Foundation’s membership.

A common aim in benchmarking is to lear n from other organizations. Experience has shown that sometimes this simple idea w orks and sometimes it does not. I wanted to elicit the vie ws of current management thinking on benchmarking

and on the importance of understanding why practices may not be transferable between organizations. Gordon Hall's knowledge of management thinking is extensive and he kindly offered to contribute a chapter on the importance of understanding how and why copying practices may fail.

Finally, my gratitude for her patience, hours of dedication to meticulous proof reading and advice, to my wife Pat, who is herself an experienced benchmarking professional. Without her this book would not have been written.

# Introduction

## The aim of this book

If you want to know *how* to benchmark, this book is for you.

If you have picked up this book the chances are that you are, or plan to be, involved in benchmarking. It may be that you have participated in benchmarking projects and wonder if there is a better way of reaping the promised benefits. My aim and hope in writing this book is that it will provide a guide to successful benchmarking.

This is a practical “how to” book about how to run effective benchmarking projects and clubs. The aims of the book are to:

- ✓ Explore the different methods of benchmarking (summarized in [Chapter 2](#), with examples throughout the book).
- ✓ Highlight unusual uses and applications of benchmarking that go beyond the traditional concept of comparing performance levels and practices.
- ✓ Provide a road map that will guide both participants and facilitators in completing successful benchmarking studies and projects. ⇒ [Part 2](#).
- ✓ Provide details of how to use data analysis tools and charts for benchmarking purposes. ⇒ [Chapter 14](#), Appendix A1.
- ✓ Provide a selection of detailed benchmarking case studies ⇒ [Part 4](#), along with vignettes and learning points from a wide range of organizations, to demonstrate how benchmarking has been used.
- ✓ Finally, to encourage those not currently involved in benchmarking to use this tried and tested tool to help improve their own organization.

To achieve this aim I have:

- ✓ Kept theory to a minimum.
- ✓ Arranged the material in a logical order following a typical benchmarking project so it can be used as a handbook.
- ✓ Included examples and short case studies in the text, and stand alone case studies as the last section of the book ⇒ [Part 4](#).

This book is aimed at:

- ✓ Managers who want to understand how to use benchmarking to improve their part of the organization.
- ✓ Representatives from participant organizations or independent facilitators responsible for managing and steering benchmarking studies.
- ✓ Anyone involved in the benchmarking process.

Currently available books on benchmarking tend to:

- Focus on only one type of benchmarking e.g. what we call in this book “one-to-one” benchmarking where the organization initiating the study seeks to visit one other organization.
- Focus on specific aspects of benchmarking such as Strategic Benchmarking.
- Provide little detail on exactly *how* to run and manage a benchmarking study.

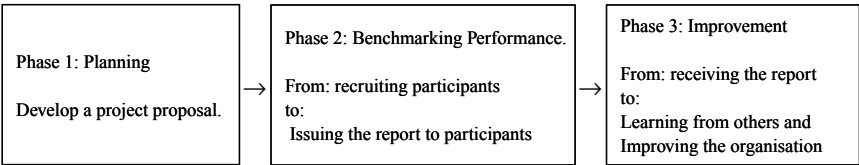
This book aims to fill that gap and provide the reader with a practical guide for use at all stages of running a benchmarking study.

The structure of the book

**Part 1** provides an introduction to benchmarking, including the role of benchmarking in improvement activities, and an explanation of different types of benchmarking.

**Part 2** describes in detail how to successfully carry out a benchmarking project, following the benchmarking process outlined in the introduction to [Part 2](#).

A typical benchmarking project consists of three phases:



*Phase 1, Planning*, consists of all the internal preparation from project inception up to the point at which we begin inviting organizations to join the study.

*Phase 2, Benchmarking Performance*, begins by recruiting participants onto the study and continues by honing the project plan with participants, gathering and analysing data and ends, frequently, with issuing a report.

*Phase 3 Improvement*, it is the responsibility of each participant to use the data and information presented in the report to drive through improvements. These improvement activities are different to performance level comparison activities and are covered in phase 3.

**Part 3** Explains the two managerial aspects of benchmarking. Firstly we explain how to manage and support benchmarking activities within an organization including highlighting some of the legal considerations, benchmarking protocols and the use of consultants. Secondly, we explain the project management activities and responsibilities.

**Part 4** consists of four detailed benchmarking case studies. The cases have been carefully selected to demonstrate benchmarking from both the facilitators/consultants and the participants' view. They are drawn from local government, public service and industry and illustrate several different methods of benchmarking.

## How to use this book

This book has been designed for the general reader interested in benchmarking to read from the beginning through to the end. It begins in [Part 1](#) with an explanation of what benchmarking is, how organizations use benchmarking and the benefits it brings. [Part 2](#) describes in detail, step by step, how to run a successful benchmarking study, from identifying projects through developing metrics, collecting, validating and analysing data, working with and learning from participants. [Part 3](#) discusses both how to manage individual benchmarking projects and how to promote and manage benchmarking activities within an organization.

The book is written with the benchmarking practitioner in mind. Once the reader has found his way around, it can be used as a reference book for helping with issues that may arise during benchmarking studies. These include dealing with confidentiality issues, organizing Best Practice meetings and overcoming resistance to benchmarking.

Some readers may have specific needs or reasons for picking up this book and the table below suggests ways in which you may wish to use it.

If this is you....	Try reading this....
I know very little about benchmarking. I want an overview of what benchmarking is and how it can help me improve performance in my organization.	<p>This book was written in a specific sequence for you.</p> <ul style="list-style-type: none"><li>• It begins by explaining what benchmarking is, the benefits of benchmarking and its role in process improvement in <a href="#">Part 1</a>.</li><li>• At the beginning of <a href="#">Part 2</a> is an overview of the benchmarking process. This may be all you need, or if you want more detail you can dip into the appropriate pages in the rest of <a href="#">Part 2</a>.</li><li>• For information about managing benchmarking activities within your organization and for how to manage specific projects, see <a href="#">Part 3</a></li><li>• To see how benchmarking works in practice, <a href="#">Part 4</a> provides several detailed case studies.</li></ul>
Many people in my organization believe that benchmarking is just another fad. How can I persuade them otherwise?	<p>See the benefits of benchmarking <a href="#">Chapter 1</a> and the case studies in <a href="#">Part 4</a>.</p> <p>Start with small simple projects, perhaps implementing ideas that you have read or heard about outside the organization. Once these can be shown to be effective, progress to a more formalized method of identifying improvements from external sources – i.e. benchmarking.</p> <p>Some organizations benchmark, but because of the connotations of the word within their organization call it something else.</p> <p>Good luck with changing their minds, remember that doing so may take a long time!</p>



If this is you....	Try reading this....
<p>You can't benchmark what we do because every time we provide a service or product it is different</p>	<ul style="list-style-type: none"> <li>• Many organizations have the illusion that because their business is “different” they cannot benchmark, and so miss out on the benefits that benchmarking can bring. The Drilling Performance Review case study is an example of benchmarking projects where every project is different. The Citygroup benchmarking case study shows how IT services can be benchmarked even though each participant's IT service is tailored to its own needs. See also the Formula1 case study where a manufacturing organization benchmarked with a Formula1 team.</li> <li>• For methods of normalizing to take account of differences in participants operations see <a href="#">Chapter 7</a>.</li> </ul>
<p>We tried benchmarking and found that copying other organizations' practices didn't work.</p>	<p>There is a real temptation to copy what works in another organization without thorough investigation. Sometimes such copying will work, sometimes not. See <a href="#">Chapter 19</a> on Copying Without Understanding.</p>
<p>I am tasked with benchmarking my section, but I know nothing about benchmarking.</p>	<ul style="list-style-type: none"> <li>• Read <a href="#">Part 1</a> which explains what benchmarking is, the benefits of benchmarking and its role in process improvement.</li> <li>• Read the summary at the beginning of <a href="#">Part 2</a> for an overview of the benchmarking process.</li> <li>• Read some of the case studies throughout the book and in <a href="#">Part 4</a> to see how benchmarking has been implemented.</li> <li>• Get a feel for the detailed benchmarking process in <a href="#">Part 2</a> by skimming through it, ignoring any sections that may not be relevant to your situation.</li> </ul>

If this is you....	Try reading this....
	<ul style="list-style-type: none"><li>• Review “Methods of benchmarking” in <a href="#">Part 1</a> to help focus on what type of study you want to develop.</li><li>• Work through <a href="#">Part 2</a> to develop a detailed project plan.</li></ul>
How do I select what to benchmark?	There are many tools for helping you decide what to benchmark – see <a href="#">Chapter 3</a> on selecting projects.
I am involved in a benchmarking study run by a consultancy, but I don’t really know if they are doing a good job or how I can improve the study.	<ul style="list-style-type: none"><li>• <a href="#">Part 2</a> especially explains in detail what the facilitators should be doing. Check to see if they are.</li><li>• Read the Drilling Performance Review and Citigroup IT case studies. Your facilitators are probably delivering a different service, but are they as committed to improving the service they provide?</li></ul>
We are concerned about the quality of data used for analysis. What should we do?	Data integrity is a very real concern when benchmarking. Ensuring that data is consistent, correct and complete is covered in detail in <a href="#">Part 2</a> , especially <a href="#">Chapter 13</a> .
It’s not possible for us to benchmark because we won’t be allowed to show other organizations, especially our competitors, what we do nor give them data on how we perform.	<p>This is a common concern. There are several potential solutions depending on your situation. Database benchmarking, overviewed in <a href="#">Chapter 2</a>, would only require sharing data with an independent benchmarking consultant. Other organizations need not even be aware that you are benchmarking.</p> <p>If you want to work with a known group, methods of anonymizing or not sharing data are discussed in <a href="#">Chapter 15</a>.</p> <p>Lawyers may tell you, incorrectly, that you cannot share data. Be persistent in ensuring that what they are telling you is correct. See <a href="#">Chapter 21</a></p>

## PART I

# A Background to BM

### INTRODUCTION

In [Part 1](#) of this book we aim to provide a backdrop for the rest of the book which deals with the practice of benchmarking.

The first question to answer is what exactly is benchmarking? In [Chapter 1](#) we explore different ideas of benchmarking as proposed by those who have developed and used it. To help clarify what benchmarking is, we also look at some practices that are not benchmarking.

Benchmarking developed as a solution to a problem. Though practices akin to it had been around for many years, it is Xerox that we have to thank for formalizing it and developing it into a crucial performance improvement tool. It is appropriate, therefore, to include a description of how benchmarking enabled Xerox not only to survive but to become a market leader in a competitive market during the 1970s.

Benchmarking has moved on over the last 40 years and there are now many reasons why organizations benchmark, and many benefits that they gain. Performance improvement, budgeting, testing ideas, technical problem solving and resolving disputes are just a few of the reasons why organizations benchmark today.

There has been a surge in interest in Six Sigma and other improvement methodologies in the last few years. The connection between these and benchmarking is highlighted at the end of [Chapter 1](#) and shows that they are closely related. Indeed, it has been said that benchmarking is a short cut improvement process as it identifies best practices without us having to try to invent them ourselves.

Many books on benchmarking propose one specific process. That is a shame, for in reality the benchmarking process that an organization uses needs to suit the specific objectives of the project. When writing this book I realized that the only

way to keep the size of the book within reasonable limits was to follow the same path of focusing on one specific, albeit generic process. However, a key message throughout the book is that there is no one right way to benchmark. To highlight this fact [Chapter 2](#) overviews several different methods of benchmarking, and acknowledges that there are almost endless variations. Despite the very different types of benchmarking the process of each can be seen to be a special case of a generic process which is explained in detail in [Part 2](#) of the book.

# What is Benchmarking?

*The chances are that if someone is able to do what you are doing better, faster and/or cheaper, they have different practices than you have. Discovering what those practices are, adapting them to your situation and adopting them is very likely to improve your performance.*

## INTRODUCTION

How do we define ‘benchmarking’? What are its origins? Why do organizations benchmark? What benefits does it bring? What can I benchmark? How does benchmarking relate to Six Sigma and process improvement?

These are typical questions that people first ask when they become aware of benchmarking and all of them are addressed in this chapter. There is also a brief summary of how and why Xerox developed and used benchmarking as a key survival tool in the face of fierce Japanese competition.

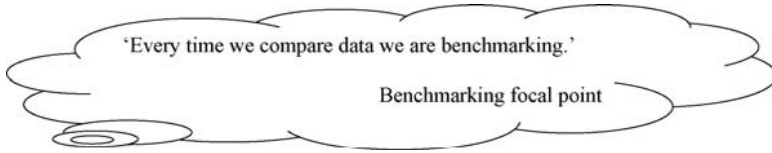
This chapter also explains the two aspects common to many benchmarking studies:

1. Comparison of performance levels to ascertain which organization(s) is achieving superior performance levels.
2. Identification, adaptation/improvement, and adoption of the practices that lead to these superior levels of performance.

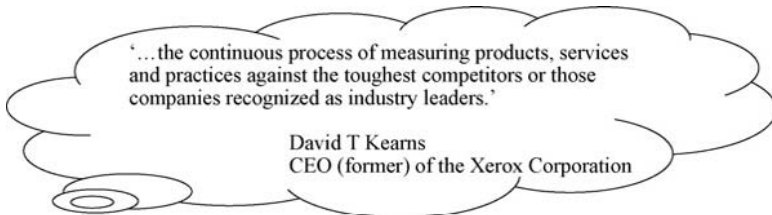
## 1.1 WHAT IS BENCHMARKING?

Developing a single all-embracing definition of benchmarking is not easy. It is commonly applied to a wide variety of activities that organizations undertake to compare their performance levels with others and/or identify, adapt, and adopt practices that they believe will improve their performance. Before presenting the definition of benchmarking that forms the backdrop of the book, let us look at some of the things that those involved in benchmarking have said of it.

For some, benchmarking needs only to involve the comparison of performance metrics, and needs not include an element of process improvement. This would certainly be the case for the organization with the best performance levels.

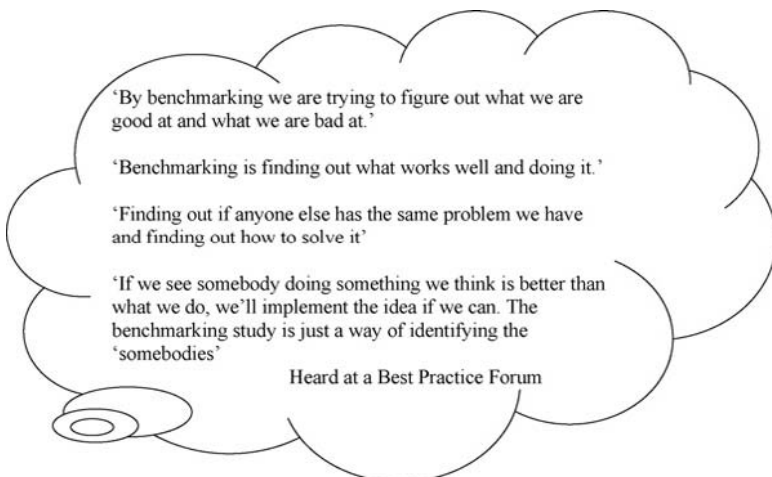


For some people, benchmarking is a continuous process rather than a one-off process.



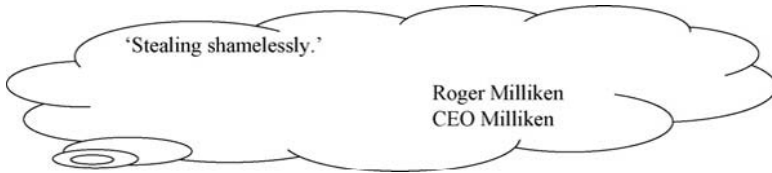
This definition specifically highlights that benchmarking can apply to the products, services, and practices of an organization. More broadly, benchmarking can be applied to any area where we want to compare performance and/or learn from others. The definition also specifies that we want to benchmark against either our toughest competitors, so that we know where our strengths and weaknesses are in relation to them, or industry leaders so that we are aware of the highest performance levels currently being achieved.

Some consider benchmarking as the comparison of practices, while for others, and perhaps most commonly, it includes both the comparison of performance and practices.



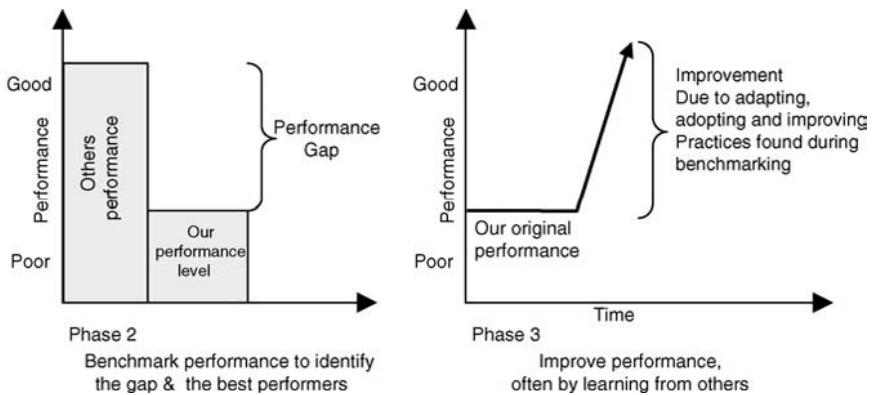
Notice that these four comments on benchmarking do not focus on the method, only on the required end result.

One interesting definition from Roger Milliken is:



Benchmarking definitely is not stealing, at least not without permission! But it may entail adopting and adapting ideas, practices or methods, with permission, from other benchmarking participants.

As these definitions and quotes illustrate, there are different ways to view benchmarking. In this book we take the view that benchmarking consists of two basic phases (Figure 1.1): (phase 1 is a preparation phase)



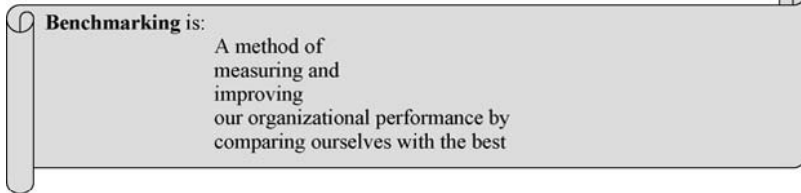
**FIGURE 1.1** Two phases of benchmarking.

### 1. Benchmarking performance (i.e. data) to:

- quantify performance levels of different participants,
- identify the gap between participants, often between the best performer(s) and other participants,  
in order to:
- quantify the potential gain for each participant to operate at the level of the best performer(s).

### 2. Changing our practices to improve our performance, possibly, but not necessarily by learning from other participants (⇔ Chapter 17).

From the above discussion we can produce a useful and comprehensive definition of benchmarking that applies to many benchmarking projects:



In [Part 2](#) of this book we focus on the comparison of metrics and a variety of improvement activities, including methods of sharing practices. We acknowledge the many other reasons for, as well as methods and ideas of benchmarking by including case studies, discussions, and examples that do not adhere to this definition.

## 1.2 ... AND WHAT BENCHMARKING IS NOT

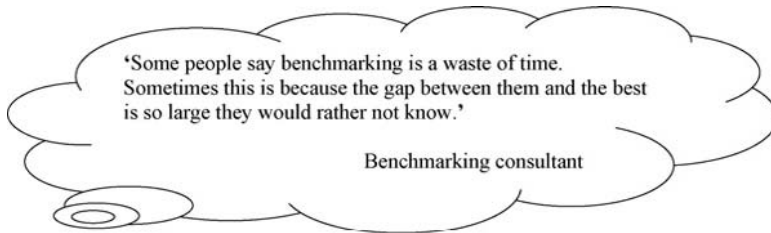
*If statistics is the art of manipulating data to tell the boss what he wants to hear, then perhaps benchmarking is the art of comparing your organization's performance with other carefully selected organizations to ensure that the conclusion is what you wanted it to be before you started benchmarking. That would, of course, be a misuse of benchmarking and statistics, but sometimes it seems that these are the aims.*

In order to clarify what benchmarking is, it helps to consider what benchmarking is not. Benchmarking:

- ✗ Is **NOT** industrial tourism whereby companies visit one another, enjoy a day out, or even a trip half way around the world but no objective comparison or analysis takes place. Such activities lead to benchmarking being seen as irrelevant and a perk for the favoured few. However:
  - ✓ it **IS** planned research with a high return on investment.
- ✗ Is **NOT** a staff appraisal tool. This will lead to resistance to benchmarking by falsifying data, delaying the project, or discrediting the study (⇒ The result of using benchmarking as an appraisal tool [Chapter 20](#)). However:
  - ✓ it **IS** helpful to identify where and how to improve the processes.
- ✗ It is **NOT** a copy and paste activity. Copying what someone else has done in their organization and expecting it to work assumes:
  - that your organization has a similar culture, a similar operational environment, and similar issues as the one from which you are copying (⇒ [Chapter 19](#));
  - that the organization you are copying from has the optimum solution.
 However:
  - ✓ It **IS** a potential source of ideas, information, methods, practices, etc. that it may be appropriate to adapt, adopt, and implement.



- ✗ Is **NOT** a one-off event. At best this will lead to achieving a competitive edge today, but that is likely to be eroded as other organizations continue to improve.
- ✓ It **IS** part of a culture of striving to be the best, or amongst the best, at what the organization does. (There are exceptions however, for example benchmarking can be used to solve specific problems or justify decisions  
⇒ [Part 4 'Dundee City Council Case Study'](#).)



### 1.3 A BRIEF HISTORY OF BENCHMARKING

Benchmarking may seem like a management fad from the 1970s, 1980s, and 1990s. It is not. It is not a fad and it is not from that era.

How did the idea of benchmarking evolve? What are its origins?

Perhaps the idea started when a man first looked at a neighbour's hut and thought 'That design lets in less rain than mine, perhaps I should build one like that'; or when he looked at his neighbour's crops and asked 'Why are his plants producing more fruit than mine? What does he do that is different to me'?

One can imagine a king, in the years before records began, sending out spies to observe what kinds of weapons his enemy was developing; or seeking to discover what features enabled another nation's ships to travel faster. We can picture a wise ruler sending envoys to foreign countries to learn what remedies they used for certain ailments. Our imagination tells us that somewhere near the start of the road to modern civilization men realized that they could learn from each other's discoveries and thereby improve their own situation.

As industry became more developed and organized, it became clear that large profits could be made by developing better products, and producing goods in ways that were faster and more efficient. Now there were companies vying for customers. In order to stay on top, it was necessary to be aware of the competition – what features made the competitors' products more desirable; what manufacturing processes were they using to produce their goods more cheaply; where were they getting their raw materials, or indeed, what raw materials were they using?

Nowadays there are legal mechanisms to deter companies from stealing designs and discoveries from one another, and organizations go to considerable lengths to guard those secrets which give them competitive advantage in the marketplace. In the unforgiving climate of the global market, not keeping up

with competitors often means going out of business. This seems too contrary to the idea of sharing information for the greater good of the industry. In this environment how can organizations learn from each other?

### 1.3.1 Reverse Engineering

In the industrial world reverse engineering appeared as method of covert benchmarking. Not only did organizations look at the competition and try to improve their products and services, they acquired competitors' products, dismantled them and learned how to equal or if they could, improve on what they learned.

Reverse engineering is nowadays, of course, often illegal and the use of information gained by reverse engineering is protected, typically by patent (⇒ [Chapter 21](#)).

#### Case Study: Tupolev Tu-4 Aircraft

One well-known example of reverse engineering was the development of the USSR's Tupolev Tu-4 bomber aircraft. In 1944, three American B-29 bombers on missions over Japan were forced to land in the USSR. The Soviets, who did not have a strategic bomber as advanced as the B-29, decided to dismantle and study both the design and components of the B-29. The Tupolev Tu-4, a close copy of the B-29, flew in 1947.

### 1.3.2 Japanese Industrial Visits

After WWII Japanese industry was all but non-existent. Many of their factories had been bombed, and most had been focusing on the war effort. As part of their effort to establish a vibrant manufacturing industry Japanese industrialists visited American factories. This gave them both an insight into American manufacturing practices – i.e. what their future competition was doing and how they were doing it – and ideas that they could use in their own factories.

The Japanese had been warned by Dr W.E. Deming (ironically an American) not to simply copy what they saw, but to understand why it worked and to adapt and improve on the practices and ideas they discovered before adopting them (⇒ [Chapter 19](#)). America and the West in general, did not perceive Japan as a threat and were quite happy to show off their industries.

### 1.3.3 The Story of Xerox

Up until the 1970s benchmarking practices were somewhat haphazard and certainly not widely seen as a management improvement tool. Xerox developed and established benchmarking as a tool to drive out waste, drive down costs, and drive up quality. Current benchmarking thinking and practices are firmly based on what Xerox did over 30 years ago.