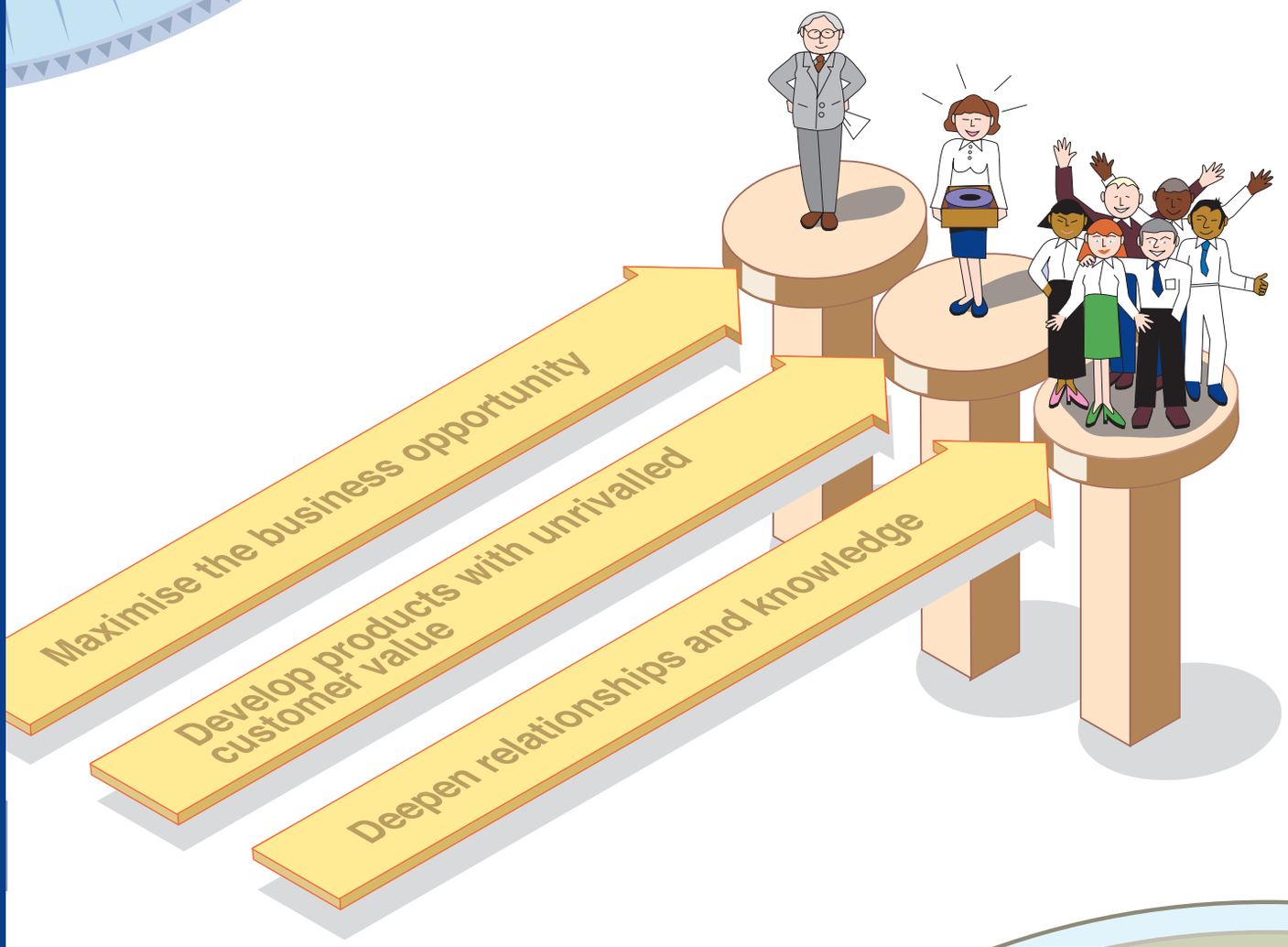
The Value Model

How to Master Product Development and Create Unrivalled Customer Value



Per Lindstedt ● Jan Burenius

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How to master Product Development and Create Unrivalled Customer Value

The management techniques and advices described in this book must be appropriately adapted to fit the specific company or project in which they are to be used. Neither the authors nor the publisher shall be liable for any loss, damage or liability directly or indirectly caused by the use of this book.

Per Lindstedt and Jan Burenius
The Value Model: How to Master Product development and Create Unrivalled Customer Value

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www.valuemodel.com
www.valuemodel.se

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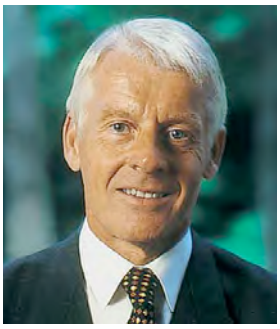
The Value Model: How to Master Product Development and Create Unrivalled Customer Value

The Value Model from a management perspective

Creating an unrivalled level of customer value is a vision shared by many. It is not difficult to have opinions about customer value. Creating customer value is an art.

Why is customer value in focus? Yesterday's customers came easily to the conclusion that new products were better and therefore more expensive, but tomorrow's customers voice the opinion that new products are of course better–but they are also less expensive. This is the market's greatest challenge. It is also something I have myself experienced in my work within the car industry in Japan, Europe and the USA. I have learned from experience that there are systems and processes for creating technology, but as soon as this technology is challenged by customer expectations, the situation immediately becomes more complex.

Per Lindstedt and Jan Burenius share their business experience with us using great insight and a tremendous knowledge of the market. I believe that the authors have succeeded superbly in their ambition to help engineers think in terms of the market and customer benefits, and marketing forces to think in terms of technology and functions. It is my opinion that the book uses constructive methods to stimulate a new way of thinking, and thereby success, for those companies that adopt the knowledge offered.



Hans-Olov Olsson
Senior Advisor
Geely Holding
Fmr President and
Chief Executive Officer
Volvo Car Corporation

Atlas Copco has a long tradition of innovation that dates back to the founding of the Group in 1873. The strategy has always been to bring to the market innovative products that contribute to outstanding productivity for our customers. Our brand promise is "committed to sustainable productivity". This has enabled the company to grow to a world-leading business with activities in more than 180 countries and 44,000 dedicated employees.

Why are we so focused on innovation? Part of the answer is because it supports our goals for sustainable profitable development. We strive to increase our competitive edge by providing high-quality products that are more productive, energy efficient, safe, ergonomic, light, or that in other ways make our customers more successful.

One of our core values has been to interact with our customers and develop new products in close relationships with them. While we interact in many different ways, we believe that personal contacts are always the most efficient. Atlas Copco's vision is to become and remain First in Mind—First in Choice®. This requires a thorough understanding of the customer's business and the customer's spoken, as well as unspoken, needs. The Value Model's *Voice of the customer* concept has enabled us to further refine our methods of understanding customer needs.

The Value Model's focus on customer value fits hand in glove with our long and successful tradition of working with Value Based Selling. It is worth noting that customer value seldom has anything to do with how much the product costs to develop, produce, and deliver. Instead, it is entirely dependent upon how well customer needs and expectations are met, and the alternatives available for comparison. It is my strong belief that the Value Model is an excellent tool for any company which is passionate about creating value for its customers.

Ronnie Leten
President & CEO
Atlas Copco AB

The Value Model from a practitioner's perspective

This book stands alone as the first comprehensive effort to integrate the total set of complex activities that define Product Generation. Years from now, this text will be regarded as the standard for defining the proper activities and techniques to be used by Marketing, Engineering and Operations personnel.

The Value Model addresses both the philosophical changes companies must make to effectively address customer's needs, as well as the specific tools and techniques development teams should employ to ensure that they create solutions which have unrivalled customer value.

The author's use of functional analysis as the underlying methodology for creating customer value through high-value solutions is coupled with other important tools and support processes such as team leadership and project management. Each section of this book provides clear summaries, detailed information, exhibits and references to other sources of information. This format allows each student to learn at their own pace and easily find additional material to amplify key issues.

I met the authors, Jan Burenius and Per Lindstedt, after I had been in the Engineering and Product Development domain for 30 years. We were evaluating consulting groups to help us improve our Product Development techniques. Based on my many years of Product Development experience, I did not expect to hear much in the way of new approaches. However, by the end of our first visit it became clear that the authors had developed a significantly improved and powerful set of techniques to create unique, high-value solutions. After two years of working with the Value model, I am completely convinced that it will revolutionize how we develop products for our customers.

Dick Arra
Fmr Director of
Product Development
ITT Industries

SHL Group is a privately owned company, serving the pharmaceutical industry with parenteral drug delivery devices, which has grown from a few people to over 3,000 employees in 25 years. The company is located in Taiwan, USA and Sweden.

The operational challenges have shifted gradually from the management of small numbers of customer projects to deciding on what R&D investments to approach for the future. Facing the latter challenge we needed a more structured approach to value creation. Studying various subject matter literature, however good in many aspects, was not sufficient to get a complete and coherent picture of this challenge, there was something missing.

Eventually, I received the advice to look into Value Model from a colleague. The described methods and tools were very useful from both a theoretical and practical standpoint. In particular, the description of the functional domain which links the companies' world to the customers' world has proven to be extremely useful and applicable in several aspects of product development, e.g. quality by design and innovation. Value Model practice and thinking gives SHL a common language and a focus in our innovation work that is of great value, and it can be highly recommended to any organization.

Rasmus Renstad
Director of Product
Development
SHL Group

The Value Model from an academic perspective

Requirement errors are the single biggest reason why new products fail. Missing requirements, misunderstood requirements, and misinterpreted requirements all contribute to a mismatch between the products we design and the customer needs they are intended to meet. The situation is compounded by design teams eager to develop solutions before problems are clearly defined and by corporate managers anxious to rush products to market in order to reap an early return. Is it any wonder that so many new products fail to realize the objectives contained in their business plans.

Jan Burenius and Per Lindstedt address the challenge of developing new products that provide superior value – for their customers and for those who seek to serve them. The Value Model offers easy to learn, simple to use tools and techniques for analyzing what customers are trying to do and determining what they need to help them do it. They will enable product teams to establish a firm foundation upon which new product designs can be built.

The Value Model is an extremely useful addition to the product development library. The information it contains can guide teams through a maze of issues that must be successfully navigated on the road to exceptional products. This information is clearly presented in straightforward text and simple illustrations that lend themselves to self-paced study and handy reference. The book is certain to become a standard for many years to come.

Michael Pennotti,
Distinguished
Service Professor
Stevens Institute
of Technology

The Value Model takes a holistic approach to the product development process. What might otherwise seem abstract and complex becomes straightforward and easy to understand with the use of the Value Model, although it still involves extensive work.

The technological part of the product development process is structured correctly both theoretically and practically. The concept of customer value, which is central in the Value Model, supports accurate decision-making in the development process.

In addition, the Value Model deals with two other important dimensions that are often neglected in an educational context, or treated separately. One dimension is to nurture and support employees' stimulation and motivation, and the other dimension is to guarantee that the sponsor receives a product that meets financial expectations. It' s important to understand the relationship between these three dimensions, and the Value Model does an excellent job of exploring and describing their interactions. The Project Manager's role in the development process is therefore made very apparent.

The Value Model is a practical approach and navigation aid that utilizes several different modern product development methods and approaches in a thoughtful and clear manner. That is why I, as a professor, choose to use the Value Model in the Master program for Mechanical Engineering.

C Magnus Evertsson
Professor
Product and Production
Development
Chalmers University
of Technology

Acknowledgements

We would like to thank all the people who have in different ways contributed to making this book a reality. Unfortunately there is not enough room to name all of our customers or the participants in our courses or our colleagues within various projects who have over the years provided us with so many constructive opinions on the **Value Model.**

A special thanks to the following people and organisations:

- Sven-Erik Wetterfall, previously responsible for FMoT, the Forum for Management of Technology at ABB. Sven-Erik was the first to believe in our ideas of an integrated model. He gave us the confidence and support we needed to start developing the **Value Model**.
- Dick Arra and Ulf Bengtzelius, ITT Industries, and Lasse Pesonen and Sami Leppänen, Nokia, who have provided us with their valuable opinions and given us the opportunity to verify many of our concepts.
- Victor Fey, Stefan Hallberg, Oskar Juhlin, Martin Edlund and Linda Magnusson for their opinions and support.
- Ina M. Andersson, who has provided the illustrations for and layout of this book.
- Pauline Ericsson and Catherine Williams who have helped us with the English language.
- Last but not least we would like to extend a special thanks to all the companies and organisations that have granted us the use of pictures and material for this book. These have done much to help exemplify and clarify the fundamental thoughts presented.

Finally, thanks to our families for their active support and participation that have made the creation of this book a reality.

The authors

We, Jan Burenius and Per Lindstedt have worked together since the early 1990s. Value Model specialises in providing guidance, training and tools aimed at making development work within different companies and organisations more effective. We have much in common:

- we both hold Master of Science degrees in Engineering from Chalmers University of Technology
- we have both completed academic studies in Business Administration and Economics in addition to our technical education
- we both have considerable experience within many different types of Swedish and international industries alike
- both of us are fascinated by product development and new ways of thinking.

The Value Model has worked within an international network of consultants. This network has given us access to a unique range of expertise and insight into how companies throughout the world that are today's global leaders in their field are organised and pursue product development work. Examples of companies and customers with which we have worked are 3M, ABB, Atlas Copco, Scania and Xylem. The easiest way to contact us is via e-mail at the addresses below:

- per@valuemodel.com
- jan@nimba.com

Thank you for the confidence you have shown in us by buying our book. We hope it will be a Valueable asset.

The team behind the book

Below is a short presentation of the other members of the team behind this book.

Ina M. Andersson did the graphic design and illustrations in the book. She has a Bachelor of Arts degree in art education and graphic design from Konstfackskolan, Stockholm. She divides her working day between art education, graphic design, illustration and her own artwork. Ina lives in Stockholm with her husband and two children.

Pauline Ericsson translated the book from Swedish to English. Born and educated in Scotland, Pauline moved to the USA in 1976 where her work included writing and editing travel information. In 1984 Pauline moved to Sweden where she now lives with her husband and son. In 1990 she started her own business, offering translation (Swedish–English) and administration services.

Catherine (Kate) Williams proofread the book. Kate is from England. She has a Master's degree in Social Sciences and has worked with the English language as a freelance editor and proofreader since 1987. She lived in the UK and America before moving to Sweden in 1999 with her husband and teenage son. Kate has clients in a wide variety of fields in business, publishing and academia.

Any of the above can be contacted through e-mail: info@valuemodel.com.

The team:
Jan Burenius, Per Lindstedt, Ina M. Andersson, Pauline Ericsson and Catherine Williams

Preface

This book consists of the two following sections:

- **Value Model Basics**

The first section of the book aims at defining and explaining how customer value can be turned into a practical tool. Customer value is an excellent instrument with which to guide an organisation towards greater success for customers and employees alike, as well as for shareholders.

- **Value Model Practitioners' Guide**

The second section of the book is a handbook aimed at those working with the development of new products at a more practical level. This provides practical and concrete advice regarding how to successfully implement a product development project.

Both sections expand on our work model, the **Value Model**. This model is a synthesis of both our own experiences and our findings of *Best Practice* examples taken from an international field. Over the past ten years, the **Value Model** has been applied with great success in numerous development projects within various environments. The model also provides the framework for our training programmes.

To gain maximum benefit from the book, an explanation of its structure is provided here. Every chapter consists of five parts, all of which are printed on different-coloured backgrounds.

Summary
Every chapter is introduced with a summary on a green background. Our aim is to provide a quick overview regarding the contents of the chapter. The quickest and best way to get a feel for the book is to begin by reading all the summaries. In less than one hour, this will provide you with an overview of the whole book and all of its fundamental concepts.

Structure and Fundamental Concepts
The chapters then continue on a white background just like this. Here we provide the framework of the **Value Model** and a more in-depth look at the fundamental concepts on which the model is based.

Definitions
Definitions form the third part of the chapters. They appear on a brown background and include important definitions linked to the **Value Model**. As some of our definitions deviate from the traditional, it may be advisable to study these if you feel unsure about the meaning of the different concepts.

Examples and Anecdotes
The fourth part contains Exhibits appearing on a blue background. These provide concrete examples or anecdotes. Their purpose is to provide variation and enlightenment about the contents of the chapter and make links to conclusions reached by other models, specialists or authors.

Practical Guidelines
Finally, on a yellow background, you will find concrete tips for carrying out the different activities in practice. These sections are aimed at providing more in-depth knowledge for those involved with the practical work of implementing different development projects.

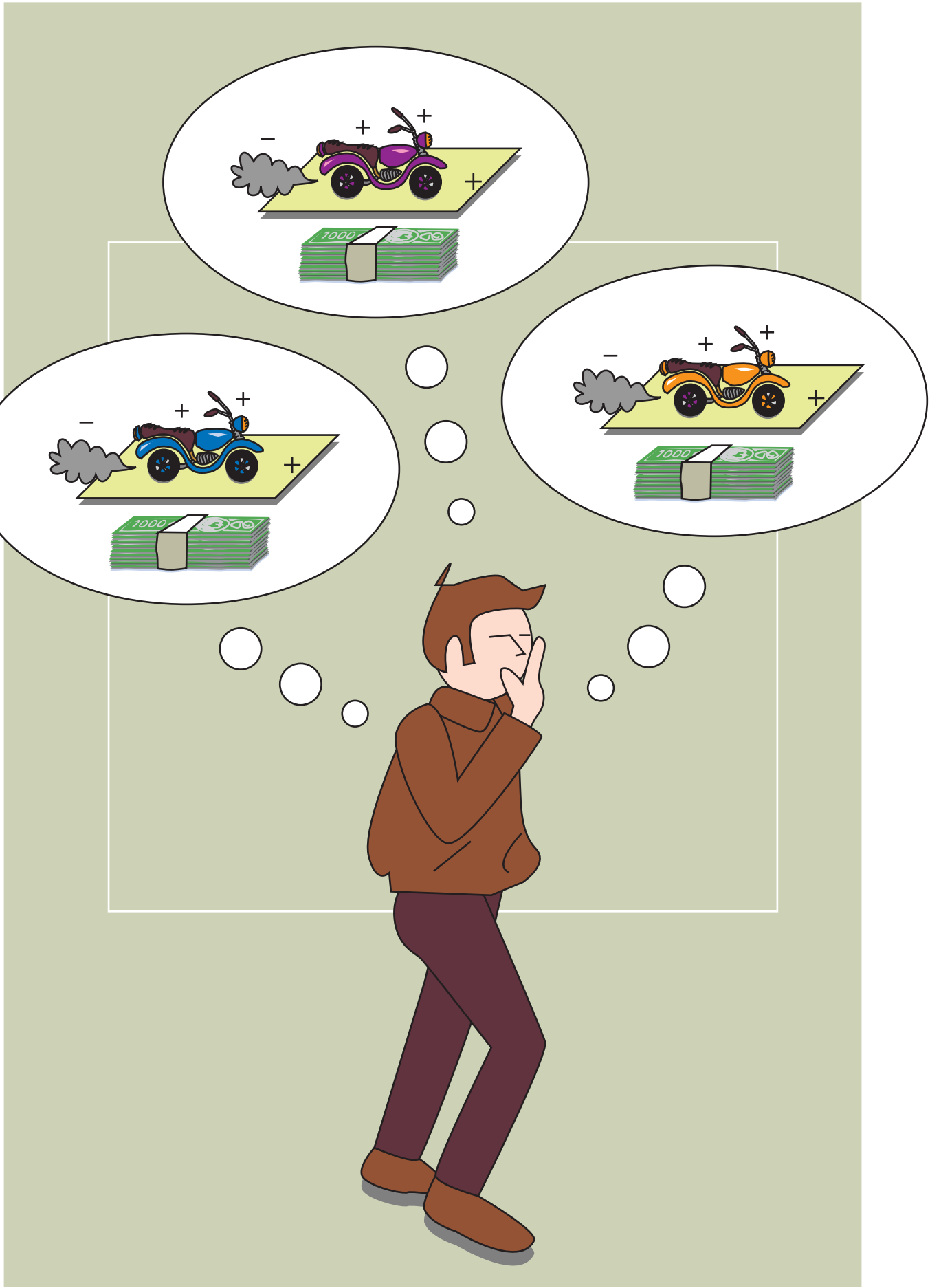
The following three colours also have a special meaning:

- **Red**
- **Amber**
- **Green**

These colours indicate the conceptual phases within the **Value Model** and help in navigating both the book and the model.

What you are now holding in your hand has been finely chiselled from dialogues with several thousand people who have participated in our training and in different projects over the past few years. The material is constantly undergoing development and we are very interested in hearing your point of view.

Please pay a visit to our homepage at **www.valuemodel.com** where you can find current information about the **Value Model** as well as practical assistance that can be downloaded for your own project. **Welcome on board and good luck!**



Chapter 1

Customer Value: What Business is All About

1.1 Summary

Striving to attain maximum purchasing value is something all customers have in common. Price is weighed against performance, and the products and services perceived as providing the best value for money are chosen. All organisations are therefore compelled to participate in the race for delivering the highest value to their customers. Organisations developing the ability to continually increase and maintain an unrivalled level of customer value will therefore grow at the expense of their competitors. Organisations unable to maintain the pace will, in the long run, be knocked out of the contest.

We define customer value as the relationship between the perceived benefits the customer gains from a product, and the total expenditure in time, money and other efforts demanded by obtaining and using this product. This approach leads to two principal strategies for increasing customer value. Strategy one: increase perceived benefits, and strategy two: reduce total expenditures. Long-term profitability, growth and survival all demand that an organisation develops its ability to apply both these strategies.

To provide a working tool, the concept of customer value within an organisation must be turned into a concrete, measurable element that can be put to practical use. The purpose of this book is to demonstrate how to use customer value to control and guide an organisation towards greater success for customers and employees alike, as well as for shareholders.

1.2 The Contest for Customers

Business is all about customer value, or to be more correct, the ability of your organisation to create an unrivalled level of value for its customers. This ability will determine profitability, growth and will also, at the end of the day, decide how long your organisation will survive. The basis for attributing such interest to the value concept is the fact that all customers continually strive to attain maximum purchasing value. Price is weighed against performance, and the products perceived as providing the best value for money are favoured. The winner of the comparison is consequently rewarded with the customer's confidence and is given the business. In a highly competitive market customers will therefore, over a period of time, seek out those companies offering most value. These companies grow at the expense of their competitors (see exhibit 1.4). The market is tough and ruthless and those companies unable to deliver a high enough level of customer value will be knocked out of the contest. Customer aspiration to maximise purchasing value provides the driving force in a working market economy. What this book provides is a framework for understanding and learning how to correctly utilise this driving force.

Some people have an instinctive ability for applying customer value and making correct decisions. However, the capacity for a whole organisation to make the correct decision demands more than the good instincts of a few individuals. To succeed, the concept of customer value must be turned into a concrete, measurable element that can be put to practical use, thereby providing a guiding light in all aspects of work. We also believe that customer value can be developed to the extent that it becomes the best tool with which to guide an organisation. Practical work with different types of companies has revealed that, unfortunately, only too often decisions are made which in practice result in a lower level of customer value. For example, what decision would you yourself make in the following situation?

Assume that the sale of spare parts currently provides your most profitable area of operation. On developing a new generation of a particular product, the possibility of changing the material in a quickly worn-out component arises. This material would, in principle, provide the component with life-long durability. The changes to the material would not affect the cost or other characteristics of the component. The current lifetime of the component is on a par with your competitors, and there are no known complaints from customers about lack of durability. So, the only consequence of making the change in material is that, in the long run, the sale of a profitable spare part will be phased out.

What choice would you make? Change the material in the component, or leave it in its current form?

We believe that many would argue not to change the material. On the surface, this argument seems to be sound and reliable. It is obviously in the interests of the company to retain the profitable sale of spare parts.

Our opinion however, is that the material in the component should be changed because it offers the opportunity for increasing customer value. The customer can be provided with a better product for the same price. In an ideal situation, the product price could perhaps be raised somewhat. The future sales of spare parts will of course be reduced, but we are convinced that, at the end of the day, a higher level of customer value is more important. Our argument is based on the fact that the decision must be perceived as part of a larger picture. On an annual basis there are thousands of this type of decision being made, not just one. We are convinced that the cumulative effect of all these decisions will ultimately dictate the organisation's ability to do good business. The cumulative effect of all decisions cannot be perceived at each individual decision-making instance. The negative effects of suboptimisation can only be avoided by constantly focusing on customer value. Changing the material in the component supports the principal and most important goal – providing a higher level of customer value.

We are convinced that an enduring and consistent aspiration to increase the level of customer value in all decision-making situations will, in the long run, guide the company to the best possible business opportunities, business opportunities that would not otherwise arise. This conforms

completely to Kaizen (Imai 1986), the Japanese philosophy of quality. Kaizen uses the following expression *"if you take care of the quality, the profits will take care of themselves"*. In the same way, we are convinced that an organisation inspired to maximise the level of value for its customers in every decision-making situation will become an unbeatable adversary. Only by maintaining an unrivalled level of customer value in the market can long-range growth, profitability and survival be guaranteed. To our knowledge, it is the only measure that has this intrinsic power. It is an excellent tool to use for guiding and leading the future operations of an organisation, and thereby increasing benefits for customers and employees alike, as well as for shareholders.

1.3 Definition of the Customer Value Concept

We define customer value as the relationship between the perceived benefits the customer gains from a product and the total expenditure in time, money and other effort demanded by obtaining and using this product. By "product" we mean any combination of hardware, software, services and support offered to customers.
Our definition is:

$$\text{Customer value} = \frac{\text{Perceived benefits}}{\text{Total expenditure (time, money, effort)}}$$

In the European Value Management standard EN: 12973 the concept of value is phrased differently but the definition has the same meaning, see exhibit 1.15:

$$\text{Customer Value} = \frac{\text{Satisfaction of needs}}{\text{Use of resources}}$$

To provide a practical working tool, the above definition must be turned into a concrete element. Concretisation of the denominator is easier, and what simpler way to do this than to use money – the fantastic universal unit of measurement. In the wonderful world of economics, only one unit of measurement is ever required. Everything can be translated into money, and money in this case is usually called costs. An initial concretisation of the customer value concept would then be the relationship between the perceived benefits and total costs.

Further on in the book we will describe how to concretise and turn the numerator in our value equation into measurable elements, i.e., the perceived benefits gained by the customer from a product.

The value perceived by customers can be improved by providing more benefits, i.e., by more fully satisfying needs and expectations, or by reducing the costs for a given benefit. It is of course possible to produce a whole range of different combinations of benefits and costs, all of which can be experienced by customers as having the same value. This may all sound a bit abstract, but it is as simple as this:

- you are willing to pay a bit more for a computer with a bigger hard disk, or you choose the computer with the lower price if its performance is comparable with the more expensive one
- you think the service that is most reliable and seldom makes mistakes is better than the service that often causes difficulties.

It is worth noting that value has seldom anything to do with how much it cost to develop, produce, and deliver the product. Instead, it is entirely dependent upon how well customer needs and expectations are met, and the alternatives available for comparison.

Consequently, value is a relative concept, based on customer comparisons between several different competing products. The value concept is therefore a subjective measure of the highest degree. Customers have different needs, they evaluate the same needs in different ways, and they react to costs differently. With this background, it would be more suitable to talk about *perceived relative customer value*. To keep matters simple however, **customer value** will now be used, to be synonymous with *perceived relative customer value.* In chapter 19 an expanded customer value concept called Meta Value is introduced which, among other things also includes indirect values related to image, brand identity and the customer's social identity.

The fact that customers perceive value in different ways can often lead to many difficulties. In principle, it means that each product must be tailor-made for the individual needs of every customer, if a maximum level of value is to be attained. This is

exactly what old-fashioned craftsmen did. When you needed new shoes you went to the shoemaker, who would ask the type of shoes required and the acceptable price range. Only when quality and price had been agreed upon was the deal struck and the shoes made. However, the process of designing, producing, and marketing products today is more complicated. All in all, this limits the possibilities for creating a unique product that meets the needs of every individual customer. The way in which market segments are defined is therefore of vital importance for business success.

So, from our point of view, one of the most important criteria for an attractive market segment is that all customers within the segment have a similar interpretation of customer value. We usually express this by saying that the segment must be homogeneous. If customers lack a similar interpretation of value, this means the requirements that the product must meet vary between customers. Some functions or features are highly valued by a few customers, while at the same time they are of little or no interest to other customers. Heterogeneous segments result in heavy requirements for flexibility, and if this flexibility cannot be created in a cost-effective manner, these types of market segments tend to become unprofitable. The routine use of demographic criteria, e.g. countries, when segmenting your market is therefore unsuitable. It can lead to interesting business opportunities being missed, or the operation being structured in an unfavourable manner. The value concept is therefore an excellent tool to use even within this area.

The contest for customers and technological development forces into motion a continual increase in value for all products. The computer is one product that has quickly increased its level of value over recent years. For example, every year has seen more processor capacity available at continually lower prices. Value has increased so quickly that a market for used computers equipped with older generations of processors is almost non-existent. Examples of value development for a few other common technical systems can be found in exhibit 1.7.

Customers grow accustomed to this continual increase in value and come to expect that every new generation of a product will include a basic increase in value. Therefore, to accomplish a positive feeling of increased value for customers, the level of expected value must be surpassed. In a corresponding way, an increase in value that does not meet the expected increase can be experienced as a decrease in value. It is therefore a good rule when commencing work with the value concept to study the history of your own product. It will provide an initial indication of the value the customers are expecting from the next generation, a kind of minimum level that must be surpassed if positive market acceptance is to be guaranteed.

The increase in value for a product over time is sometimes almost linear, but sometimes improvements go forward in leaps or bounds. This is because new technology with the ability to deliver a higher level of value replaces old technology. The next time you purchase a new computer maybe your CD unit will both read and store information, i.e., it will function as a diskette station. The CD of today can already store 650 megabytes, which is about 400 times more information than there is room for on a 3.5-inch 2HD-diskette. Technical development does not progress completely by chance, but follows certain given patterns and trends. You can use this knowledge to accelerate the increase in value of your own product, and to avoid investing development resources in the wrong strategies.

We have defined customer value as the relationship between benefits and costs. This means that two fundamentally different strategies for increasing value are revealed. One of these strategies is based on increasing perceived benefits, and the other is based on reducing total costs for the customer. Mathematically speaking, the first strategy is to increase the numerator and the second strategy is to decrease the denominator. Of course, both of these fundamentally different strategies can be combined in an endless number of ways. We have seen that the main strategy in many organisations during the 1990s was to reduce costs. We would, for two reasons, issue a word of caution about allowing this strategy to be the only prevailing one. We would rather work on the premise that every time a new generation of a product is produced it

has to be less expensive than before. However, this strategy must also be complemented by increasing the perceived benefits.

In the first place, a reduction in cost alone will in time lead to shrinking revenue, because the company is forced to operate using continually lower prices. Take the strategy to its extreme, and the company is finally forced to operate with a zero price level. Many organisations have successfully compensated reduction in revenue due to lower prices by increasing volume. In the long-term there is of course also a limit to how much volume can be sold, and how big an advantage scale economies will be.

In the second place, history teaches us that if benefits remain the same no price is low enough to guarantee sales in the future. Not even a zero price tag. For example, how much are you willing to pay for a completely new computer equipped with 560 kilobytes internal memory and a 30 megabytes hard disk? Probably nothing, because it doesn't even have the capacity required for your current programs. Sooner or later new products and services will be launched offering so many more benefits that previous generations become totally uninteresting. No price is low enough to guarantee success and survival in such a situation. History is full of companies and organisations that have been completely wiped out in conjunction with innovations offering unrivalled levels of customer value being launched on the market (Utterback 1994). Exhibit 1.9 outlines the history of the typewriter, which clearly illustrates this scenario.

Our conclusion is that both strategies must be driven parallel to each other. An organisation must always chase costs parallel to striving to attain increased benefits in its products and services. **Every organisation must learn to master both these strategies in order to guarantee profitability, growth and survival.**

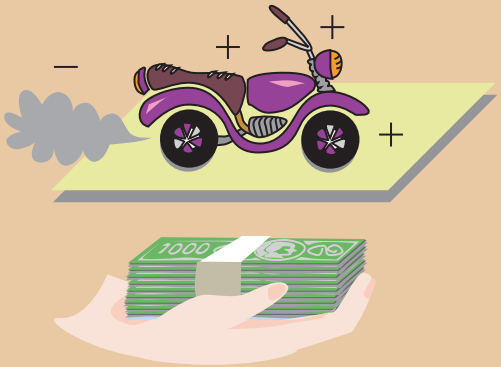
1.4 Superior Customer Value Leads to Business Success

The fundamental idea of a free market economy is open competition between rival organisations to win customers. Satisfied customers become loyal customers, and loyal customers greatly strengthen profitability. Those companies that deliver most customer value have the most satisfied customers, as a result of which they are the most profitable companies within their branch or industry. The following exhibits illustrate several studies that prove this from different perspectives, and show that the best way of achieving success is to ensure superior customer value.

The overall picture is clearly portrayed in terms of cause and effect. The main cause of long-term business success is the organisation's ability to understand the needs of the customers in depth and to deliver products that meet these needs in a superlative and cost-effective manner. The effect of this is measurable success at many different levels for employees and shareholders alike. Increased market shares, quicker growth, improved profitability, and increased share values are a few of these measures. On a more personal level, most of us want to be part of a winning team with the opportunity for stimulating work, development possibilities, and the recognition this brings.

This book explains how to concretise customer value and make it a practical tool for guiding an organisation towards greater success for customers and employees, as well as for shareholders.

Exhibits • Chapter 1



1.1 Definition of Customer Value
This illustration portrays our definition of customer value. Customer benefits are found in the numerator which, for a motorcycle, has many different nuances. These include appearance and status as well as actual performance and features. There are many features that the customer would like to see emphasised, e.g. acceleration. In other cases, something special is desired. For example, the sound emitted from the exhaust pipe of a Harley Davidson is so important for the product's image that the company has tried to have it registered as a trademark.

Unfortunately noise is not the only thing emitted from the exhaust pipes of motorcycles and cars. Certain product features can therefore contribute to lowering or reducing customer benefits. Customers want as few as possible of these negative features, and a way to increase customer value is therefore to reduce or eliminate these types of features.

The denominator of the value equation contains the total expenditure in time, money, and other efforts the customer must make to profit from the benefits offered by the products. Money is a practical way of measuring this total expenditure. Looking at the total costs entailed in obtaining, using and decommissioning the product, or to use a modern term, the LCC; Life Cycle Cost, is therefore a way to concretise the denominator. Among other things, the cost

of insuring a motorcycle can be considerable, especially if the driver is young and owns a powerful machine. This further stresses the fact that customer value for one and the same product or service often differs from customer to customer.

In some cases it is relevant to regard the customer from a wider perspective. Thus, the customer can be seen as all the stakeholders who will be influenced by the product during its lifetime. The total costs then become the costs the product has created for the entire community during its lifetime. A negative influence on the environment would become a cost that lowers customer value.

In this chapter we have taken one step on the way to turning customer value into a practical tool.

In exhibit 1.15 will you find the definition of Customer Value used in the European Value Management Standard EN:12937.

1.2 The Classical Philosophy of Value

The classical philosophy of value was developed from 1947 onwards by Larry Delos Miles at General Electric. His book *Techniques for Value Analysis and Engineering* was published in 1961. The method has spread quickly, particularly in the USA and Japan. This is the official definition:

Value Engineering (synonymous with the terms *value management* and *value analysis*) is a professionally applied, function-oriented, systematic team approach used to analyse and improve value in a product, facility design, system or service – a powerful methodology for solving problems and/or reducing costs while improving performance/quality requirements. By enhancing value characteristics, Value Engineering increases customer satisfaction and adds value to your investment. Value Engineering can be applied to any business or economic sector, including industry, government, construction and service. Using Value Engineering is a very successful long-term business strategy (www.value-eng.com).

In the **Value Model** we have used this classical philosophy as our basis for moving forward. Our aspiration has been to produce a practical working model with customer value as the steel thread binding everything together. A requirement has been that the model can be easily applied in all areas of the commercial process and in all types of development projects. The Value Model include tools for management of information, teamwork, customer needs analyses, concept generation, project management, quality assurance etc.

1.3 Definition of the Product Concept

We define *product* as any combination of hardware, software, services and support. This means that a product is usually built up by a combination of:

- one or more physical components, objects or software
- support for installation, operation or maintenance of the components, objects or software
- services for financing, installing or using the components, objects or software
- services for maintaining, repairing or updating the components, objects or software

- image to guarantee a feeling of security and a positive experience of the components, objects, software, support or services.

Whether you sell hardware, software or services you need a holistic approach. Your product has to fit into the customer's environment and may have to work together with other hardware, software, services, support and images. From the customer's perspective, it is the overall picture that counts. This means the value attained by all the different areas combined: the customer benefits received from all areas during interaction, and the total expenditure in money, time, and effort required by the customer to attain these benefits. Value cannot only be created but can also be eradicated during interaction of the different areas. Everybody therefore needs to take a holistic view of the offer made to the customer. When we, from now on, use the product concept we mean any given combination of the different areas listed above within a commercial context.

1.4 Companies that Create More Customer Value Grow Faster

A study which has tried during recent years to separate companies that enjoy a rapid expansion in turnover as well as profits from other companies has reached the conclusion that customer value plays a central role (Kim and Mauborgne 1997). Successful companies have a definite focus on creating more customer value using innovative methods. Kim and Mauborgne use the expression *Value Innovation,* and summarise the concept in the following way:

- **Industry assumptions**

Industry's conditions can be shaped.

- **Strategic focus**

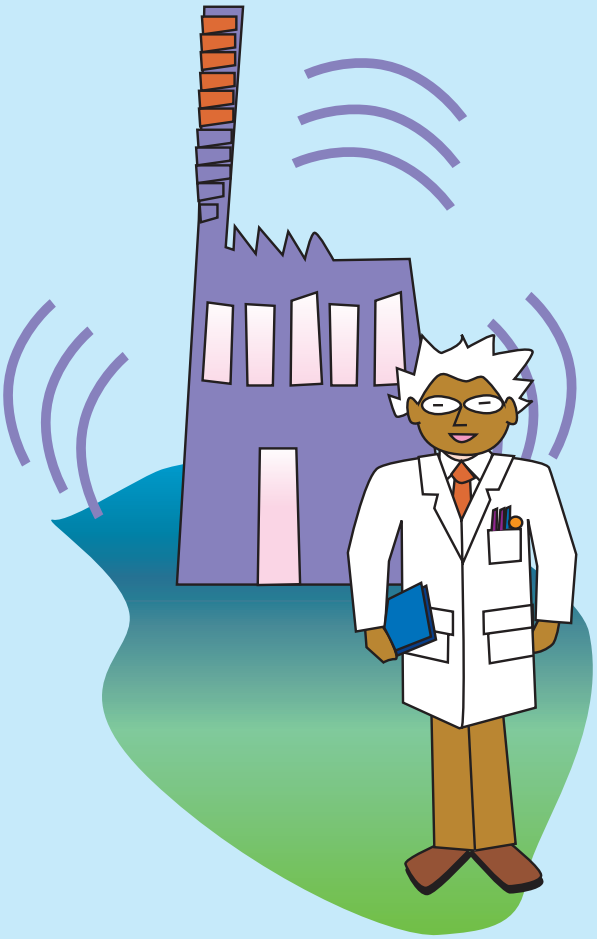
Competition is not the benchmark. A company should pursue a quantum leap in value to dominate the market.

- **Customers**

A value innovator targets the mass of buyers and willingly lets some existing customers go. It focuses on the key commonalities in what customers value.

- **Assets and competence**

A company must not be constrained by what it already has. It must ask, "What would we do if we were starting anew?"



- **Products and service offerings**

A value innovator thinks in terms of the total solution customers seek, even if that takes the company beyond its industry's traditional offerings.

1.5 Habits of Visionary Companies

A study worth mentioning in this connection is Collin and Porras (1997) in which different companies within different branches were researched. The leading companies, which they referred to as visionary companies, all met the following criteria:

- premium institutions
- widely admired
- indelible imprint on the world
- 50 years plus track record
- multiple generations of CEOs
- multiple product/service cycles.

A total of 18 companies that meet the above criteria were studied and compared with other, comparable, companies. From 1926 up to 1990, a stocks and shares portfolio from the visionary companies had increased sixteen times more in value than a stocks and shares portfolio from the general market. Some of the conclusions reached were:

- Visionary companies do not have a primary objective of maximising shareholder value. Instead they pursue a cluster of objectives also directed at customers and employees.
- Visionary companies focus primarily on beating themselves. They are not satisfied with being better than the competition, but are driven by a constant desire for continual improvement.
- Visionary companies commit to *Big Hairy Audacious Goals*. They are not afraid to focus resources and energy on making breakthroughs in their attempt to find new business opportunities.
- Visionary companies are characterised by high levels of action and experimentation. They try a lot of stuff and keep what works.

1.6 Customer Satisfaction Index and Business Performance

The fact that satisfied customers lead the way to excellent business performance has been demonstrated in a study by Professor Carl Fornell (Fornell 2001). Since 1994 the effect of customer satisfaction on economic returns has been measured across more than 200 individual companies and agencies in 35 industries. Customer satisfaction levels have been measured each quarter, based on thousands of interviews with customers. The results have been compiled using mathematical models in the American Customer Satisfaction Index (ACSI), and changes in ACSI have been correlated with changes in the Dow Industrial Average and other data. Quarter after quarter and year after year, the measurements have demonstrated a definite positive link between customer satisfaction and financial metrics such as market value added (MVA), stock price, and return on investment.

A further example of attaining success by focusing on customer value is Siebel Systems. Siebel Systems has been profitable from day one, and is one of the fastest growing companies in the history of the application software business. In only eight years Siebel expanded from zero to nearly $2 billion a year in revenues. Tom Siebel calls the company "a new-economy company with old-economy values" (Fryer 2001) and insists its success is in no small measure due to the fact that it has stuck to the following three fundamental values from the very beginning.

"First is our absolute commitment to 100% customer satisfaction. Instead of going off and engineering products and then trying to sell them, we talk to customers first, find out what they want, and then design the products and services that meet their needs. We are organisationally and individually committed to do whatever it takes to make sure each and every one of our customers succeeds. This is not lip service."

"Second, we place value on running a cash-positive business. That's a radical idea in an industry full of cash-negative dot-com businesses. Until recently, running a profitable high-tech business was unfashionable.... Responsible companies ask themselves, 'How much revenue do we have coming in?' and they spend less than that."

"A third value is professionalism. I like to think of us as the Tiger Woods of the information technology industry. Tiger Woods does not play the U.S. Open in cut-offs, sneakers, and a Budweiser T-shirt. That's unimaginable. His shirt is pressed. His shoes are shined. And his level of performance – his driving average, his score – has exceeded all other competitors." He goes on to say, "Striving to be the very best in the world at serving customers is humbling. We have to work hard to earn the respect of others."

We are convinced about both the importance and necessity for all serious players to shift focus from short-term shareholder values to long-term customer value. Our own assessments are completely in line with Tom Siebel when he says the following about his own leadership role.

"The CEO's primary job is to cultivate a corporate culture that benefits all employees and customers. I want to be absolutely certain that our values drive our behaviour and not vice versa. It's unfortunate that CEOs are taught to believe that their most important job is to drive up the company's stock price or to meet Wall Street's expectations. Those are secondary effects of a more primary goal: understanding what customers need and delivering it. If you build a company and a product or service that delivers high levels of customer satisfaction, and if you spend responsibly and manage your human-capital assets well, the other external manifestations of success, like market valuation and revenue growth, will follow. You need to manage for customers and employees, not investors."

1.7 Customer Value Increases All the Time

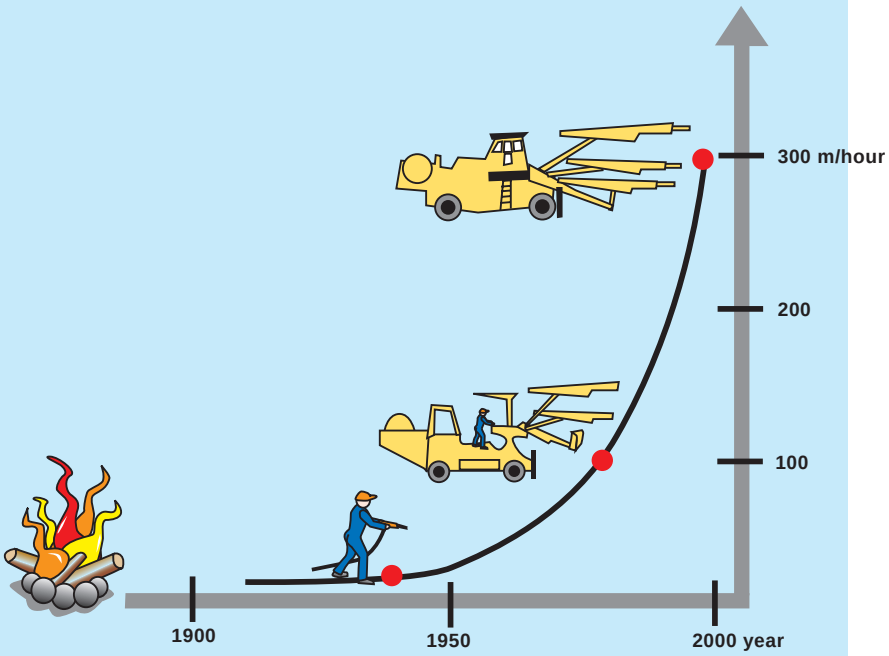
The customer value of a product increases with time. The following table represents an example of how customer value has developed for a few common consumer wares on the American market. All prices are in USD (Fey and Rivin 1997).

Product	Price 1947	Price 1997	Improved customer benefits
Washing machine	1,770	380	Quieter and lower energy consumption
TV	3,280	300	Larger screen, colour and stereo sound
Freezer	1,470	700	Twice as big and with icemaker

Even more dramatic was the increased customer value of mobile phones during the 1990s. Over a 10-year period both the price and weight were reduced by a factor of 10, and in the same period customers benefited from a 10-fold increase in both talk time and standby time. On top of this, customers also benefited from additional features such as messaging, clock functions and games, to name but a few.

Even technical products are subject to a continual increase in value over time. The illustration in this exhibit is based on information from Atlas Copco (Atlas Copco 1994), one of

the leading companies in rock drilling technology. The increase in value in this case has been measured in drilled metres per hour and operator. As you can see, over the last 50 years the increase in value has been dramatic.



The following example shows that the fundamental ideas, and our definition of customer value, are also applicable within the service branches. The turnaround made by the Scandinavian Airline SAS, from a losing operation in 1980 to a winning operation in 1985, was to a great extent due to creating value for customers. Over a three-year period, the number of full-paying passengers was increased by 23 % in a stagnant market. Many lessons can be learnt from the changes made in the operation under Jan Carlzon's management. It is also an excellent example of how value for a customer covers a lot more than the lowest price.

SAS removed first class and carefully designed a special class for the business traveller instead, a *business class*, with noticeably higher customer benefits than tourist class. Jan Carlzon called first class the world's most expensive boardroom. Full-paying passengers in the new business class were offered airport lounges, separate check-in desks, more comfortable seats, better food, free newspapers and drinks, and the opportunity to board last and deplane first. Things that are today taken for granted were previously only offered to that small group of people who travelled first class. Great efforts were also made to achieve on-time arrivals. No wonder it was a success! (Carlzon 1985).

1.8 What Distinguishes the Winners?

Experience has taught us that not all developments result in profitable products. A certain proportion of all development projects are unsuccessful. An interesting question is therefore whether development projects with a strong potential for success and those with less positive qualifications can be identified at an early stage. Robert G. Cooper is one of the people who has spent many years researching and studying this. This exhibit depicts a few of his results (Cooper 1996). Some of his results can, for some, be surprising. Factors to be taken into consideration when attempting to gauge the potential for success of a new development project are divided into three areas. These are:

- process factors, i.e., factors that can be influenced and are dependent upon how well the development work is carried out

- selection factors, i.e., factors that normally lie outside the control of the company
- unexpected factors, i.e., factors that have an unexpected effect on the potential for success.

Cooper considers process factors to be the most important, and those that have the most influence on the potential for success. Altogether, there are 11 of these factors, but as lack of space prohibits us from looking at all of these, we have chosen the three most important.

The most important factor for success is that the system developed has unique features and a superior level of customer value. The probability of success has been found to be three to five times greater than those of copycat, reactive and ho-hum products. The greatest chance of success exists if the system has a high level of customer value, is of excellent quality, meets customer needs better than the alternatives available, and has unique advantages that are easily understood by customers.

The second most important factor for success is that development work has a strong market orientation. Many studies have shown that inadequate analyses and a lack of understanding of the needs of customers are common reasons for failure. Our own experience agrees with this.

The third most important factor for success is that initial development work has been carried out satisfactorily. Successful companies spend approximately twice as much time and double the resources on doing their homework right, before commencing construction and development work.

We hope no one is surprised that the above three factors emerge as the most important. the **Value Model** also focuses strongly on these three factors. In practice, the problem is that many companies break these rules because no alternative can be seen from the concrete aspect. A great deal of courage is required to stand up in an organisation and say that no response will be made to the hottest competitor's campaign, or that pilot studies need to be given more time and resources, when at the same time sales of existing products are rapidly declining. Because time is such a critical success factor, it is often the powerful forces within a company that pull in the wrong direction. In reality it can be difficult to judge if market surveys are good enough, if requirement specifications are correct, or if the concept and solutions will stand the tests of time. History teaches us, however, that we should be careful about shortcomings in the early phases of development work, and that it pays to *keep a cool head!*

Cooper defines selection factors as outer factors that normally cannot be influenced by the company. The most important selection factor with consequences for success is that the market is large and enjoying a period of expansion. Also, customers themselves are successful, and are therefore not primarily cost focused. Surprisingly enough, the competitive situation is not thought to play such a large part. Another factor to be taken into consideration is whether or not the product or service is connected to the market and area of competence already covered by the company. It is generally thought that most companies succeed best with those products and services closely connected to their existing markets. The risks involved with leaving existing markets are not however so large that they should be completely avoided. Rather, they should be treated with a greater degree of caution.

Cooper has also concluded that there are several unexpected factors that should be taken into consideration. Naturally products and services whose only unique feature is a low price have less chance of success than those that offer high value. Our experience is that many believe it is easier to sell at a low price

because customers are often heard to say that the product is too expensive. Customers also often refer to the high price as an explanation for why an order was not placed. It is important to remember that using price as a reason for not giving business is an easy and tactical way for customers to argue, but the real reason is often due to other, more important factors.

Finally, Cooper has also concluded that systems with either low or very high levels of innovation are best qualified for success. Few scientific examples support the hypothesis that really innovative systems are less qualified to succeed than other systems. This is something which, in our experience, is a widespread misunderstanding, especially among marketing and sales forces. How many times have you heard that the customers in your industry are conservative? More often than not it is your own organisation, and not the customers' that is more conservative. This is in itself a serious, unnecessary and unacceptable hindrance in the drive to create an unrivalled level of customer value.

1.9 The History of the Typewriter

Below is a resumé from the book *Mastering the Dynamics of Innovation* (Utterback 1994), describing the development of the tools used for writing. Much can be learned from studying this history as it offers a chance to gauge the future.

Up until the end of the 1800s, the tool used to create text was the pen. Remington launched the first proper typewriter in 1874. It was based on an innovation of Christoffer Latham Sholes, and was a machine that could only write in CAPITAL LETTERS, and where the text was written inside the typewriter, being first visible only after four lines had been typed. Due to its high price and poor performance, it was no great success on the market. However, three years later Remington launched a new typewriter that could write both lower and upper case letters, and the market took off. During its lifetime, the Remington number 2 sold close to 10,000 machines. Remington claimed in its marketing drive that the machine would replace the pen because it could even be used in heavy seas when a pen is impossible to use.

Remington's domination of the sector was broken when Underwood launched a typewriter based on an invention by Franz Wagner, which made it possible to see what was being typed. Underwood's first typewriter was launched around the turn of the century, becoming a huge success, and by around 1920 Underwood dominated the market completely, selling at that time as many typewriters as all the other manufacturers put together.

The next era started around 1933 when IBM (International Business Machines) took over Electrostatic Typewriters, which was a small manufacturer of electric typewriters. The electric typewriter was in itself nothing new. In 1925, both Remington and Underwood had already made unsuccessful attempts in this area. The market for electric typewriters did however grow slowly but steadily at the expense of the manual typewriter, and by 1965 it had gained a market share of over 50 percent.

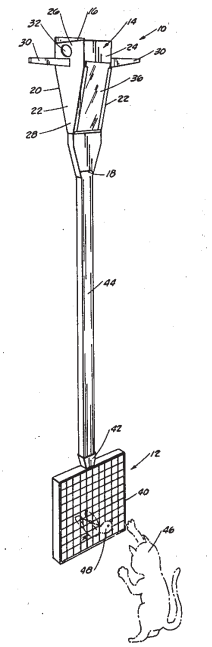
By the time electric typewriters had almost completely won the market, new competitors started appearing in the form of word processors. A whole new range of players appeared, e.g., Wang, Xerox, Exxon, ITT and Olivetti. There were many companies wanting a piece of this pie, which, in the beginning, looked very promising. However, the collective sales in the USA up until 1986 only reached four million word processors. The age of the word processor was very short; personal computers were already launched and on a strong march forward.

An important milestone in the history of the personal computer was when IBM, in 1981, launched its first PC on the market. At that time in the USA it sold for USD 3,000. A detailed study of the history of the personal computer also shows how different players have appeared on the market and dominated it for a period, only to disappear completely.

The above history clearly shows that the development of value within an area is always continual. New products and services offering higher customer value appear time and time again. The customer value is often so high that it makes previous products totally uninteresting. It can be established that it is not only products that come and go but also the players involved. Few of the established players in a market succeed in moving their resources and knowledge to new products. Instead, old ties seem always to be so strong that every organisation appears, grows, and dies alongside its product or service. None of the companies of Remington, Underwood, or Wang are players to be reckoned with in today's market for text-producing machinery.

What, then, does the future hold?

We believe that new players will appear, connecting personal computers with the Internet and mobile phones in a different and more efficient way. Maybe it's time to scrap the old keyboard and find a better way to create text? Remington number 2 made writing during storms at sea possible. Who's going to make writing whilst driving a car possible?



1.10 Customer Value?

Not all development is driven by customer value. The number of inventions that never succeed is probably bigger than the number of inventions that become reality. For those of you who are interested in different ideas, we recommend taking a look at *www.patents.ibm.com* where obscure patents are published on a monthly basis. We chose the following invention: US patent 4150505 Bird trap and cat feeder, under the category for traps. Not, in this case, a mousetrap, but a bird trap. In our estimation, this will not be a sales success – but who knows – we have been wrong before.

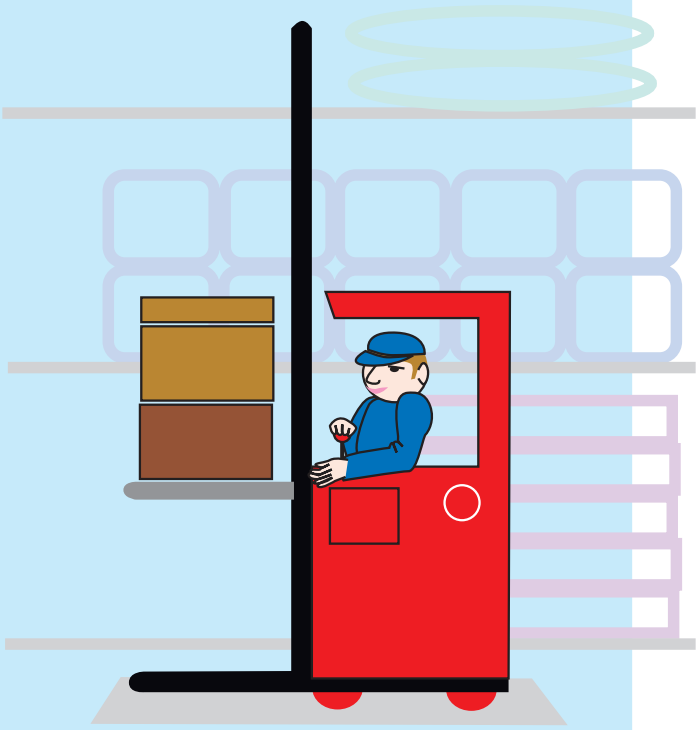
1.11 BT Compass, A Customer Value Model

BT Compass is an excellent example of how to build a customer value model. BT Compass is a computerised tool for calculating the capacity, design and economics of different solutions for storage management (Emmoth 1999). By using BT Compass the customer can easily compare different alternatives and solutions and determine:

- optimal design taking into consideration performance and usage of floor space
- investment costs and LCC (Life Cycle Cost) for different solutions. These are defined both as total costs, and broken down into different cost items.

The system contains information about the different alternative designs of a store so that correct comparisons can be made and optimal solutions reached. BT's sales personnel thereby have the opportunity of starting a constructive dialogue with the customer for the purpose of helping the customer choose a system with an unrivalled level of customer value.

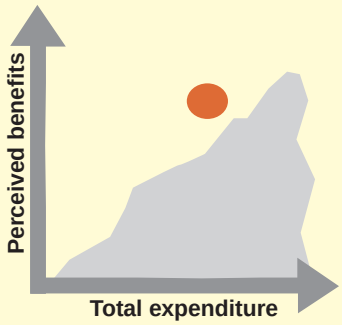
Improved performance, e.g., what the faster acceleration of a truck means for the customer can also be calculated with the aid of BT Compass. The system is therefore also a tool in development work.



1.12 Two Principal Strategies

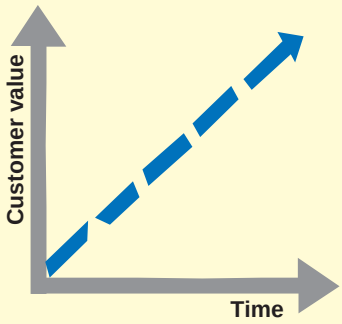
If customers feel that the benefits of a product or service are lower than the total expenditure required for obtaining the product or service, there will normally be no sale. This would be like paying more for the product or service than what you think it is worth. For example, you would not be willing to pay 200 pounds for something you consider to be worth only 100 pounds, unless you were forced to or did not have any other alternative. This represents the grey area in figure 1. In order to do business, you need to be above this area, e.g. in the red spot.

Figure 1



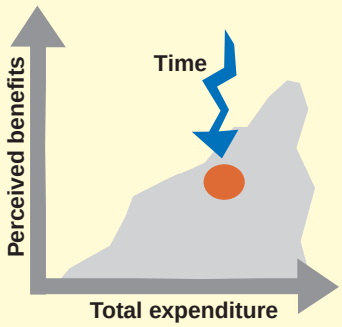
Customers also expect an increase in value over time. In the same way, you don't want to pay 100 pounds for an exact copy of a product or service in a few years, if it costs 100 pounds today. Value increases over time for all products and services, as shown in the diagram in figure 2.

Figure 2



Combining figures 1 and 2 gives us figure 3. In time, it will become impossible to sell a product or service, at the present price tag, because customers will regard it as having a low value compared to the alternatives available. The blue arrow symbolises the shrinking in value perceived by the customer over time.

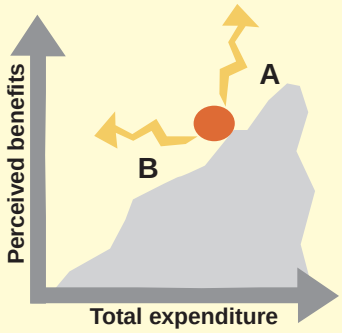
Figure 3



Assume now that an existing product or service is at the point marked in red in figure 1, and that no increase in value is taking place.

The product or service will slowly glide into the grey area and become unsaleable, figure 3. Customers perceive the value of the product or service to be lower than its total costs. Two principal strategies can be formulated from the definition of customer value to hinder this. One is to increase the perceived customer benefits of the product or service, indicated by arrow A in figure 4. The other is to reduce the total costs for the product or service, indicated by arrow B in figure 4. Both these strategies work in the short-term, but strategy B alone will not work in the long-term. Operate strategy B only, and the product or service will eventually become unsaleable. **In the long run, no price is low enough to guarantee sales. Not even a zero price tag.**

Figure 4



Survival demands that chasing costs be carried out parallel to increasing the customer perceived benefits offered by a product or service. The emphasis of this book is on strategy A, because in the long-term it is the most important strategy and because it is absolutely the most difficult to master. It demands both a basic under standing of customer needs, and also development of the ability to fulfil an ever-increasing number of these needs, in a cost-effective manner. Strategy A demands the continual development and improvement of the offers made to the market.

1.13 Customer Value as A Marketing Support Tool

When shopping, the customer has to translate the perceived benefits of the product into money in order to decide whether or not to make the purchase. Perceived benefits in the product are at this point synonymous with worth in monetary terms of the product. An alternative definition of customer value could therefore be:

Customer value = Total worth – Total costs

We have chosen not to use this definition because we believe it provides limited support during the creative work involved with developing products. However, it does have its merits during the purchasing stage. With this definition, customer value becomes a monetary sum and the purchase is a source of profit for the customer. Normally when working with this definition of customer value it is expressed as a ratio in the form of money per piece, unit, hour, space, etc. From a marketing point of view it is of course a very attractive concept. Suppose you could approach your customers and reliably assert:

- Replace your old product with our new product X and save Y money/hour.

This is certainly an argument that could change the way in which you sell your product. Several companies have also tried to build customer value models based on this definition in order to use it in marketing. A company that has achieved this very successfully is BT International with its Compass system, which you can read about in the adjacent exhibit.

In this exhibit we have decided to discuss the steps and problems involved with building such a model (Anderson and Narus 1998). The customer value model must also be part of a context as the idea is to use it as a support for customer decision-making. The starting point for the customer is always a matter of multiple choice:

- buy product A or product B
- buy or self-produce
- buy a new product or keep the old one.

From this perspective, the measure delivered by the customer value model becomes a description of the differences between different alternatives. This technique is therefore sometimes called *added value*. The work involved in building the added value model can be divided into the following steps:

1. Define the market segment and the customer.
2. Identify customer benefits within the product.
3. Translate customer benefits into monetary units.
4. Build the added value model.
5. Test and verify the model.

1. Define the market segment and the customer

The successful design of a added value model demands active participation from several customers in order to correctly identify and evaluate customer benefits. It is therefore logical to begin in an area where a good and open relationship exists with the customers. First and foremost, contemplate how to get closer to and motivate the customers to participate in such a project. Any suspicion on their part that you are out after a better argument for increasing prices is not likely to

lead to success. Rather, the customers have to perceive this as a serious way of you helping them reduce their own costs.

As added value is a subjective measure, you should also choose a market segment with homogeneous customers, i.e., customers who have as similar ideas as possible about desired customer benefits, and how these customer benefits are evaluated.

2. Identify customer benefits within the product

By observing the full interaction of the customer with the organisation and your product all the elements of value are identified. Value elements are possible changes in your entire offer that influence customer worth, i.e. revenue or costs. Examples of value elements are:

- doubled MTBF (Mean Time Between Failure)
- monthly collective invoice instead of separate invoices
- personal supplier-contact representative instead of a customer pool
- 24 hour telephone support instead of office hours only
- installation and operating manuals available online via the Internet instead of mail only.

3. Translate customer benefits into monetary units

Aided by the customers, now evaluate all the value elements. This can obviously be both complicated and time consuming. Soft factors like image and service are naturally the most difficult to evaluate. Some companies therefore choose to leave such factors outside the added value model. These value elements are instead presented to the customer in a qualitative manner.

4. Build the added value model

Results are compiled and the model built.

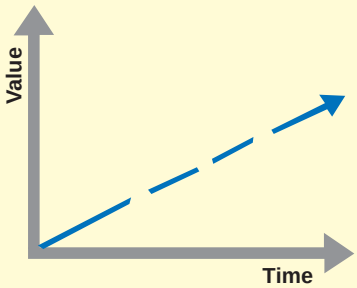
5. Test and verify the model

The model should, of course, be tested and verified with the customers before it is circulated and used more actively within marketing.

1.14 Customer Value – A Guiding Tool

If we associate the above results with some of the exhibits described in this chapter, an interesting picture takes shape. We have shown that:

- Successful companies have a definite focus on creating more customer value using innovative methods (Kim and Mauborgne 1997).
- Visionary companies focus primarily on beating themselves. They are not satisfied with being better than the competition, but are driven by a constant desire for continual improvement (Collins and Porras 1977).
- Quarter after quarter and year after year, the measurements have demonstrated a definite positive link between customer satisfaction and financial metrics such as market value added (MVA), stock price and return on investment (Fornell 2001).



- The customer value of all products and services increases with time (Fey and Rivin 1997).
- The most important factor for success is that the new products developed have unique features and a superior level of customer value (Cooper 1996).

What more proof do we need to provide in order to convince you that customer value is an excellent tool to use for guiding and leading the future operations of an organisation, and thereby increasing benefits for customers and employees alike, as well as for shareholders?

1.15 The European Value Management Standard

In 2000 Value Management became a certified management standard in Europe. The work leading to this standard started back in 1989 as an offshoot of the SPRINT programme, headed by the European Council of Ministers. The aim of the SPRINT programme was to strengthen Europe's innovative capacity and competitiveness. The standard was developed through a collaborative programme involving 8 countries and today more than 20 European countries are bound to implement this standard. The standard reflects best practices in Value Management and harmonizes the terminology used. The official name of the standard is EN:12973.

The purposes of the standard are to:

- establish a common basis for management to implement and practise Value Management
- help team leaders and team members to practise the methods
- establish a basis for developing training and certifying procedures for individual competences in Value Management
- establish a basis for the provision of services by Value Management contractors
- establish a basis for certifying companies and organisations
- improve the quality of Value Management and stimulate innovation in its use
- improve communication through the use of common terminology.

The standard is organised around four key principles:

- management style

It advocates the use of a distinctive style of management founded on value, function, creativity, customer focus and fact-based decisions to maximize the overall performance of the organisation.

- human dynamics

In order to motivate people and develop skills, effective use of positive human dynamics is stimulated through teamwork, open communication, ownership, encouragement of change and recognition of contributions.

- methods and tools

Included in the standard is a framework for how to organise and implement a Value Management Programme as well as a Value Management Project. The standard also recognises the following tools as central: Value Analysis, Functional Analysis, Function to Cost, Functional Performance Specification, and Design to Cost.

- consideration of environment

A Value Management Programme or Project shall take into consideration the internal and external context in which it exists.

The value concept is defined in the following way in the standard:

$$\text{Value} = \frac{\text{Satisfaction of needs}}{\text{Use of resources}}$$

This definition corresponds well to the definition used in this book. It has exactly the same meaning but has just been phrased differently.