

# ABZ

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## Complexity in product communication

"Complexity" is one of the most frequently used words in management topics, even when the management of product information is concerned. When considering what exactly complexity refers to, we are usually confronted with an intuitive understanding. The term then frequently describes something that is complicated, difficult, impenetrable and hard to control. But intuition is not always the best advisor. A sound comprehension of complexity is helpful when you want to control and possibly even utilize it.

Complexity describes a system with an indescribable overall behavior. We have learned very well how to deal with complexity in the course of evolution. We even invent complex systems like aircraft or cars which we in turn learn to control. And at the same time we create new complexity, such as onboard computers or assistance systems.

### Ashby's Law

One of the central findings of cybernetics is the law formulated by William Ross Ashby according to which diversity can only be controlled by diversity. To put it more simply, the complexity of the system determines the complexity of the means to be used.

But is that really true? Just try to fry an egg sunny side up without using a thermostat. You turn on the burner and if it becomes too hot, you turn it off again. When the burner is too cold, you turn it on again. You learn. Next time you turn off the burner before it becomes too hot and on before it becomes too cold.

What are you doing? Now, you proceed with the complexity required to solve this apparently simple problem. You have no other choice. In other words, a system with three possible reactions just can't be controlled using two independent commands.

### Keep it simple – but not simple-minded

Complexity is often successfully encountered with the "Keep it simple!" method. In scientific theory this is referred to as the economy principle. It says that the simplest explanation for a phenomenon is to be given preference over less simple ones.

However, it becomes an issue when the economy principle turns into reductionism. This happens when we only concentrate on sections of the entire system, generalize findings which were gathered sporadically, fail to resolve contradicting targets and wait to tackle remote and secondary effects of actions when they occur. Historically, it can be observed that reductionism is a significant characteristic of totalitarian systems. In the end, there is often only a denial of reality, as reactions and effects of our own actions no longer match our own picture.

Dietrich Dörner has shown using a lab test which errors frequently occur when controlling complexity. In this experiment students had to develop a fictional underdeveloped country ("Tanaland") with feuding ethnic groups. The conditions were characterized by drought, few wells, a short life expectancy and general poverty.

### Editorial

Have you heard this one? "A man comes into a home improvement store and asks for 8 mm dowels. The salesperson says, 'We're out of them. Why don't you just take a 5 mm and a 3 mm dowel. Then you'll have 8 mm.' The man goes to the checkout counter and wants to pay.

The cashier says, 'My colleague is really pulling your leg. Wait here, I'll get you two 4 mm dowels. Then you won't have to change the drill bit.'

When telling jokes like these from the life of DIY enthusiasts, we shouldn't forget that not all dowels are the same. In many industrial applications, the reliable selection of the right fastening technology and its correct use can even save lives.

In this issue you'll read how and why the industry leader Hilti primarily formulates language-neutral instructions for its "expansion anchors". Additional topics include the creation of instructions for the recreational vehicle manufacturer Dethleffs and information on the new standard for safety and warning information.

I wish you informative reading.

Sincerely,  
Georg-Friedrich Blocher



### How did the university students proceed?

Medical students ensured medical care, water engineering students built wells, agricultural students expanded farming, biology students eradicated the tsetse fly, and small mammals were hunted so they wouldn't eat the food in storage.

### What were the consequences?

There was an awful famine because farming developed steadily while the population exploded exponentially at the same time. Also, because there were no small mammals left for leopards to hunt, they started eating livestock.

Their actionism and project initiation caused the students to fail due to the complexity. Initial success motivated them to continue unchecked. They only collected information at the beginning, and stopped doing so during the simulation. Moreover, they only prioritized issues which were actually noticeable. In the end, they denied reality. This all happened although the model was only based on a few cause-and-effect principles.

### Compared to product communication, Tanaland is simple

In product communication, there are even more factors and relationships to manage. Each customer wants to be treated individually, the product portfolio is broad and deep, customer behavior changes quickly, product life cycles get shorter, the number of information suppliers increases, there is a higher degree of networking (products, information, documents, media...).

How do we try to handle this complexity today? We design the information products, establish processes, standardize contents and implement systems. When we compare this approach with "Tanaland", a parallel emerges. There is a focus on the internal system, namely the product information and publication processes. In doing so, there is a danger of prioritizing the items based on how noticeable they are and your own competence.

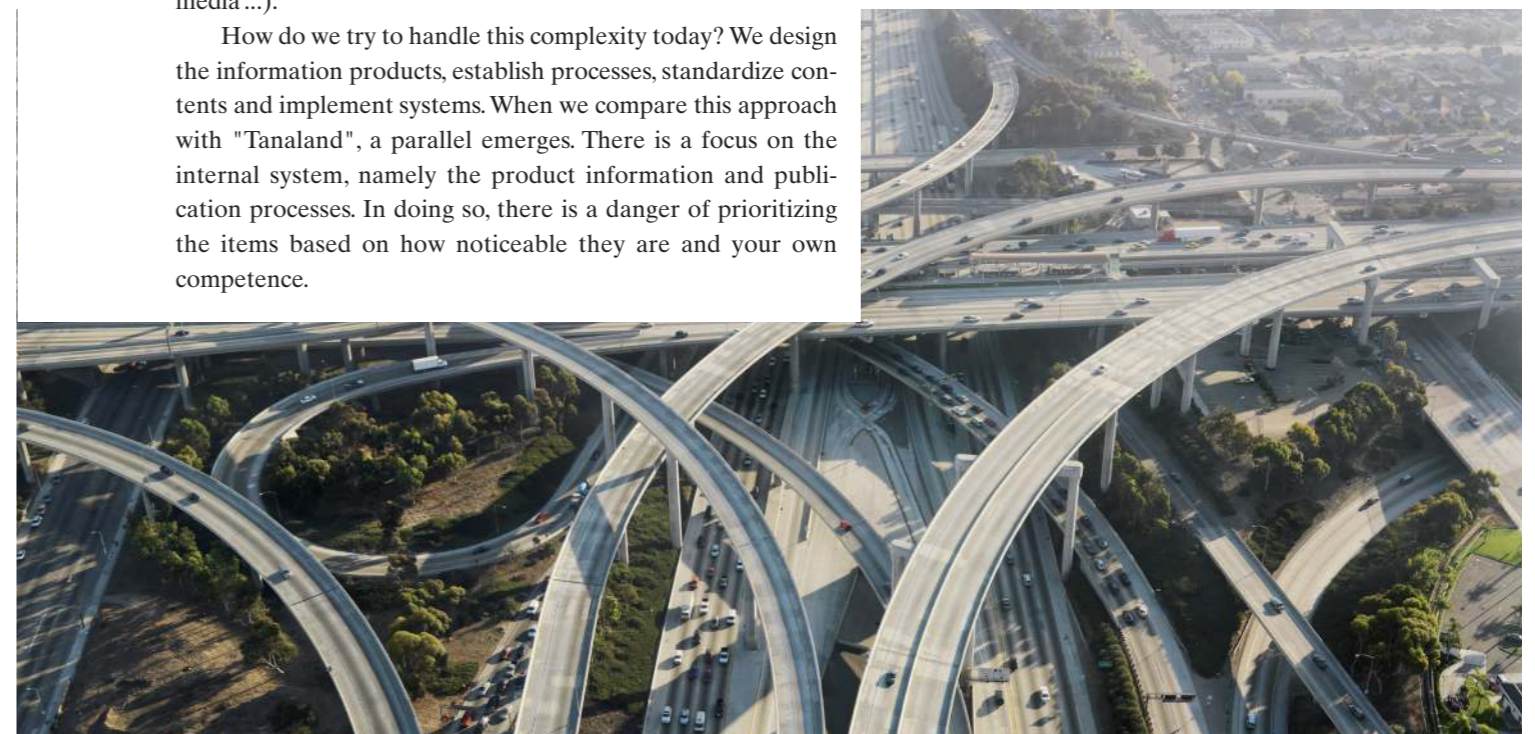
### Turning communication upside down

To refresh our memories: the complexity of the system determines the complexity of the means. There is a question here of what the system is and what the means are. Ultimately the complexity can't be determined by the market only while excluding the product structure or computer science. The market defines the complexity required for the product information and creation processes. The customers do not revolve around our communication instruments. Rather, our instruments revolve around the customers.

If you consider the processes, systems and publications, e.g. catalogs, to be means for managing customer complexity, completely different factors result, and subsequently they must be managed, too.

Throughout the entire decision-making process, customers want everything customized, from a single source and at their own personal prices. In the end this means that information models have to take these requirements into account instead of similarities of products or product ranges.

Networks for contribution, known as social media, provide impressive proof which makes it clear to all of us that we need to turn communication upside down. People no longer search for the product characteristics we have conceived. Instead, they consider the opinions and experience of other customers regarding the product to be more relevant. We still barely take this information into account as part of our current product information. However, its significance is growing extremely rapidly. This applies to both the B-to-C world and the B-to-B sector.



## "Describe 'a friend of the family'":

### Dethleffs presents TANNER with exciting documentation tasks



**"A friend of the family" – not only dyed-in-the-wool campers know this slogan of Dethleffs GmbH & Co. KG, the oldest established German manufacturer of motorhomes and caravans. TANNER AG is also a friend of this family because for two years now an editorial team from the service provider has been responsible for producing operating manuals for all the vehicles produced by Dethleffs. This article describes the tasks and objectives that Dethleffs formulated with the decision in favor of a new supplier for its technical documentation and presents an initial evaluation of this mutual journey.**

#### Request for reduction of costs and throughput times

"Transparency and a reduction of costs, understandable quality assurance and a decrease in the throughput times," replied Simone Kuppel from the Customer Service department when asked what requirements Dethleffs placed on the new partner for the preparation of operating manuals.

"TANNER was contacted for the first time in 2001 and the topic was pursued more intensively in 2004," added Eroll Sauter, head of the company's Customer Service department.

However, the new supplier was not only to be "a well-structured company with good references," said Simone Kuppel, "Another aspect was also the fact that the supplier had to be located in close proximity to our company headquarters in Isny in the Allgäu region of Germany." In particular, this regional requirement was to enable faster reaction times and increased flexibility for sudden changes, and to alleviate the pressure related to updating.

There were clear specifications for Dethleffs' requirements, including fast processing and operating manuals oriented to the target group, which were just as important as working autonomously and predominately independently. In addition, the new project partnership was to result in a long-term cost reduction.

#### Consistent process optimization in technical editing and translation management

The project launch was in October 2010 with the manual of the "Premium Liner" – the luxury motorhome from Dethleffs –, followed by the manuals for all other caravans and motorhomes of the 2011 model year. The basic manuals were adopted and changes were integrated. "However, we suggested at the beginning that the layout be revised, and this was also implemented

immediately," said Lisa Motz, Project Manager at TANNER AG, explaining the initial steps.

As a result, all the photographs have been replaced with line drawings, which enables multiple use, simpler execution of changes and concentration on certain product details. In addition, the cover page was also completely revised to match the current corporate design of Dethleffs. Also, each language was provided with its own cover page with the Dethleffs claim "A friend of the family" translated accordingly.

The demanding requirements for cost reductions also required consistent process optimization. "An inexpensive local print shop that can react quickly and flexibly," is an important aspect for reducing costs, according to Johannes Linder, Project Manager at TANNER. However, from his standpoint there was even a great deal more potential for savings in the translation costs. "We only send out the newly added text passages for translation, and not the entire text file. These are then inserted later in the correct positions of the foreign-language text. In this way we avoid costs for translating identical matches – the text passages which had already been translated."

#### Simple classification for editorial changes enables reliable budgeting and cost transparency

"In the past Dethleffs was presented with a vague overall invoice at the end of a year, in cooperation with our contacts at Dethleffs, we developed a simple model for planning and invoicing any necessary editorial changes in the manuals of a model year," said Johannes Linder in describing TANNER's approach for more cost transparency.

This model consists of a classification in major, moderate and minor editorial changes, each of which is assigned a fixed price. "After researching which editorial modifications are necessary in the manuals for the change from one model year to the next, we classify them according to scope and pass this quantity statistics on to Dethleffs," said Johannes Linder. As a result, Dethleffs has a reliable basis for cost planning early on, and when the revision is complete it has an instrument for traceable controlling.

#### Continual optimization through new experiences

"We have now edited the operating manuals for caravans and motorhomes including all 17 translations at least once," said Lisa Motz reviewing her project team's work so far.

What Simone Kuppel especially likes about the project partnership is "the open communication between the employees, the high degree of flexibility and the clear, transparent cost planning and accounting."

Completing all the manuals in all the languages for the model year 2013 by the end of 2012 – that's how Lisa Motz defines one of the current project goals. "In the process, we use our past experience for continuous process optimization," said the project manager.

This great commitment and high degree of self-initiative is rewarded accordingly by Dethleffs, as Simone Kuppel confirmed. "We are extremely satisfied with the cooperation up to this point, which is now going into its third model year. And we still have joint plans for the future."

*»The meetings we conducted beforehand with the employees of TANNER AG were very professional and made us look forward to working together. Fortunately, our hopes came to fruition.«*

SIMONE KUPPEL, Dethleffs GmbH & Co. KG, Customer Service

**Dethleffs**  
A friend of the family

#### From the invention of the camping car to the 80,000th motorhome

In 1931 when Arist Dethleffs no longer wanted to go on business trips without his family, the trend he would start with this idea was not yet foreseeable. In that year he built the first caravan in Germany – the so-called "camping car" – laying the cornerstone for a new production tradition of the family-owned company, which had manufactured and sold whips and ski poles until then. At first the caravans were built in individual production with just a few employees, however series production of the caravans began in 1956 and a motorhome was manufactured for the first time in 1983. The Dethleffs Group from Isny in the Allgäu region of Germany now employs a staff of 700, which manufactures approximately 10,500 recreational vehicles annually. Up to about 10 years ago, mostly caravans were built at Dethleffs GmbH & Co. KG. However, the traditional Swabian company now is not just one of the largest manufacturers of motorhomes in Germany. For example, with an export share of almost 50 percent, it is also the market leader for motorhomes in Scandinavia. Right on time for the company's 80th anniversary in 2011, the 80,000th motorhome ran off the production line at the main plant in Isny.



## Without words:

### Why Hilti banks on (primarily) graphic instructions in technical documentation

Operating instructions for dowels? The self-confident DIY enthusiast will think it's "kid's stuff". Far from it, though. For many applications, dowels are anything but a toy. The correct selection of the right fastening technology and its correct use can save lives. Hilti's concept of keeping the instructions for "expansion anchors" as language-neutral as possible becomes especially important against this background. TANNER was able to help shape this exciting project in several stages along the way.

For Hilti, customer satisfaction, product liability, building authority approvals and legal liability are the main aspects of the dowel operating instructions. And of course this also applies to their step-by-step redesign. "However, we don't just want to update and change texts, we also want to take a giant step forward," explained Martin Kuhn, Head of Testing at Hilti Entwicklungsgesellschaft mbH in Kaufering, Switzerland. "That's why we asked ourselves right at the start whether we might not be able to get by without text," said Kuhn. It was a question with consequences, as 99 percent of the instructions for dowel products contained text elements.

Hilti quickly warmed up to this idea. "Our customers no longer have to grapple with long texts, but are provided with simple, fast access to our products using visual representations instead. At the same time, we reduce translation and printing costs," calculated Kuhn.

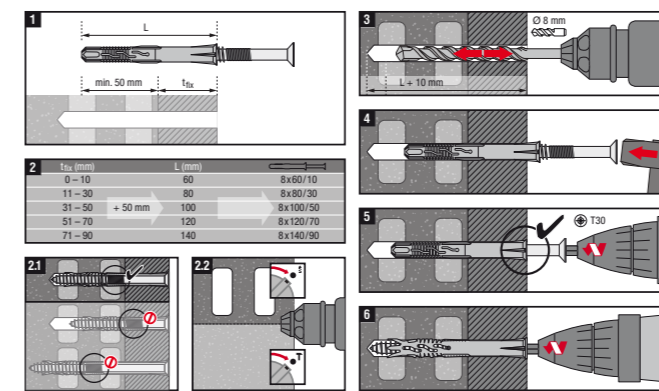
#### From text to image

In the initial step of optimization, the project team changed the structure of the operating instructions. In some places, the existing instructions contain information not required by the user, while in others they were still not detailed enough. The optimized operating instructions now only represent the workflows, but now from the customer's standpoint and considerably closer to the actual application. The location of questions that occur to the user, like "How deep should I drill?", "How should the drill be set?" or "What torque is required for fixation?" were also exactly assigned to the respective work steps in the instructions.

Especially with technical products, numbers, dimensions and a lot of tables with technical explanations are part of the standard repertoire. For Hilti changing to visual realization also meant rethinking its approach. Although text and numbers could not be completely eliminated, from the outset Kuhn set the ambitious goal of a maximum of just 10 percent of the operating instructions consisting of text in the future – including numbers.

Thus, a liberating reduction and elimination process began. All texts in the operating instructions were reviewed, including for example advertising for other products from the product range. "We've eliminated everything that doesn't directly support our customers when using the product. Wherever possible we dispense with redundancies and unnecessary references to other Hilti products," said Kuhn.

The greatest challenge for the team was to describe workflows the way the customer perceives them, and to do it in a layout that goes far beyond technical line drawings. Realistic illustrations for the components were necessary, as were internationally understandable symbols with a high presentation quality. This also included the sparse use of colors to avoid confusing users with a colorful jumble while complying with Hilti's corporate design rules.



#### At a glance: Yes or no, right or wrong?

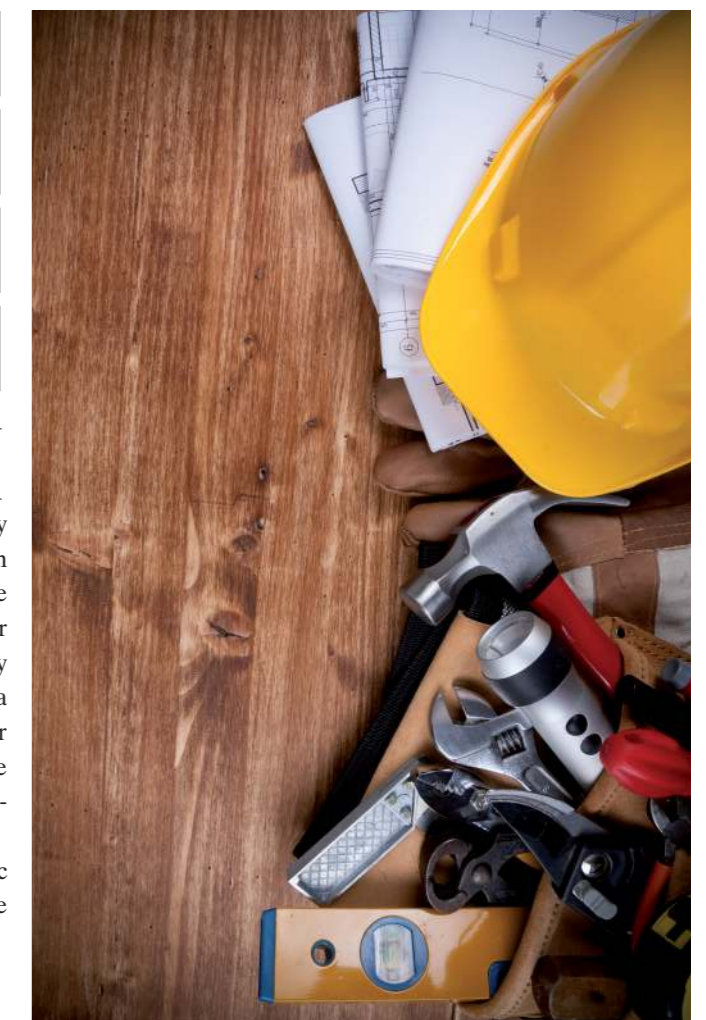
Visual operating instructions must be consistent and easy to understand. The pictorial language was further refined in the course of the project. In particular the visualization of the short but significant words such as "Yes", "No", "Allowed" or "Not allowed" were discussed in depth. At Hilti it was ultimately agreed that a black checkmark would be used for "Yes" and a red prohibition sign for "No". These symbols then prevailed over other versions, because they were not only understood by all the test users, but can also be used well in all areas of the new instructions (illustrations, tables, etc.).

In combination with mini-symbols, including schematic symbols for drills and dowels, this also enabled tables to be designed almost without text.

Another point of discussion was, for example, the use of magnifying glasses for detailed views. A magnifying glass alone would not lead to text reductions. On the contrary: The operation of the part in the detailed view would have to be explained in even greater detail. It was the definition of "hotspots" – similar to the TV advertisements for arthritis relief patches in which red pulsing dots on the back signaled their effect – that finally provided a practicable solution. With the combination of a magnifying glass, a prohibition sign and a hotspot, it is now possible to convey many details about use without text.

#### The result: Improved instructions for satisfied customers

"After a project which lasted approximately eight months, we decided to design all our new and various existing operating instructions for expansion anchors in accordance with the new concept. Our customers ask "Why didn't you do this earlier?", said Kuhn in appreciation of the hidden praise. "Our costs for the illustrations of the processes, graphics and symbols have been reasonable. We have consciously invested and now consider the outlay worthwhile. The use of our products is now simpler and above all even safer for our customers."



# New standard for safety and warning information

The mountain labored and ... well, it did bring forth a little more than a mouse. As reported, in September 2011 the American National Standards Institute (ANSI) issued a revised version of the ANSI Z535.6 (Product Safety Information in Product Manuals, Instructions and Other Collateral Materials).

As announced in the previous version of the standard, it is now no longer permissible to use the warning word "CAUTION" for material damage. Now "NOTICE" is obligatory. This is intended to separate material damage even better from – minor – personal injury, for which the warning word "CAUTION" is specified.

Regardless of whether you are personally convinced by this rule or not, the employees at TANNER will implement this rule in projects in which the ANSI compliance of the warnings is assured. In the documentation in which, for example, a "NOTICE" currently indicates an optimized procedure, TANNER employees will search for ways to separate this information from safety-relevant statements.



## Consequences for "Basic safety information"

The "degradation" of the relevance of damage also impacts the "Basic safety information". In the ANSI philosophy, warnings and safety information are reserved for injuries. There are additional – not to say: incidental – warnings about property damage. As a result, it is advisable to structure the information in the sections on basic safe behavior according to injuries and damage.

Other changes and clarifications concern the layout of specific warning information. In this case revising the standard opens up additional possibilities for presenting information appropriately. For this purpose, we at TANNER are currently evaluating various representations; the results should be available soon.

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