ABZ

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EDITORIAL

Technical documentation is characterised by constant change. Under the key word "future", in this edition we take a look at changes and developments in technical documentation. The article on "Technical documentation and marketing – something's brewing" discusses the innovative trend that is increasingly leading to the dissolution of the existing strict division between the pre-sales and after-sales worlds. The "car2go" car sharing platform clarifies this merger of technical documentation and marketing. On this topic, read about the extent to which smart solutions frequently require smart communication.

We also carry you away to the world of HTML5 apps and inform you about how the future of the service sector looks and how to make your docs secure – as well as other issues.

I hope you enjoy reading your ABZ!

Yours sincerely,

Georg-Friedrich Blocher

TECHNICAL MARKETING: CUSTOMER JOURNEYS
The key to relevant content

It will not come as a surprise to anyone with a little expertise in marketing: 72% of all B2B procurement processes now start on Google.[1] This has far-reaching consequences. Opening a page via a search engine comes after an "autonomous" information journey, during which potential customers complete nearly 60% of their decision-making process before directly contacting a supplier.[2] Marketing departments should not leave to chance a company landing on the interested shortlist at the end of such a customer journey.

The central task when dealing with autonomous customers is: how can I play a part in each individual phase of the procurement process as a relevant expert even (long) before the customer contacts me?

Phases of the procurement process

To answer this question, we first need to define phases through which a potential customer passes on their customer journey. These phases are different for each customer group and procurement case. A procurement process comprises up to five phases:

► *Phase 1 – Topic:* In this phase a potential customer deals with a high-level subject, such as "Industry 4.0". The reasons may include personal interest, public discussions or a work order. For orientation purposes, they focus their research on specialist articles, blog posts, expert interviews or white papers.

► *Phase 2 – Requirement:* After dealing with the information from Phase 1, the potential customer realises this issue could be relevant and might have potential for their company or area of responsibility.

► *Phase 3 – Solution:* In this step the customer looks for solutions that have already been implemented successfully. Preferred sources for their research are case studies, role plays etc.

► *Phase 4 – Suppliers:* Assuming the potential customer has found solutions that could meet their specific requirement, they start looking for suppliers.

► *Phase 5 – Product:* And finally there is the question of which products from the manufacturers researched best meet the potential customer's specific requirement.

Enough of the "theory". However, not all buyers go through all the phases. And depending on the company or intended purchase, different or even several decision-makers are involved in the decision-making process.

Target group definition

Therefore the next step should clarify how different target groups typically approach the procurement of particular products. This depends on several aspects:

► Is it an initial or repeat purchase?

► How great is the product-related procurement risk for the customer (e.g. due to innovation, price, functionality and likelihood of defects)?

► How high is the system-related risk for the customer (e.g. due to dependence, services, on-time delivery and HR resources)?

► What form do the procurement processes take for particular products in the customer company?

► Which decision-makers are involved in the customer's buying centres?

► Which criteria are important to customer companies for their supplier assessments?

The answers indicate the phases through which the customer apparently passes and which decision-makers are involved.

Step by step to the customer journey

Once the customer's phases and purchase participants have been determined, we move on to designing the content for targeted communications. The key here is the various questions that the customer decision-makers have in the individual phases of their procurement process. The supplier must provide answers to these questions in their communications.

This gradually creates a customer journey map and the relevant content for the different target groups is assigned to the individual phases. Using a gap analysis between the target and actual content, it is very easy to determine where the most important content deficits in the supplier's communication are. These gaps are then transferred to content planning.

The media and formats that suppliers use to provide the answers, and the channels by which they are transported, depend on the information and communication behaviour of the relevant decision-makers with the potential customer.

Sources:
[1] Pardot State of Demand Generation Study
[2] The Corporate Executive Board Company

THE APP OF THE FUTURE

In many corporate departments – whether it is technical documentation, marketing or procurement – the desire and requirement to offer content online, not just via classical websites, is growing, but the content of existing apps must be linked with the functions of mobile terminal devices. This article describes the benefits of linking these, and presents the technology that enables content to be used across the board.

Apps that use the functions of mobile terminal devices offer varied options especially for the provision and integration of technical information. An example: The installer takes a photo of a barcode attached to a radiator and this provides direct access to the operating instructions and an overview of the spare parts required. The on-site maintenance technician can access the relevant documentation for the error number on the device and, if necessary, refer to the experience of colleagues who have dealt with that error.

Before this scenario becomes reality, the following questions must be answered:

1. How can the content of various apps be used and integrated across the board?
2. How can the costs and effort for updating and developing a constantly increasing number of devices and operating systems be kept under control?

Technologies currently used: HTML5 websites and native apps

The trend towards the widespread use of content is mainly served via two implementation strategies: HTML5 and native apps. HTML5 websites can be used on all modern browsers and operating systems. It makes no difference whether they are controlled from a desktop PC or smartphone. The integration of content from various HTML5 applications can be achieved easily via standard web technologies. But HTML5 also gives users headaches. They are still faced with the barriers to fully using the functions on the relevant mobile terminal devices. So such functions as offline availability or accessing the camera data cannot currently be solved via HTML5.

These challenges are currently solved by using native apps. These are programs for a specific operating system that can only be used for one class of terminal device. The apps quickly and directly access the functions on the devices and can use the existing data on the device optimally for their requirements. However, native apps serve heterogeneous target groups with different terminal devices and operating systems and must therefore be developed and maintained for each operating system variant. The integration and updating of content takes place individually for each app, and means effort increases linearly with the number of operating systems to be served. It is also necessary to plan ahead in terms of interfaces for later integration into other corporate apps.

Is it not possible to combine the advantages of both implementation strategies?

So how could the functionality of HTML5 be ensured at the same time as access to device-specific functions? So-called "hybrid apps" are currently trying to cover this demand via a number of frameworks that are available both free of charge and commercially. Each individual framework has its own advantages and disadvantages, and which technology will be commonly in use in the future has not yet been established.

What now?

The basis for the hybrid app of the future is being created under the leadership of W3C, the organisation that standardises WWW and protects XML and HTML-based standards. The W3C project "HTML5 apps" is currently defining extensions to HTML5 that cover the higher user and functional requirements.

The aim of this project is to extend HTML5 such that device-specific functions can be used in a standardised way. This enables large data volumes to be stored locally and, for example, use camera data without losing the advantages of HTML5. Updates and development can therefore take place centrally via a joint app, and only specific peculiarities need to be added individually as required for specific devices.

So far so good. But what is already possible?

The Apache Cordova programming interface currently implements many functions from the "HTML5 apps" project and is therefore already moving ahead of the standardisations that are yet to be agreed. The existing "Phone Gap" framework uses Apache Cordova and has already been deployed successfully in production projects.

The functional scope is not yet complete and is currently limited to the most frequently used device functions. The performance of functions with high demands on the terminal device's hardware is lower than for native apps. For example, apps with animations are noticeably slower than is familiar to users for native apps.

Can companies therefore use HTML5 apps as an alternative to native apps or classical HTML5 websites? The decision depends on which specific functions are required in the app. Many application scenarios for distributing technical information can already be implemented in a future-secure manner using the standards created in the "HTML5 apps" project. Such apps will benefit from the development of "HTML5 apps" in the future.

TECHNICAL DOCUMENTATION AND MARKETING
Something's brewing

THIS IS HOW YOUR NEW MOBILITY WORKS

The Car ▸ Check up ▸ Getting In ▸ Touch Screen ▸ Luggage Compartment ▸ Starting ▸ Driving ▸ Stopping

Intelligent mobility for all.
Re-discover the city

You won't get stuck in the city with a car2go. They're so compact that they move seamlessly through traffic. You'll quickly find a parking place. And the next car2go is just around the corner. Our vehicles' availability makes your life easier. And our vehicles are also highly energy-efficient: which means they're good for the environment.

Practically fits in
every space

always eco-friendly
especially with electric drive
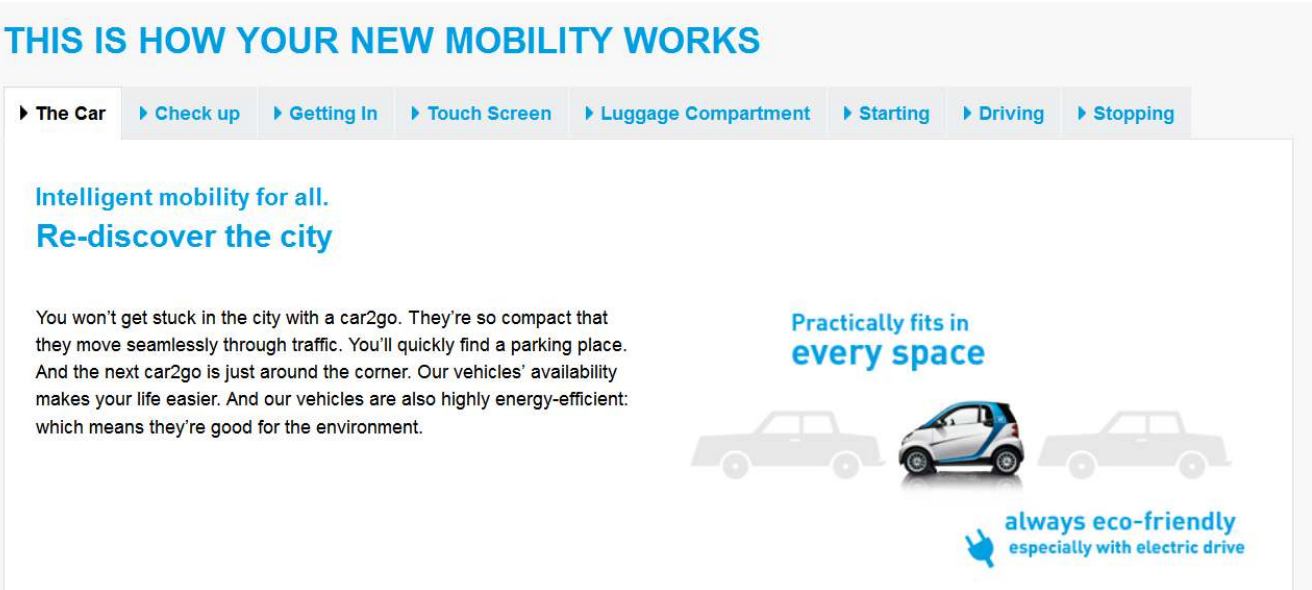
Fig. 1: car2go briefly and centrally explains the vehicle's benefits to the user.

Technical documentation is an important part of a product and therefore an elementary part of the product creation process (PCP). In contrast, customer communication is part of the marketing process. It generates cause-effect relationships, develops core messages, range and product characteristics, and sets the scene for these effectively. But how clearly can marketing and technical documentation be separated? Surely they belong together and have done so for a long time? This article provides some answers.

Clear distinction between documentation and marketing

The (to date) frequently clear distinction is definitely justified. User documentation should not take on any marketing communication tasks and marketing does not make user documentation. This would either lead to poor documentation or poor marketing communication: technical documentation is aimed at the user who uses it to discover unique or desirable components for a product that they have already purchased. The marketing in turn would convey to the customer how to specifically use a product. The customer could not even imagine this because the product in question is not yet available.

Interaction between technical data, characteristics and graphics throughout the product creation and marketing processes is now established in most companies.

In particular, complex organisations have recognised the value of homogeneous, cross-departmental processes and are working on these. These processes aim to exploit again what has already been produced and only refine the content in the relevant value creation steps and make them usable for the relevant purpose.

There are other ways, however: car2go

Over recent years there has been a trend towards innovations that merge online applications, service and product into a new complete whole. One shining example of this is the range of car-sharing platform car2go.

Since 2012, car2go has linked and combined the pre and after-sales worlds. The platform is so innovative that potential new customers have no knowledge gained from previous experience. So the benefit is not only derived from setting a scene around a benefit promise, but primarily from specific information about the user's experience during use.

What advantages does car sharing offer the customer and why should they choose the concept? This question cannot be answered without descriptive instructions and information because the target groups lack previous knowledge. The customer requires a specific image of their future user experience.

When it comes to car sharing, users ask the most varied of questions that can be assigned both to pre and after-sales:

➤ What is car2go?
➤ How much does car2go cost?
➤ How do I rent a car from car2go?
➤ How do I drive the vehicle?
➤ Where and how do I park the vehicle?
➤ How do I fuel the vehicle?
➤ How do I register?
➤ Where is the nearest vehicle?

From a user's perspective, car sharing is a very complex process as a key element of the business model is based on customer self-service. The www.car2go.com platform answers the customer's questions – in a modern design with outstanding simplicity and clarity.

The question "How do I drive the vehicle?" is particularly interesting with regard to implementing deep relationships with the customer and interfaces with the technical documentation. Firstly, the customer finds a brief, central description of how to use the vehicle (in this case a smart car) on the homepage. Then the usage process is shown sequentially (see Fig. 1).

For "Opening" only the new mechanism to open the vehicle with the "member card" is described, in contrast to the normal lock for a private vehicle. Only vehicle-specific peculiarities are presented for "Starting up". It is not assumed that the user has advance knowledge. Simple, animated steps and clear imagery ensure the instructions are easy to understand.

This also applies to parking and locking up. A brief description of the special features is enough – everything is shown to indicate that the benefits and the service promise can be experienced "easily" at all levels (see Fig. 2).

Merger of technical documentation and marketing

Even in the industrial environment, there are a number of innovations where no previous knowledge can be assumed. For smart applications in particular, with the automated integration of people, applications and products, with sensors and actors being used and networked in various ways, such situations occur with increasing frequency. The user experience is already described in pre-sales and the desired understanding by the customer is achieved through specific, action-led information.

A barrier in many companies is the clear separation of the marketing and after-sales worlds due to internal structures and information processes. Even today, in addition to existing information channels, it is possible to easily create slim microsites and apps. Existing sources fill them, and information from both worlds can be matched to the desired customer experience, published and distributed.

Smart solutions require smart communication

"Yes, everything is much too complicated here for such simple solutions," is a frequent (valid) objection. Nevertheless car2go also provides additional information, such as operating instructions in the vehicle. An increasing number of customers and users want the private information and communication experience in their business environment. So it is not a question of whether, but only of when, such higher level applications also become standard for B2B.

Smart solutions require smart communication, and that does not stop at the classical barriers between pre-sales and after-sales.
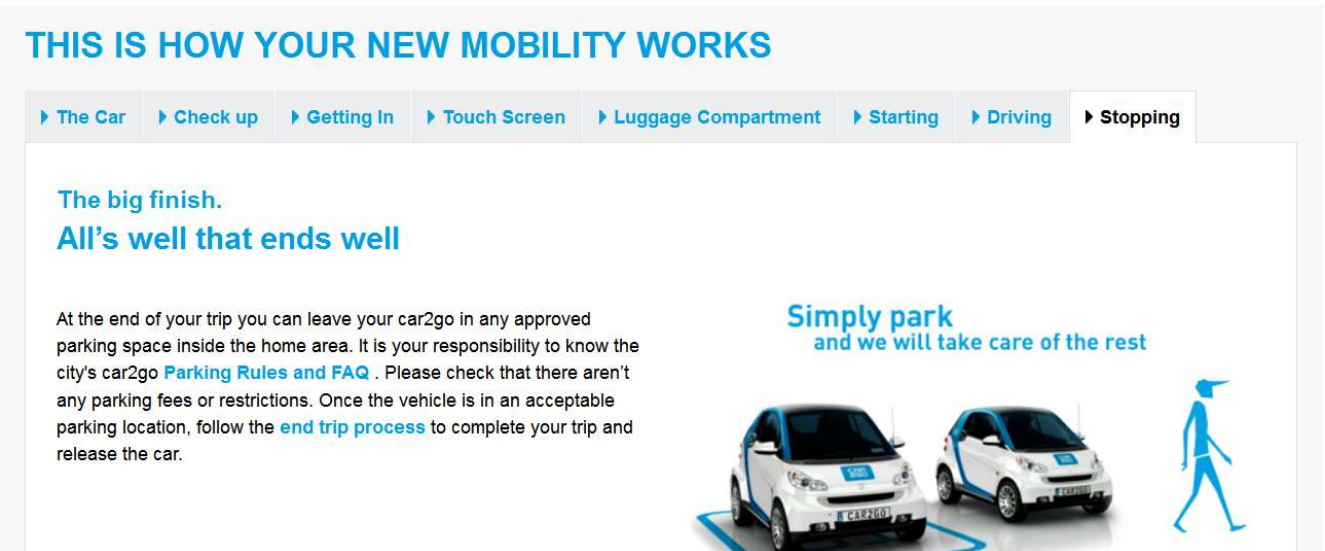
THIS IS HOW YOUR NEW MOBILITY WORKS

▸ The Car ▸ Check up ▸ Getting In ▸ Touch Screen ▸ Luggage Compartment ▸ Starting ▸ Driving ▸ **Stopping**

The big finish.
All's well that ends well

At the end of your trip you can leave your car2go in any approved parking space inside the home area. It is your responsibility to know the city's car2go **Parking Rules and FAQ** . Please check that there aren't any parking fees or restrictions. Once the vehicle is in an acceptable parking location, follow the **end trip process** to complete your trip and release the car.

Simply park
and we will take care of the rest

Fig. 2: Parking at car2go.

THE FUTURE OF THE SERVICE SECTOR

"Within the next 20 years, more than 70 million baby boomers (those born between about 1946 and 1965) will be retiring. While millennials will take their place, there will not be enough of them with the necessary skills to fill the void. New research from the McKinsey Global Institute (MGI) suggests that by 2020, the world could have 40 million too few college-educated workers and that, in advanced economies, up to 95 million workers could lack the skills required for employment."[1] In such classic work areas as industrial production and agriculture, the rising requirement for goods and food is compensated for by the progressive automation of simple activities. When it comes to high-quality services, increasing productivity is, by contrast, incomparably more difficult to implement.

Constant digitalisation, which is reflected in increasingly networked products and services, supports growth, as does the volume of specific knowledge to develop and operate the products. On the other hand, the quantity of explicitly available information on products and services is increasing.

In most cases, the various IT systems of today's companies save all the information on the life cycle of the products and services. In recent years, more and more information from the operating and servicing products has been recorded in IT systems and used for the later optimisation of the processes:

► CRMs contain information about the customers and their wishes and requirements.
► Configuration management systems know which specific devices are with customers.

Previous knowledge and experience
Abstraction and transfer experience
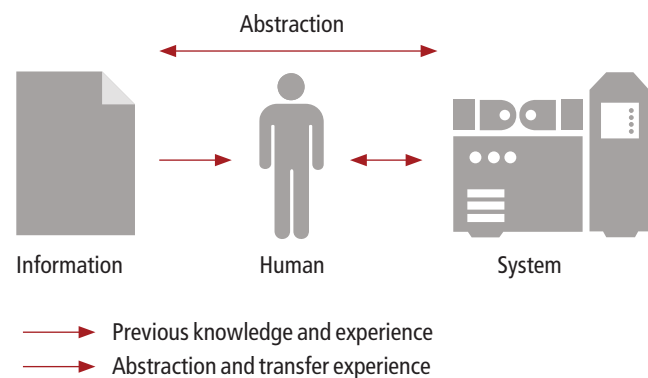
► Knowledge databases gather experience and feedback when operating and supporting the solution.
► Technical documentation content includes help on executing typical tasks.

Today there is a requirement for highly qualified employees who can solve specific tasks with the information available. This has to change in the future so that the anticipated lack of employees can be managed.

Which information is relevant?

To handle a task, a person requires the information relevant for the case at hand. In order to support relevance mechanically, it is essential that the user's situation is understood as precisely as possible. Where is the user currently? Which activities have already been planned for a task? Are resources required to fulfil the task? What is the status of the machine on which the task will be undertaken?

In the defined user's context, in the second step, static information must be processed, including requirements, past information, descriptions and instructions. All this knowledge is related in order to create relevance and contextual reference for people and minimise the knowledge and experience required.

Solution: Context-sensitive information transfer

The key challenge when implementing these scenarios is to exploit the information potentially available without the uncontrollable costs of optimising the existing IT systems. The use of established methods from IT and their application to content are a good requirement for ensuring the transfer of information is context-sensitive. Service-oriented architectures now provide various functions from different systems as a homogeneous process for users.

At the same time, existing information can be made available and generalised as a service (e.g. ticket, spare part, calendar entry). Information connections can be written with the aid of "semantic web" methods. On this basis, the specific requirement of the user can be served via established search and reasoning methods.
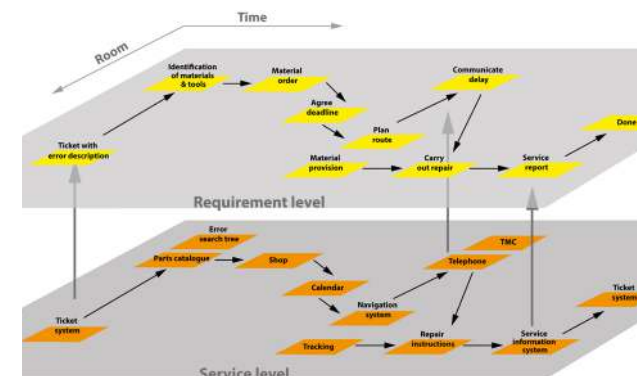
Context-sensitive information transfer implemented

The existing application cases and work methods of today's users must first be analysed for their requirements:
► Which systems are users currently using to solve a task?
► What connections exist between the various systems and what are the relationships like between the individual sources and people?

The services are implemented "on top" of the current systems and the necessary information is provided via web-based URLs that are then connected via resource description frameworks. Search engines based on this provide answers to users' questions. As a final step, the user's questions are asked in the search engine when processing the task, and the relevant answers are shown on the necessary terminal device.

Linking of service and requirement level

What does the future hold?

The approaches explained above only partially solve the initially formulated problem. A context-sensitive transfer of information, however, helps individual companies to integrate new or less well trained employees into demanding service processes more quickly and easily. It is less important to quickly integrate experienced employees than to train those with less experience in particular tasks.

In addition, aspects for more easily learning subjects via virtual and augmented reality etc. are appropriate additions for quickly and securely closing gaps in knowledge. To date, only very few of the stated concepts have been implemented, usually during research projects. Such trends as Industry 4.0 will further accelerate the requirement for targeted information.

Source:
[1] www.naiop.org/en/Magazine/2015/Spring-2015/Business-Trends/Changing-Workforce-Demographics.aspx, accessed on 20.11.2015.

AGILE DEVELOPMENT – WHERE IS THE DOCUMENTATION?

It started in a ski hut in Utah: In 2001, US software developers published the manifesto for agile software development. The principles stated in it are now followed not only by software developers. Over recent years, agile methods have established themselves increasingly in all development processes and replaced the waterfall method that was previously well-established.

Instead of planning the whole process and checking only after completion whether everything had been implemented to plan, you divide the creation process using the agile methodology into small, separate steps and check whether the sub-objectives were achieved after completing each step. Therefore, compared with the waterfall model, error analysis and correction is an integral part of each development step. The first principle of the manifesto for agile software development is as follows:

> **"Our highest priority is to satisfy the customers with early and continuous deliveries of valuable software."**

Technical documentation and agile Development

What does agile development mean for supporting information, such as online help and operating instructions? How can technical documentation contribute to this process? The answers come from the key words "early", "continuous" and "valuable".

Early

Agile software development aims to provide the customer with functioning software as early as possible, even if it only has a limited range of functions at the start. For documentation, this means that it must also be implemented and provided as early as possible. Then the customer added value identified is implemented directly, and problems that are recognised can be resolved as early as possible.

Continuous

The products being delivered are continuously adapted to the customers' requirements and provided to the customers. Therefore the functional scope also grows, so changes to the documentation must be made regularly. This means that relevant and correct documentation is available after each iteration-development step.

Valuable

All iterations have the claim of delivering closed and presentable results to the customer and are therefore aligned to adding maximum customer value. In parallel to the development result, the associated documentation must also be updated and available after each iteration.

Currently, technical documentation usually operates using classical methods, such as the waterfall method, and is made available after the end of the whole development process. This may result in incorrect developments being recognised and resolved too late, which in turn leads to reworking, delays and additional costs.

How agile is technical documentation?

If the development process is agile, the documentation is increasingly also agile. Here, the documentation processes are similar to those of agile development:

► In agile development, processes are divided up into small sub-processes – so the content must also be divided up into small units. Approaches for systematic modularisation with reference to customer user stories are now established methods and can usually be shown in the development systems or via simple, logical links in the editorial systems.

► In the agile approach, an agreed, dynamic but never chaotic range of functions, is defined for an iteration. Content must therefore be assigned dynamically to the individual iterations. Specifically this means that even at the start of an iteration the necessary documentation scope, the costs associated with this, and the modules to be modified are known. The step-by-step and modular implementation of the necessary documentation for a user story provides a quick and simple fall-back if individual user stories change or lapse.

► Within the agile process the functionality and usability expected by the user is created and prioritised. This means that a clear priority can be provided regarding which user information is required and in which context it must be delivered.

The advantage of agile documentation

During the agile process, not only are the user stories for the product being developed discussed, prioritised and the results assessed at the end from a customer perspective, but so too is the documentation content. For a consistent agile process, documentation optimally modified to the customers' application cases is produced and this represents perceptible added value for the customers. In addition, when creating user stories alternative scenarios are created to support the user. If a process is difficult to describe, potential improvements can be discussed directly and a decision taken before they are technically implemented. This gives the developers valuable feedback and the editors have a direct influence on the product.

If the documentation is considered an integral element of the product, it is worth considering how to integrate editing into the agile project.

	Traditional	Agile
Planning	Planning iterations based on technical opportunities	Planning iterations based on customer requirements
Research	Low attention by technical contacts in the development	High attention by technical contacts in the development
Editing	► Relevance of results only difficult to assess ► No continuous deadline pressure ► Approach detached from software product	► Relevance of results high on an ongoing basis ► Continuous deadline pressure ► High requirements for editorial integration
Review	Refer to research	Refer to research
Distribution	No continuous distribution: low requirements	Continuous distribution: high requirements
Automation	Drivers: efficiency	Drivers: feasibility

Comparison: Agile and traditional development from the document perspective

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