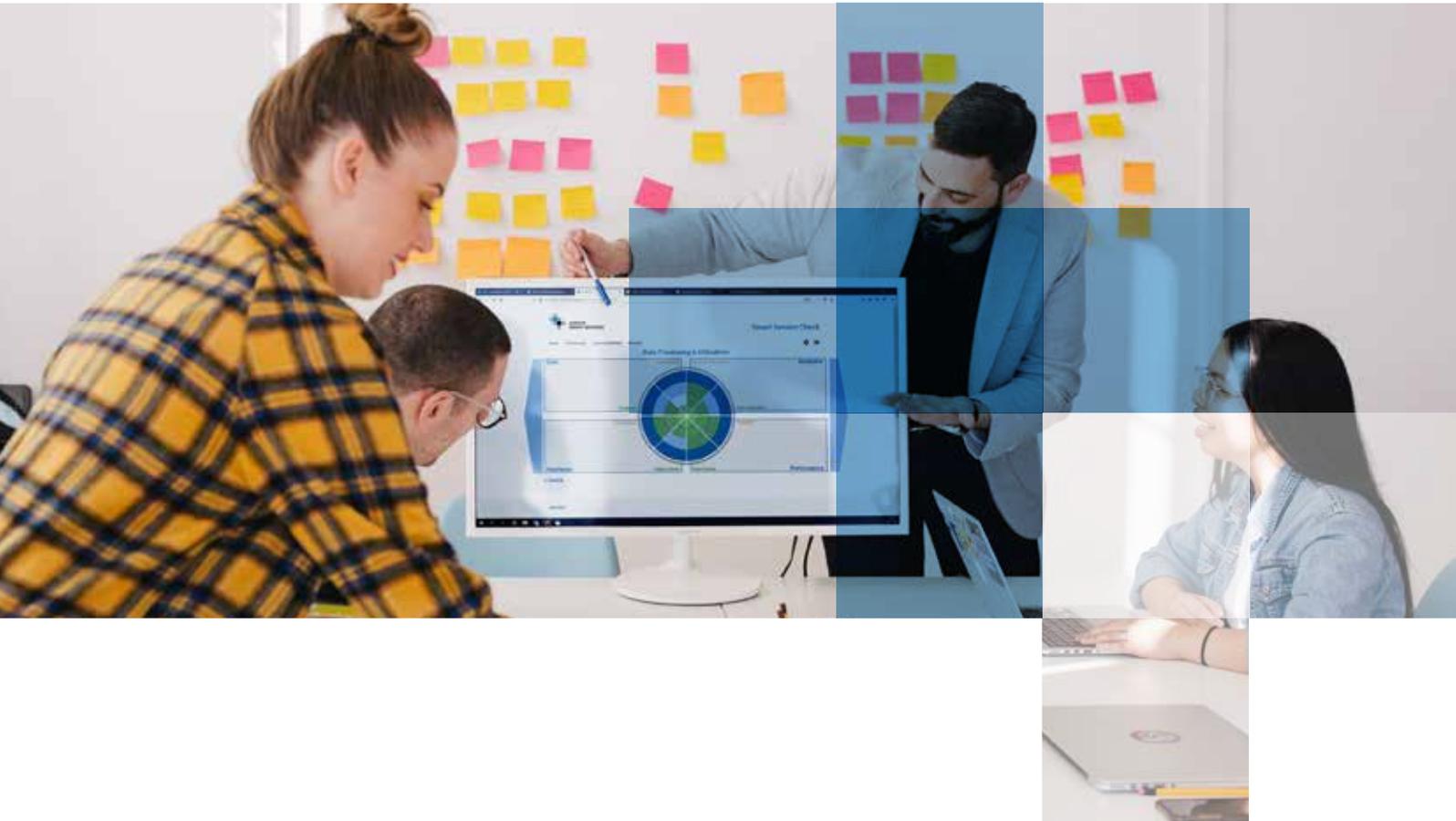




**CENTER
SMART SERVICES**



Smart Service Check

Quick assessment of the digital service portfolio

Motivation and challenges

Smart services

Smart services are digital services that evaluate and interpret data collected by interconnected products in order to generate benefits for customers and providers. The key is to look at the data in the right context.

A frequently mentioned example of a smart service is the analysis of operating data to optimize maintenance and repairs. Smart services have the following characteristic properties:

- Customer- and benefit-oriented
- Analysis of data for performance optimization
- Ideally available for the customer at any time and any place
- Fast release cycles and high scalability

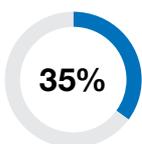
Challenges

When digital services are successfully implemented, both customer and provider benefit from the exchange of data and information in the long term. However, the complexity of digital services presents companies with the challenge of taking a holistic view of the relevant levels of action during development and coordinating them with one another.

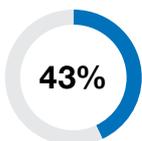
Providers face the following challenges:

- A systematic approach to development is missing
- The value chain architecture is unclear
- Ensuring connectivity for data transfer
- Creation of the technical infrastructure for data acquisition and storage

Number of failed market launches of different products and services



... of all newly introduced industrial goods, i.e. **products** in the capital goods industry, fail in the first year.^{1,2}



... of all newly introduced **industrial services** fail in the first year.³



... of all newly introduced **digital services** fail in the first year.^{4,5}

Is the development of smart services associated with a significantly higher risk or is success only a question of the right development approach?

¹ Kahn 2013. The PDMA handbook of new product development; ² Cooper 1995. Benchmarking firms' new product performance & practices

³ Castellion 2013. New Product Failure Rates; ⁴ Interview Siemens Digital Factory (Mai 2016); ⁵ Demirkan 2015. Innovations with Smart Service Systems

Overview

Benefits of the Smart Service Check

In a two-day workshop we support you in determining your digital maturity level and guide you in the systematic development of a market-ready digital service portfolio:

- Guidance on the systematic procedure for building a digital service portfolio
- Evaluation methodology for the survey of the smart service maturity level
- Development of new smart services
- Overview of the relevant fields of action and derivation of concrete measures
- Continuous progress through regular completion of the Smart Service Check

Regulatory framework

Based on the acatech study “Smart Service World” from 2015, the relevant design levels for the successful development of a digital service portfolio are examined.

The three design levels, each with eight dimensions, are detailed enough to allow a complete 360° assessment of the necessary skills.



The relevant design levels

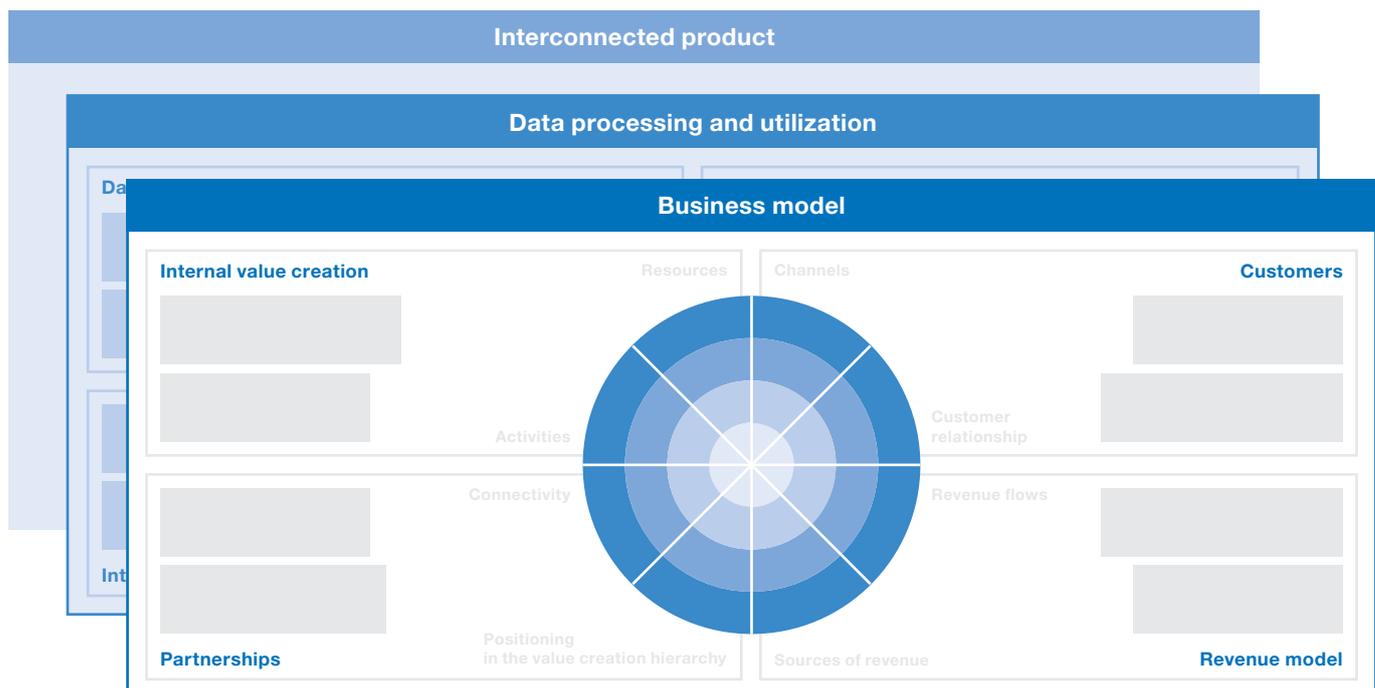
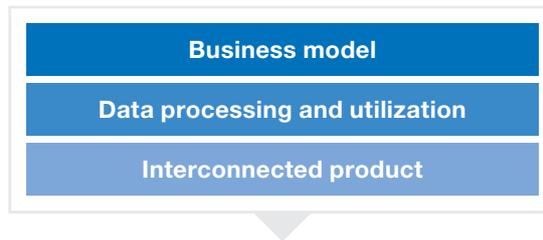
Levels of action

When conducting the Smart Service Check, the design levels “business model”, “data processing and utilization” and “inter-connected product” are considered. A joint consideration of these three levels is essential to establish a sustainably successful new service product because the full potential of a smart service can only be exploited through the interaction of the individual dimensions.

Business model

The top level analyzes the business model built around the smart service.

One of the associated fields of action is that of “internal value creation”. This shows how the value added of the smart service is generated. On the one hand, this requires activities that are necessary for the provision of the smart service and represent value for the customer, such as the systematic recording and evaluation of machine parameters. On the other hand, resources are required that are necessary for the provision of the activities, such as employees, machines or software.



Detailed consideration of the 24 fields of action and their coordination with each other as the basis for the development of a successful digital service portfolio.

The relevant design levels

Data processing & utilization

The next step focuses on all important aspects of data processing and utilization.

The field of action “data” focuses on the data itself. Two questions are answered:

- Which data is already available?
- In what quality are these data available?

The field of action „analytics“, on the other hand, describes the capabilities, ergo the analysis methods, for the implementation of the smart service.

Interconnected product

The lowest level focuses on the physical result. This provides the data relevant for the other two levels and represents the user interface, which is also one of the fields of action.

It is recorded on which channels the user can communicate with the physical product and how high the degree of automation of the communication is.

On the one hand, it must be recorded with which medium the interface is used, e.g. an app, voice bots or touch panels on the product. On the other hand, it is relevant how automated the communication between human and object is.

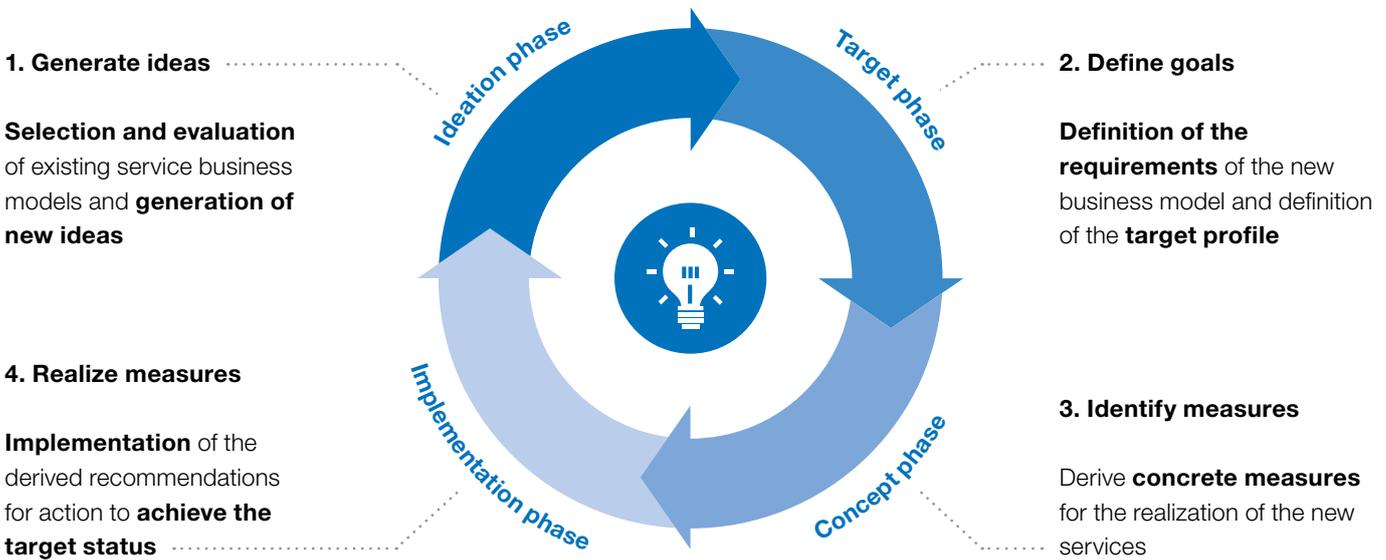


Project procedure

Project schedule

We will go through the Smart Service Check with you for your digital service portfolio. You will be supported from start to finish:

From brainstorming for a smart service to determining its maturity level to deriving action plans and implementing them. With the proven procedure of the Smart Service Check, you can gain an overview of how your company is positioned and how you can leverage potential for improvement in the shortest possible time.



Standardized procedure for rapid evaluation and expansion of digital service portfolios



Implementation Quickcheck

Ideation phase

In the first phase of the workshop, the idea for new digital services is developed. Already existing projects are evaluated and matured or new ideas are generated.

In order to guarantee the future success of the digital service, customer needs are also analyzed in this phase and taken into account when evaluating ideas.

Outcome

- Concrete idea for a customer-centric digital service

Target phase

Based on the previously generated service ideas, in the second phase the target state required for realization is defined for each of the 24 dimensions.

The detailed consideration of the individual dimensions not only breaks down the complexity of digital services, but also achieves a clear presentation of the essential fields of action. The clearly defined objectives allow you to keep a clear focus throughout the entire project.

Outcome

- Detailed overview of the defined target states of all relevant dimensions

Concept phase

In the third phase, the digital maturity level is determined. For this, the current status quo is analyzed and compared with the previously defined target states. The resulting deviations are translated into concrete measures for action.

With the tool provided as part of the Smart Service Check, the current status can be documented. By filling out the corresponding fields, it is immediately apparent where your company is already well positioned and where there is still room for improvement.

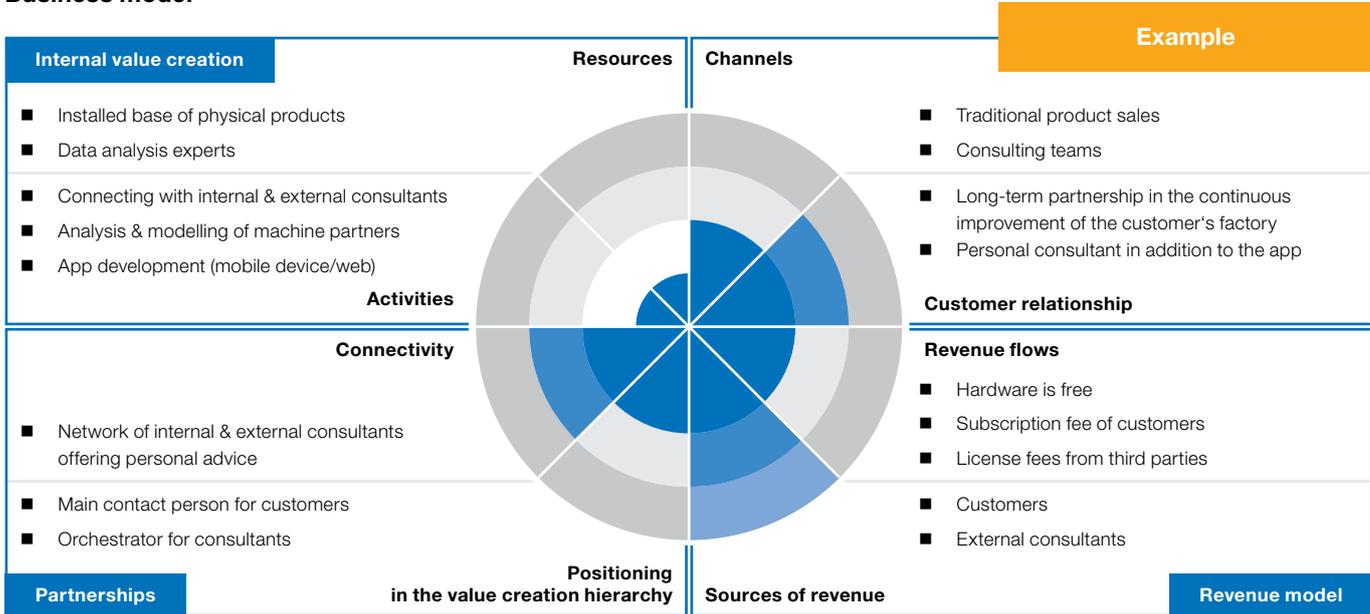
Outcome

- Determination of the current digital maturity level
- Derivation of concrete action measures



Implementation Quickcheck

Business model



Example of derived action measures based on the previously determined digital maturity level ¹

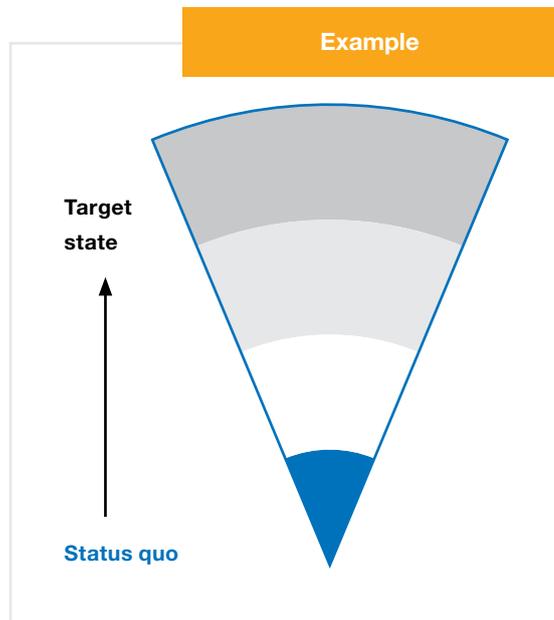
Implementation phase

The measures derived in the conception phase are transferred into an overall roadmap and the responsible stakeholders are familiarized with the corresponding goals and action requirements. With the help of the Smart Service Check tool, the current progress can be recorded and clearly displayed.

Outcome
<ul style="list-style-type: none"> Clear presentation of improvement potentials Creation of a clear guideline for action

Business model → internal value creation → activities

Target state
<ul style="list-style-type: none"> Networking with internal & external consultants Analysis & modelling of machine parameters App development (mobile device/web)
Measures
<ol style="list-style-type: none"> Collecting test data of > 10 products (period 2 months) Creating and testing of predictive models Hire app developers (team of 3 experienced people) Identifying of internal employees Qualification of internal staff for advisory tasks



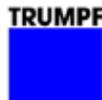
Exemplary determination of the digital maturity level by comparing defined target states with the current status quo to derive recommendations for action ¹

Proven procedure

Your advantages

Benefit from the expertise of the Center Smart Services from 5 years of Smart Service Check and the knowledge from numerous projects on the evaluation and development of digital services.

The Smart Service Check has been developed and tested together with leading industrial companies to ensure the high benefits of its use. Among the partners who have supported the development and use the Smart Service Check are:



Further literature

The Smart Service Check procedure also convinced VDI/VDE Innovation + Technik GmbH and was therefore included in the workbook "Das Geschäftsmodell-Toolbook für digitale Ökosysteme" ("The Business Model Toolbook for Digital Ecosystems").

In addition to explaining the levels of action, a detailed example is used to show how the Smart Service Check can be used successfully in practice.

Service portfolio

- Two-day workshop at your site or at the Smart Logistics Cluster
- Determination the current digital maturity level of your service organization
- Development of concrete measures to realize a marketable digital service portfolio
- Access to the Smart Service Check online tool

Conditions

- Implementation fee 11,900.- € plus travel expenses and sales tax

Online portal

Start developing your smart service portfolio with exclusive access to the free online portal of the Smart Service Check. Capture your ideas and current progress in a clear display and see straight away what your action needs are.



www.smart-service-check.com

Organizers/Partners



Smart Logistics Cluster

The objective of the Smart Logistics Cluster on the RWTH Aachen University campus is to make complex interrelationships in the areas of logistics, production and services tangible and researchable. Focused on a completely new form of intensive on-site cooperation between research and industry, the Smart Logistics Cluster views complex value chains from a new, holistic perspective. To this end, the entirety of the internal and external flows of goods and information as well as the exchange of services is examined.

www.cluster-smart-logistik.de



Center Smart Services

The Center Smart Services develops marketable data-based services together with its members. The offering addresses companies from the mechanical and plant engineering and manufacturing industries that want to tap into new business areas with smart services or use modern methods of data analysis (e.g. machine learning) to put their data to good use. The Center's services include the development and application of methods for designing digital business models, advanced training offerings and industrial services for the introduction of digital business models in companies.

www.center-smart-services.com

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Sources

Title: You X Ventures/unsplash.com

P. 3, 5-7: fauxels/pexels.com

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