

IMPULSE

Drivers of innovation for digital business models

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Impulse: Drivers of innovation for digital business models

This impulse presents the current status of discussions within Plattform Industrie 4.0's Working Group on Digital Business Models. It is meant to serve as a basis for further discussions and cannot be considered final.

Plattform Industrie 4.0's new Working Group 6

The discussion of Industrie 4.0 contribution to value creation is increasingly focusing on mechanisms and architectures of digital business models. Key questions being discussed by government, scientists, business associations and the social partners alike are the added value of digital business models to German industry, and how it can increase Germany's competitiveness and quality of life. Plattform Industrie 4.0 has therefore set up a new Working Group on Digital Business Models in Industrie 4.0 to address these questions and provide stimulus for action.

Understanding and realizing opportunities in the industry

Our objective is to develop a collective understanding about the components and mechanisms of digital business models and about their opportunities. We will identify use cases of digital business models which already exist on the market and will analyse the dynamics of the value creation networks. This impulse presents initial results from our expert workshop on drivers of innovation in the manufacturing industry.

What are digital business models?

The focus of the working group is on digital business models. By looking at use cases on the market and building on scientific expertise, we seek to identify typologies of digital business models.

We define business models in accordance with Osterwalder and Pigneur (2010), as follows: "A business model describes the rationale of how an organization creates, delivers, and captures value." This typically includes the value propositions, the value creation architecture, a partner network, and the profit model. Customer segments, channels and relationships are summarised in the customer concept. According to Jaekel (2015), digital business models in value creation architecture are characterised by their focus on data and analytics, and they typically organise their partner

network as a scalable ecosystem via platforms. This goes hand-in-hand with a transformation of the value proposition (products and services) and the profit model (cost structures and revenue). One of our tasks will be to assess how applicable this definition is for the manufacturing industry.

Added value of digital business models

Digitalisation has been around in industry for a long time now. Up to now, the focus has primarily been on improving operational efficiency, facilitation of quality control and cost reduction. This includes:

- Speeding up and simplifying (production and logistics) processes to achieve cost reductions
- Facilitating greater scalability by raising the share of software in the product, often in conjunction with the use of platforms
- Use of network effects (when certain types of platforms are involved)

Sensors, integrated software and communications technology etc. have been used in the manufacturing for many years now to make physical products increasingly smart. Products, machines and communication infrastructure are growing closer together to become the Internet of Things and Services. They are enabling the development of (new) smart services based on the use of data. Value creation is based on new customer – centric experiences originating from the combination of smart products and smart services. Here we can observe a significant difference to the platform based digital business models in the B2C space.

Smart services, i.e. personalised services create these new experiences which are set to differentiate in competition going forward. This includes, for example, self-driving vehicles that do not have accidents, trains that are always on time, machine tools that alert the operator of ways how their work can be optimised, and smart dialysis machines that prolong patients' lives and also improve their quality of life.

SMART PRODUCTS



SMART SERVICES



NEW EXPERIENCES



Source: Frank Riemensperger, accenture

In order to be a leader in the global competition for data-driven B2B2C business models, data need to be made commercially usable to enable new value propositions. What's key is that we extend our focus from products and production to smart services. The formula is: Smart Products + Smart Services + New Experiences.

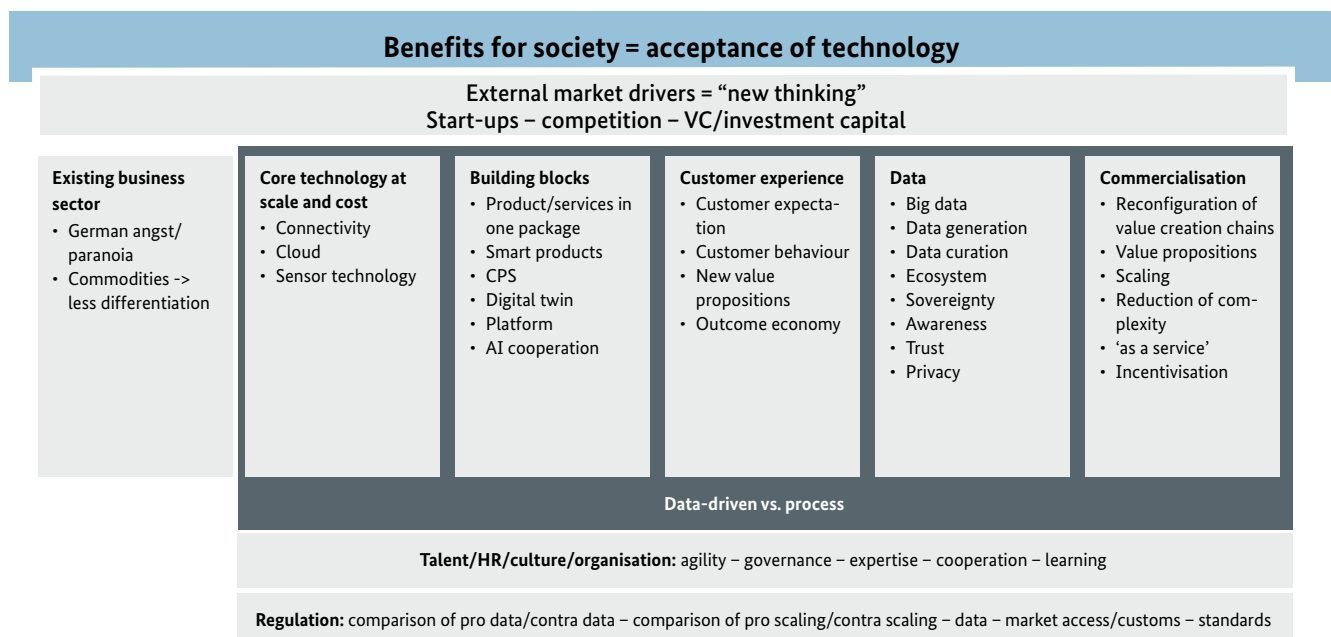
Artificial Intelligence is set to open a new era of value creation through processing and analysing data generated in real time operations. The ability to bring together industry and data expertise will distinguish winners and losers in the race for market leadership.

To build on its strength in Industrie 4.0, Germany needs a thorough understanding of digital business models. This implies the identification of drivers of innovation and to orchestrate them smartly. A basic overview developed by our experts is provided below.

Divers and enablers of digital business models

Competition and innovation are key drivers and of course the aspiration to preserve the core. Availability and affordability of key technologies are the basis.

Drivers of innovation for digital business models



Source: Plattform Industrie 4.0

Experts agreed that we are on the cusp of a major economic transformation where customer expectations, value propositions, and an outcome economy are the drivers of a new order. The building blocks in this transformation are smart products, platforms and ecosystems, as well as digital twins – all based on improved (omni-)connectivity and technological progress around greater speed and miniaturisation. The quality of data (the “raw material”), the operating system, and the governance structure then make the difference. And the right regulation is also crucial in order to provide the best possible operating environment.

People as key drivers of innovation for digital business models in manufacturing

A key result of our expert workshop is that the ability to succeed in competition depends on the ability to orchestrate a value network. Placing a focus on drivers of technology and competition is often not enough – the human factor – from the mechanical engineers to the administrative staff – is also crucial in this success.

Literature

Jaekel, M. (2015): Die Anatomie digitaler Geschäftsmodelle, Springer, Heidelberg

Osterwalder A., Pigneur Y. (2010): Business model generation, Wiley, New Jersey

