Digital Transformations

A massive challenge for the
established management

Our kids look up to different idols nowadays. They don't perform on actual stages or play on football fields – they are YouTube stars like Felix Kjellberg, better known as PewDiePie, with more than 40 million followers. You haven't heard of him yet? Then it might be that you are already failing to see other developments in digital transformation, as well.

by Klaus Birklbauer

As one of this magazine's readers, you are probably amongst those whose task it is to structure transformation in this VUCA world. The prerequisite to doing that is to understand the developments and connections. Generally, the level of involvement with digital transformation (from now on only abbreviated as DX) is shown in the latest study conducted by IDC (for Austria):

14% **Resister:** skeptical or without DX awareness, reacting only ad hoc.

40% **Explorer:** has noticed the necessity of DX, runs only uncoordinated individual projects.

23% **Player:** has formulated DX objectives and strategies, focus is on existing competitors.

21% **Transformer:** DX is part of company culture, develops digital products and services.

2% **Disruptor:** disruptive visionary, works with entirely new digital business models.

Old hat with clout

The term »digital« might be old hat, but it is especially striking now: Premium end devices are available for (almost) everybody, since it costs US$ 10 to manufacture an Indian tablet, for example. Well-performing Internet is omnipresent – for five billion people by 2020, making it 50 percent of the entire global population. Google Balloon supports the idea of complete coverage, beginning in Sri Lanka in 2016. Data grows exponentially, like the number of sensors in ten billion networked devices. And we users are big digital gossipmongers, as well – evaluable, networkable.

Hardware is so yesterday

Tomorrow is all about software: The ability to become the leading provider of a whole industry without owning one hotel or taxicab is a well-known fact. 100 million code lines in the embedded software of the Mercedes S Class show battles between developers of luxury cars – hardware as the competitive advantage is being replaced more and more by software. Sensors in wear parts in paper factories inform not only about cost-optimized replacement time. The entire process can be observed digitally. The next step is connected to it: the monetization of data. Digital data,
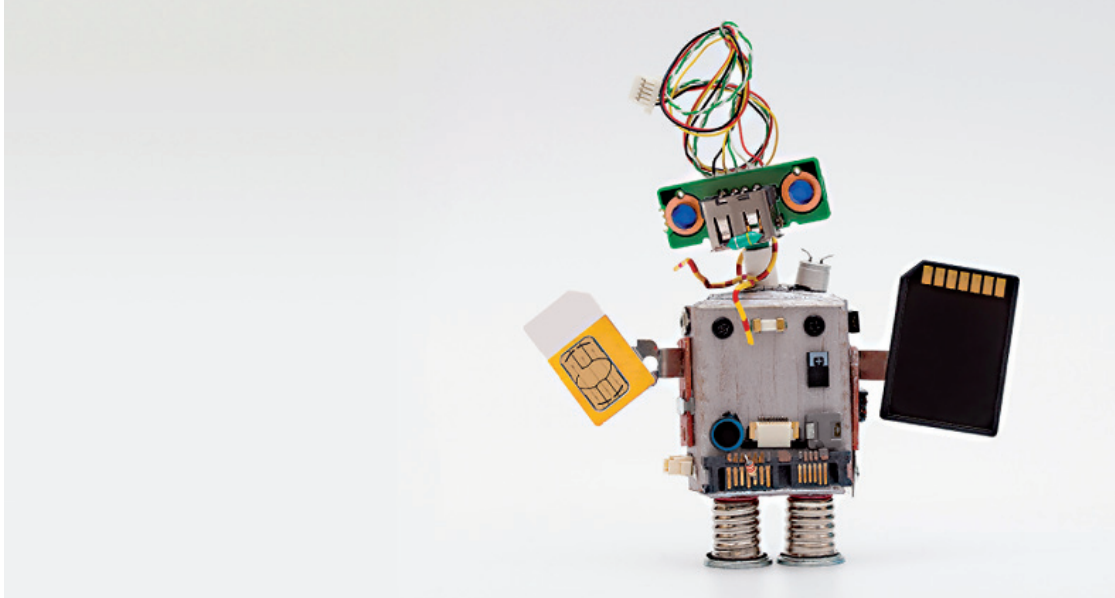
linked and processed, is often of much more value than the wear part, meaning the hardware itself.

DX in the commercial break

Eight out of ten TV commercials show new business models: www.aboutyou.at to search and shop for fashion; www.babbel.com for learning languages on-line; www.weg.de as a place for finding travel bargains; www.misterspex.com for purchasing spectacles, to name just a few. New business models are coming up – in the areas of business, travel, mobility, banking and insurance.

DX and the professional world

There are some exciting topics here: One is that in entirely new organizational forms, one's own em-ployees interact with collaborating robots. Another one is that the limits of companies are opening up and staff on demand enables new ways of working: www.clickworker.com provides a network of 20,000 micro-jobbers in Austria (800,000 worldwide). Most of them earn below € 5/h. At www.designcrowd.com, you have access to 500,000 graphic designers around the world, and www.upwork.com hosts 15 million freelan-cers. When we visited the headquarters of the latter in San Francisco, we learned about a lot of upcoming

new services for bigger companies as well as a labor union for freelancers in the U.S.

Lots of other DX buzzwords

Industry 4.0 – the cyber-physical link between the real and digital worlds, enables us to look at the physical world through digital eyes, identifying patterns in com-plex processes, organizing autonomously and making decisions. This also leads to a new understanding of the human-machine interface. The Internet of Things enables a whole new field: Internet of Services (IoS).

Big data and artificial intelligence (AI)
Both are fed by giant data lakes of users' sensor and digital moment data, compiled and enhanced using algorithms. To understand AI more profoundly, it helps to have a more structured view.

Artificial narrow intelligence (ANI)
Sometimes referred to as Weak AI, which specializes in one area like doing speech processing or beating the chess champion.

Artificial general intelligence (AGI)
Often called Strong AI or Human-Level AI, it is as smart as a human across the board – a machine that can per-form any intellectual tasks that a human being can. ▶

»The electric light did not come from
the continuous improvement of candles.«

Oren Harari

———

Today, computing power is at the level of a mouse; in 2020, it will be at the level of one human, and in 2040, at the level of all human beings, which is an effect of exponential growth.

Artificial superintelligence (ASI)

Oxford philosopher and leading AI thinker Nick Bostrom defines superintelligence as »an intellect that is much smarter than the best human brains in practically every field.« The consequence of ASI: Articles like this one are going to be obsolete.

Virtual and augmented reality

These two also provide a link between the real and digital worlds. Several use cases for travel, POS, assembly and repair works are already in place. And virtual reality is of course applied in games: The manufacturer of virtual reality spectacles Oculus Rift has become a unicorn in less than two years (and was bought by Facebook).

Linear human brain and exponential growth

Most trend forecasts on the effects of DX fail whenever exponential growth happens. In 2005, we had 0.5 billion IoT – sensors connected to the Internet – in 2015 we had nine billion and by 2020, experts foresee 50 billion things being connected, providing data and receiving messages. This will have big impacts on our economy. We're moving from a »scarcity« economy to an »abundance« economy, basically from ownership to access. This will require a massive transformation of many business models. We can already see these effects in trade, banking, insurance and mobility. Many other fields will follow soon, like healthcare. This will need a new operating system as well as a new setup in organization and leadership.

A task for management

How should those transformations be dealt with? Best start with DX awareness and understand the current and upcoming reality, the logic and purpose of the company, as well as the transformative purpose. The drivers of transformation are both classic and new at the same time:

Strategy

In the past, a strategy was long-term and aimed at a clear strategic objective, but today's unpredictable developments demand more, perhaps even contradictory strategies, that also need to be modified »on the fly.«

Agile organization

All agile organizational models have some core elements:
— Focus on self-reliance and transfer of decisions close to customer interfaces.
— Roles and governance processes replace fixed job profiles.
— Dialogue and decision-making processes are very different from the old hierarchical forms.
— Management has to provide purpose and meaning. It also has to manage a comprehensive and effective information flow and overall understanding.

Although many buzzwords/developments have been mentioned here already, you will find more of these trend-setting terms and what they are about when you flick through this issue of Change Magazine. And they all are transformations that will affect you – in one way or another. There is no sense in closing your eyes or avoiding engaging in these topics; change is coming. So, be curious and explore what digital transformation already offers – it truly is an eye-opening experience. ●