iSCM INSTITUTE
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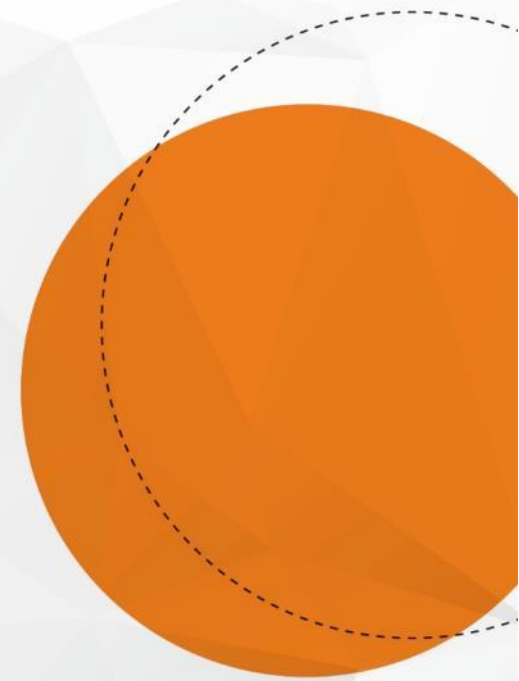
University
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Management

GfK Verein

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Digital Transformation – the Big Bang of the 21st century for the Technology Industry

Managing the paradigm shift in the technology industry
by creating digital & connected value networks driven by
a new dimension of customer centricity!

A Research Project of GfK Verein in cooperation with GfK & iSCM

January 2018

Responsible: Ronald Frank

GfK Verein
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Digital Transformation –
Methodology & Management Summary

Digital Transformation in the Technology Industry

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Agenda

Digital Transformation - the Big Bang & global megatrend for the technology industry in the 21st century!

Dear Reader,

With digital transformation the complete technology industry as well as our society is finally moving from the industrial into the digital age. The known USPs are changing from production/production management & know-how towards infrastructure & partner management driven by client centric value chain networks. Therefore most of the known business models will change significantly too.

Suppliers, vendors, distributors & wholesalers, resellers, retailers as well as e-tailers have to face these digital challenge together for staying "digitally relevant" for their customer base. Linear structures value chains will evolve into flexible as well as highly efficient value networks, competing against each other.

Industrial Society
USPs are production management, production processes & know-how

Individual information and communication management will enable new, virtual and flexible cross company collaboration. The digitally transformed value chain network is „front-end" focused and put the real customer needs in the center of all kind of activities. This is resulting into a new level of customer centricity along the entire product life cycle. Disruption, this means the generation of added value whilst reducing costs will become a vital competitive factor.

Robotics, rapid prototyping, additive production technologies or voice controlled technology on one side as well as (Industry) Internet of Things & cloud based business models on the other side will change the competitive relationship in technology markets elementary towards more and more "asymmetric competition".

Against this background, the GfK Verein joined forces with the Institute for Information & Supply Chain Management (iSCM) at the University of Applied Management as well as GfK to conduct a survey of experts from across ten countries and aimed to reveal the challenges and opportunities facing the technology industry due to digital transformation.

Digital Society
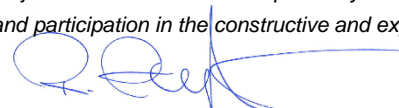USPs are digital infrastructure, connected processes, IT & organizational know-how along the entire supply chain network

More than 150 experts working in ten countries and belonging to the senior management teams of renowned technology companies were questioned in structured interviews about their opinions of and expectations.

I would like to take this opportunity to thank all the experts who took part in our research project. I would also like to express my thanks to the GfK Verein & GfK for their assistance and participation in the constructive and exploratory discussions.

Yours faithfully, Prof Rudolf Aunkofer PhD

Digitale Transformation - der „Big Bang" & globaler Megatrend für die technische Gebrauchsgüterindustrie im 21. Jahrhundert!

Sehr verehrter Leser,

im Zuge der digitalen Transformation vollzieht die technische Gebrauchsgüterindustrie wie auch unsere gesamte Gesellschaft den Wandel vom Industrie hin zum Digitalzeitalter. Die bekannten wie gelernten USPs verschieben sich von Produktion/Produktionsmanagement & -Know-how zugunsten von Infrastruktur & Partner Management innerhalb kundenorientierter Wertschöpfungsnetzwerke. Die meisten der heute bekannten Geschäftsmodelle werden sich auf das Nachhaltigste verändern.

Zulieferindustrie, Hersteller, Distributoren & Großhändler, Systemhäuser, Retailer wie E-Tailer müssen sich dieser digitalen Herausforderung gemeinsam stellen, um für ihre Kunden „digital relevant" zu bleiben! Linear strukturierte Wertschöpfungsketten entwickeln sich zu flexiblen wie hoch effizienten Wertschöpfungsnetzwerken, die zueinander in Konkurrenz stehen.

Individuelles Informations- wie Kommunikationsmanagement ermöglichen eine neue, virtuelle und flexible Zusammenarbeit über Unternehmen hinweg. Das digital transformierte Wertschöpfungsnetzwerk stellt das individuelle Kundenbedürfnis in den Mittelpunkt und ermöglicht dadurch eine neue Dimension der Kundenorientierung über den gesamten Produktlebenszyklus hinweg. Disruption, d.h. die Generierung von Mehrwerten bei gleichzeitiger Kostenreduzierung wird wettbewerbsentscheidend.

Industrie Gesellschaft

USPs sind Produktions-Management, Produktions-Prozesse & -Know-how

Robotik, Rapid Prototyping, additive Produktionstechnologien oder Sprachsteuerung einerseits, (Industrie) Internet of Things & cloud basierte Geschäftsmodelle andererseits, werden die Wettbewerbsverhältnisse in den technischen Gebrauchsgütermärkten elementar zugunsten eines „asymmetrischen Wettbewerbs" verändern.

Vor diesem Hintergrund hat der GfK Verein zusammen mit dem Institut für Information & Supply Chain Management (iSCM) der Hochschule für angewandtes Management und der GfK eine Expertenbefragung in zehn Ländern durchgeführt mit dem Ziel, Chancen wie Herausforderung der digitalen Transformation für die technische Gebrauchsgüterindustrie zu evaluieren.

Über 150 Experten des Senior Managements namhafter Unternehmen wurden mittels strukturierter Interviews zu ihren Einschätzungen & Erwartungen befragt.

Digitale Gesellschaft

USPs sind digitale Infra-struktur, vernetzte Prozesse, IT- & Organisations-Know-how entlang dem gesamten Supply Chain Netzwerk

Ich möchte mich an dieser Stelle auch bei allen teilnehmenden Experten wie auch bei GfK Verein & GfK sehr herzlich für die Unterstützung & den konstruktiv-explorativen Dialog bedanken.

Hochachtungsvoll, Ihr Prof. Dr. Rudolf Aunkofer

Digital Transformation
is effecting the technology industry & supply chain on global level

GfK surveyed 150 senior executives & senior management

France: 2,465,453.98

Germany: 3,466,756.88

UK: 2,618,885.69

Spain: 1,232,088.19

China: 11,199,145.16

US: 18,569,100.00

Italy: 1,849,970.46

Korea: 1,411,245.59

India: 2,263,522.52

Brazil: 1,796,186.59
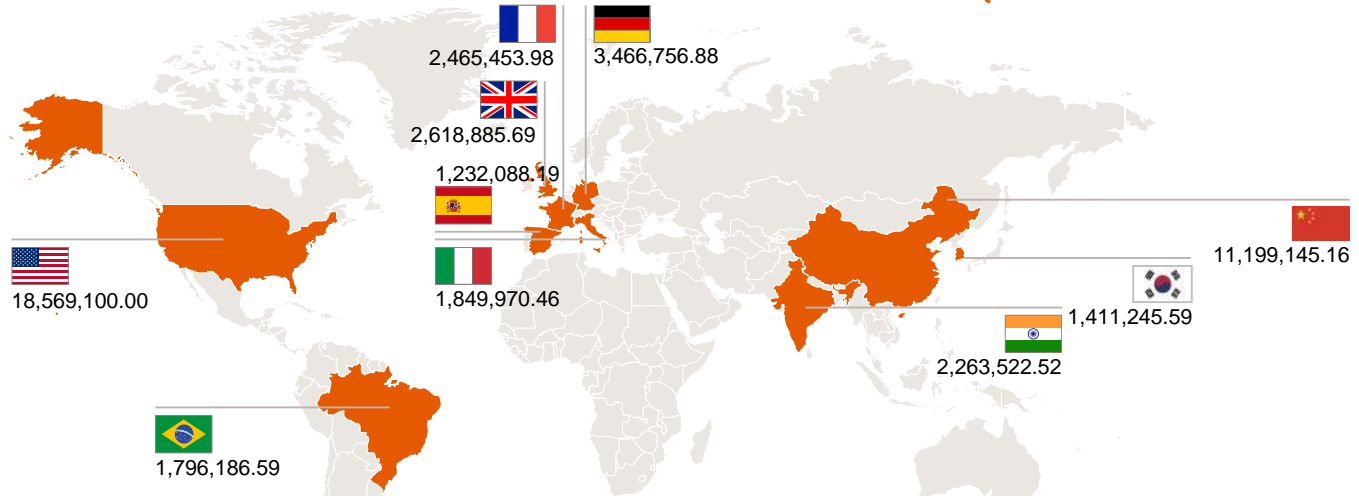
10 Markets

Germany, France, UK, Italy, Spain,
US, Brazil, India, China, Korea

150 Experts

leading vendors &
major distributors

62% GDP

the 10 markets surveyed represent more
then half of global economic power

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US) 2017; The World Bank for GDP, 2016

Examples of companies from participating senior executives & senior management

Information Technology

Consumer Electronics

Digital Transformation

Appliances

B2B & logistics

Telecom

Sports

Digital Transformation – a game changer for the technology & durables industry

The fundamentals of most of our known business models are challenged

T

Times of Change
Digital Transformation, especially digitization, is disrupting the complete tech industry, its value chains & most of the known business models

H

Holistic Strategy
Successful transformation requires a holistic strategy approach to create & sustain a digital market & customer relevance

E

Empowering Culture
The human factor and its ability to create a unique value proposition, needs a culture of empowerment to become the decisive factor

Source: GfK, iSCM

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Digital Transformation – the transition from industrial characterized value chains into digitally connected value networks

Companies have to accept the paradigm shift to create adapted & new business models

B — Basic Principles
Successful disruptive innovations are usually based on three of these four principles: (partly) digital, scalable, connected, virtual

I — Integrated Structures
Corporate structures have to enable a new digital mindset, by implementing a flexible, project oriented, lean organization & agile processes

G — Genuine Processes
Companies have to accept, that digitized processes are completely different to traditional ones. Simply copy & pasting the old ones no longer works

Source: GfK, iSCM

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Digital Transformation – a customer centric & flexible connected value chain network is the basis for competitiveness
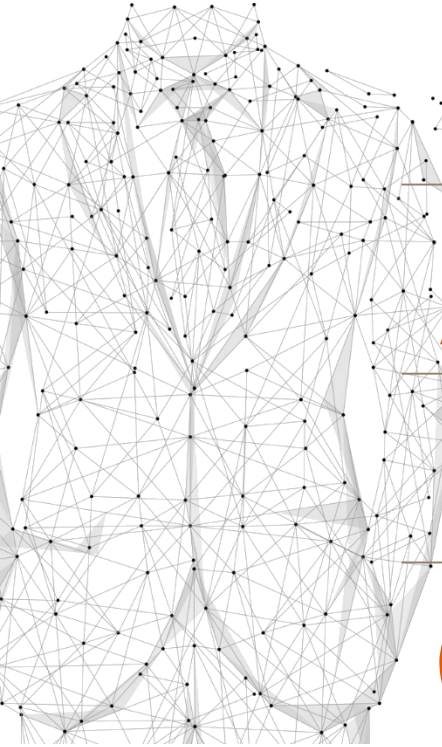
B **Bilateral**
Contracts & agreements are becoming more & more bilateral due to oligopoly like markets structures and tailored contract relations

A **All-Inclusive**
The channel will transform to a kind of all-inclusive "experience & service points", demonstrating products, supporting & educating customers

N **Networks**
Vertical integration of & collaboration with services & business functions will be the basis for competitive value chain networks

G **Guidance**
The industry has to guide their entire value network from a customer centric perspective by connecting relevant business partners

Source: GfK, iSCM

Digitale Transformation – Paradigmenwechsel für die technische Gebrauchsgüterindustrie

Die Grundlage der meisten, bekannten Geschäftsmodelle wird in Frage gestellt

T — Times of Change
Digitalisierung führt zum Paradigmenwechsel in der technischen Gebrauchsgüterindustrie, ihren Wertschöpfungsketten & Geschäftsmodellen

H — Holistische Strategie
Erfolgreiche Transformation benötigt einen holistischen Strategieansatz um digitale Markt- wie Kunden-Relevanz zu schaffen & zu erhalten

E — Empowerment als Kultur
Der Faktor „Mensch" benötigt Empowerment, um als entscheidende Größe unverwechselbare digitale Relevanz in der Marktpositionierung zu schaffen

Digitale Transformation – der Übergang von industriell geprägten Wertschöpfungsketten hin zu digital vernetzten Wertschöpfungsnetzwerken

Unternehmen müssen den Paradigmenwechsel für ihre angepassten, neuen Geschäftsmodelle akzeptieren

B Basis Prinzipien
Erfolgreiche disruptive Innovationen nutzen i.d.R. min. drei der folgenden vier Prinzipien: (zumindest teilweise) digital, skalierbar, vernetzt, virtuell

I Integrierte Strukturen
Unternehmensstrukturen müssen mit einer flexiblen, projektorientierten, schlanken Organisation & agilen Prozessen digitale Denkweisen zulassen

G Genuine Prozesse
Unternehmen müssen akzeptieren, dass sich digitale Prozesse komplett von traditionellen unterscheiden, ein Kopieren dieser ist wenig zielführend

Source: GfK, iSCM

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Digitale Transformation – ein kundenzentriertes, flexibel vernetztes Wertschöpfungsnetzwerk ist die Basis für Wettbewerbsfähigkeit

B — Bilateral
Verträge wie Vereinbarungen werden aufgrund oligopoler Marktstrukturen & individualisierter Vertragsbeziehungen mehr & mehr bilateral

A — All-Inclusive
Der Einzelhandel wird sich zu einer Art „all-inclusive Experience & Service Plattform" zur Produktdemonstration & für Kundensupport entwickeln

N — Netzwerke
Vertikale Integration von/Kollaboration bei Services & Business Funktionen innerhalb Wertschöpfungsnetzwerken schaffen Wettbewerbsfähigkeit

G — Guidance
Die Industrie hat ihr gesamtes Wertschöpfungsnetzwerk durch die Vernetzung relevanter Partner kundenzentriert zu lenken

Digital Transformation - The Big Bang of the 21st century Statements
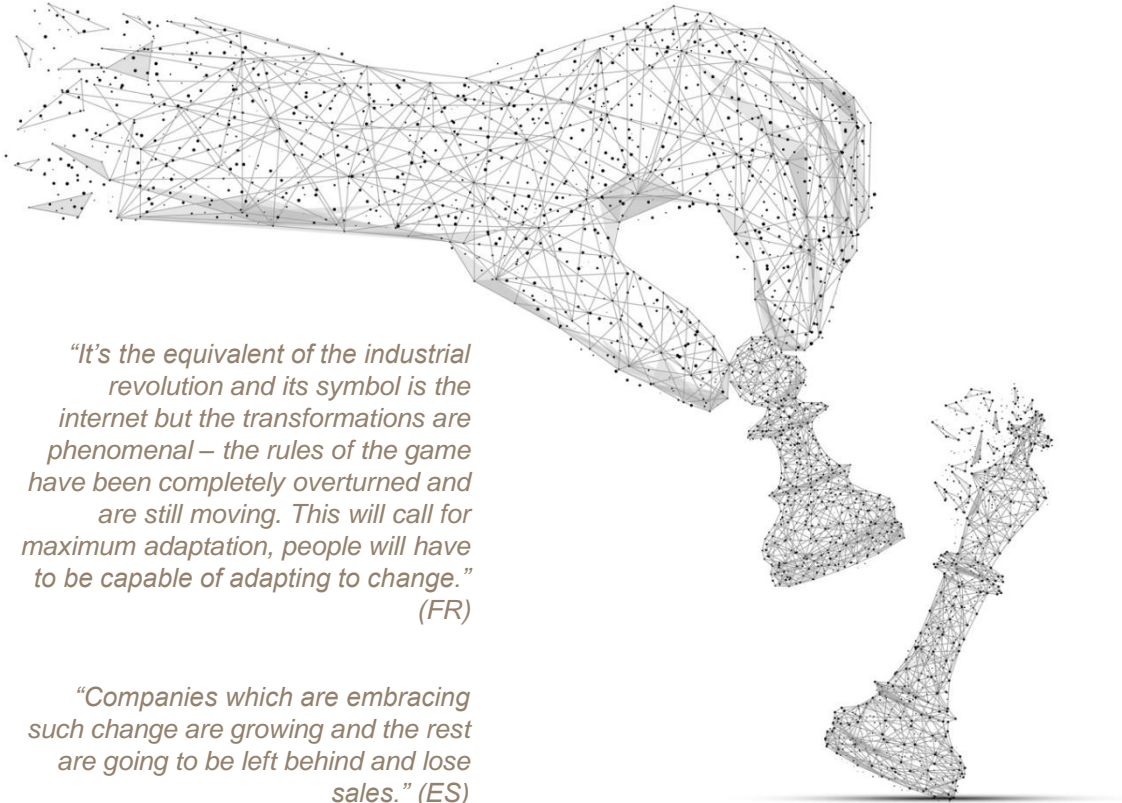
"It's the equivalent of the industrial revolution and its symbol is the internet but the transformations are phenomenal – the rules of the game have been completely overturned and are still moving. This will call for maximum adaptation, people will have to be capable of adapting to change." (FR)

"Companies which are embracing such change are growing and the rest are going to be left behind and lose sales." (ES)

"Everything is becoming digitalized and/or systematized these days including work and daily life. We need to follow and adjust as quickly as possible." (KR)

"All developed tools are changing the fundamental ways of doing business itself; so we being an organization which helps people to adopt the technology we really need to be skilled in newer technology and obviously to provide the solutions to the customers." (IN)

"Digital Transformation is a regular thing, it is adapting to a new environment that has resulted in a very helpful way to communicate with our clients. The new players have changed the market completely" (ES)

The 1st global mega trend of the 21st century

A paradigm shift for the technology industry

A future scenario for the technology industry

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

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Digital Transformation –
the 1st global mega trend of the 21st century
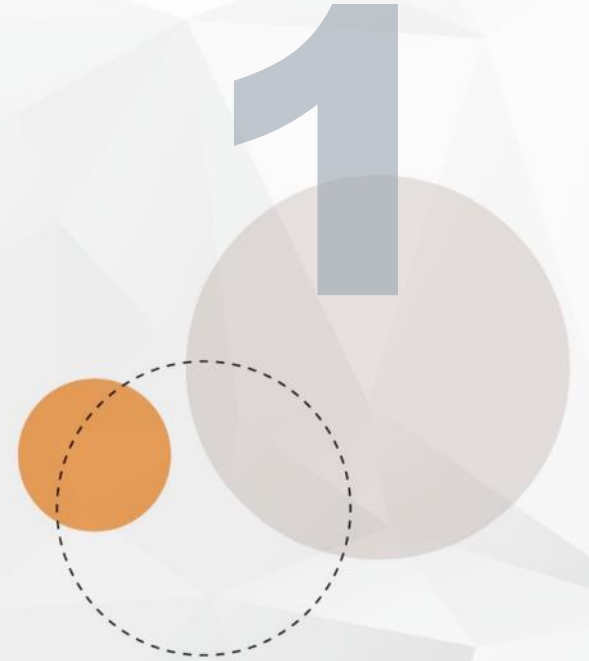
The tech industry is facing a change of paradigm due to digital transformation

A global phenomenon which affects all areas of today's reality

1 **The world** is rapidly changing into a digitally connected place – due to new ITC technologies available to nearly everybody

2 **People** are changing their behaviors (e.g. communication, media usage, purchase decisions etc.) by adopting new technologies

3 **Companies** are realizing that it is crucial to understand this shift of paradigm in order to tackle its challenges & use its opportunities

working definition:
Digitalizing & redesigning business structures & processes that were not digital before in order to increase efficiency, improve customer experience & gain better customer centricity!

"Those who haven't understood what digitalization is about, won't survive."
(DE)

Digital Transformation disrupts traditional & established business models

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

Digital Transformation challenges the fundamentals of most of our known business models

Four crucial dimensions to align the entire company to the digital environment

"I can't think of any part of the company that would not be affected by it." (DE)

"It's a holistic approach with people and processes to transform everything digitally." (US)

Business Strategy

Corporate Culture

Corporate Structures

Business Processes

"It's the biggest revolution humankind has ever gone through." (BR)

"It affects the whole framework, the general conditions of our work and will develop continuously." (DE)

Transforming companies to achieve organizational agility is key to face rapid changes in the market

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

Digital Transformation has to be an integral part of the corporate strategy, it's not an end in itself

Business Strategy

Digitalization is seen as a **strong driver for growth** – therefore it is pursued vigorously; implementation of CTO roles/clear responsibilities are a consequence

The **need, to realign the strategy** strongly, depends on how strong the orientation towards digital channels has been before within the company DNA

Key challenge: **thinking digitalization through from end to the end** – across all business areas & markets for anticipating interdependencies

"I believe you can only have an advantage in terms of implementing strategies if you're also at the cutting edge of new technologies." (DE)

Companies with dedicated digital strategies are expected to show a stronger growth momentum

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

Basic principles for entrepreneurial success every CTO has to guarantee in CEO strategies to drive digital transformation

Disruptive innovations are usually based on minimum three of these four principles

Digital – re-designing & engineering of new, simplified (partly) digital, connected & cloud based business models, value networks & business processes

Scalable – global digital platforms guarantee constant or declining marginal costs across industries & markets; disruptive innovations are scalable in terms of users or content

Connected – network effects multiply industry as well as customer benefits & enable exponential growth within a short period of time

Virtual – ownership or access to cloud advanced infrastructure as backbone of a digital business model (often in combination with "traditional" logistics for e.g. physical shipments to customers)

The elementary basics to transform business models & process is available literally for peanuts and therefore accessible to volume markets.

Digital infrastructure is a basic need of growing 21st century societies such as power supply about 100 years ago.

Companies start to tap their full potential in new & attractive markets.

Strategic objective: creating digital relevance to survive & win transformation processes

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US); iSCM

Business Strategy Statements

"Our organization has made preparations to adapt to the digital transformation. For myself, it includes the redesigning of the IT processes etc. We will take one step at a time to adapt to the transforming industry." (CN)

"Our organization has kept up with the technology pace, thus there is no specific department that is affected. We are all used to it." (CN)

"Since we have our new CEO, both our corporate strategy and our mission have changed: the future is now, so we are focusing on developing cloud solutions, IoT, Artificial Intelligence based projects and services." (IT)

"There are these technological leaps which mean that all this is normal, we have no choice but to go with the technological flow, so of course we're ready!" (FR)

"We formalized acceleration, we set a strategic direction of innovation, and we set stages. We are on the path but we haven't reached the point of digital transformation." (US)

"Our corporate strategy has already set the basis to fully embrace DT" (ES)

"We are investing heavily in that end-to-end customer journey for our business to ensure that our customers can touch us digitally across the whole piece' (UK)

"It's quite a slow process, I think we still need time, things are changing, but it's a bit hard, it's a cultural change, not easy" (IT)

"When we launch a commercial operation, we ensure that it is geared towards all our channels, and the digital one comes first". (FR)

"We appointed a Chief Digital Officer as the first step, who has built a transformation plan to take all of our existing processes and communication vehicles inside the corporation and to convert them into digital means within the next 24 months." (US)

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

Corporate structures have to enable & support the new digital mindset, especially in large enterprises

Corporate Structures

Corporate management is pushing forward digital transformation with committees, teams, working groups and installing a **CTO/CDO dedicated to the topic**, enabling the company to better use digital technology

Digital business models require a **clear global guidance** & set of rules as well as empowerment of local business entities in terms of customization of products & services

Digital value chains/networks ask for **dynamic, flexible, and simple organization models** (e.g. reduced hierarchy levels) to enable & guarantee a new level of (digital) client centricity

"We now have around 90 people dealing with digital communication, B2C projects, digital marketing…" (IT)

→ Transforming companies to achieve organizational agility is key to face rapid changes in the market

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US); CTO: Chief Transformation Officer; CDO: Chief Digital Officer

Consumer Electronic & Home Appliance industries expecting a strategic realignment

Industries are spreading on a continuum between strategic realignment & digital repositioning

lot of "analogue thinking"	… in between …	**mainly "digital thinking"**

lot of "analogue thinking"

- being been part of an industry, which is manly driven by a non-digital environment
- non-digital products & processes are dominating the industry
- lack of digital knowledge

… in between …

- Previously been part of a partly digital, partly non-digital environment
- Digital processes established but potential to develop further

mainly "digital thinking"

- been part of a digital driven environment
- digital processes are established already
- tailoring processes to gain speed, quality & customer focus

strategic realignment

HA   CE

evaluation of traditional & new opportunities

"We've been guiding the Digital Transformation from the first day our company existed. We actually create digitalization in the sense that we connect consumers." (DE)

improvement of existing digital processes

IT   Telco

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

Corporate Structures Statements

"We've got one employee who exclusively takes care of developing an adequate process optimization regarding our migration. And we benefit from that since this isn't something you can do along several other things." (DE)

"We recognized the industry is only going to go in one direction…and we change the staffing over time to follow…we're the same kind of numbers, but a different deployment that things change, you naturally migrate roles, not necessarily people but roles from being on the physical side to being more likely to be on the digital side of the business" (UK)

"We now have around 90 people dealing with digital communication, B2C projects, digital marketing …" (IT)

In the marketing aspect, there will be more digital marketing tools and strategies coming out as everyone has a mobile phone, which means consumers are able to check a brand or a product anytime they want. Therefore digital marketing will secure more budget than traditional marketing." (KR)

"We are in a transition process of having all our structures fully digitalized, both in human resources as well as in processes so that everything works naturally, but the overall corporate structures will remain as they are now" (ES)

"We are very heavily investing in our IT structure…selling on the web is just something that is overtaking retail now, as more people buy stuff online than they do in retail, and there's some sort of merger between retail and e-tail, with click and collect. But we see the trend going further and further away from web, and into app-based purchases. So we're investing in apps, for our products" (UK)

"We have set up a strategy planning department, which is one of the major structure changes and we are placing importance in it. We are still developing in this area, thus there may not be any changes shown yet. Once our system is developed, I believe it will help us to identify new growth or new opportunities." (CN)

Digitalization of existing business processes is top of mind, because entire company is benefiting from this

Business Processes

Digital process optimization with partners, suppliers, distributors, retailers, retailers & e-tailers as well as customers is key, **to gain simplicity & efficiency** along the entire supply & value chain/network

Digital processes enable companies to achieve a substantial **cost reduction and simultaneously to gain better product quality** for improving customer experience (e.g. payment of bills, implementation of customer feedback loops)

Digital processes have to enable **a fast, flexible & agile working culture** for speeding up product design as well as development cycles & deployment to achieve a better competitiveness in markets

"We're currently launching a new ERP system. But there are even more simple things: We don't use one single platform for sharing data yet. So the idea is to replace old local data architectures by cloud solutions so all our staff can access all data from anywhere." (DE)

Improving the digital infrastructure is the 1st step into a digitally transformed enterprise

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

Business Processes
Statements I

"In the past, when signing contracts with suppliers, we needed a physical paper with stamps from both sides, which was necessary to move on to the next step of ordering and purchasing, so the entire process would be delayed for 7 to 14 days. Now, we use digital contracts though a supplier platform, to allow our suppliers to put their signature on it directly and retrieve it online. This can be completed in an hour or two. This greatly reduces our time spent on getting a new supplier online and increases the speed of putting our products online." (CN)

"As a result of digital transformation, PLC management can be more simply done. In other words, we can shorten distribution time." (KR)

"For example, the supply chains of both parties would be able to connect. In the past, both parties managed their own stock and were unable to share between themselves. We now have EDI, which many other companies are using now. When information is shared between upstream suppliers for supply chain, we get a clearer understanding on our supply chain. It becomes clearer when we plan our sales promotion, stock and production. Our suppliers would understand our demand and pace, as well as seasonal changes, and plan their own production pace. We then can plan our stock and weekly reports depending on the stock condition and suppliers' production situation of our up-stream factories." (CN)

"Yes, there are changes and impacts to the way some of the traditional processes are being handled. Digital transformation forces people to rethink and redesign the process flow." (CN)

"Every business process is now online, so if I have to get approval, my manager is sitting in Singapore and all the work flow gets managed from there; his man-ager sits in the US; our manufacturing is in China, but we are all connected through a work process which is digital and that's the best part about the digital transformation." (IN)

"Infrastructure that we have from an IT perspective is really critical from end-to-end. From the supply chain management right to the understanding of what happens at the cash register of our partners." (US)

Business Processes
Statements II

"Orders are in real time, we also have a huge storehouse where orders are connected to goods in stock, so that product availability is checked in real time, and through our management software storekeepers' turns and movements can be optimized… logistics have definitely changed!" (IT)

"Digital transformation will bring about more meticulous management, in the sense that our sales department are able to predict sales figures and allocate the needed product quantity, unlike in the past. Information flow is smoother as well." (CN).

"We already have their system connected to our systems so that such information can be translated into useful recommendations for our clients." (ES)

"If a consumer or a corporate wants to consume services of 20 different vendors today, even if it is on cloud, he has to go to 20 different sites, 20 different ways of catering to services. The beauty is that Telecom handles a unique platform based on which the APIs are developed with different service providers." (IN)

"We're already wondering whether we should test direct sales on the internet without using an intermediary for distribution. We have a huge partnership with our distributor at the moment but nothing is stopping us from making this change – lots of people are doing it so why not us? Though it's baby steps for now." (FR)

"As cloud services are generalized in even server or storage business, one person or one team is capable of managing more. Therefore instead of traditional door to door sales, platform based e-commerce business will develop more as it is more convenient." (KR)

"The time from design to development to deployment sped up. It sped up the decision process and it simplified the communication of that decision. That meant we could run projects faster and that gave us a competitive advantage." (US)

The human factor is the decisive factor making digital transformation a success story for your company

Corporate Culture

"If you want to take your staff on this journey, you need to consider the emotional side to it. There are often fears and not every employee sees digitalization as something positive, but maybe rather as a threat." (DE)

Communication (company & individual level) is key, to generate a company wide willingness to embrace change; management has to **secure people's qualification, confidence & participation** by demonstrating the individual benefits for generating trust

Active promotion of a basic shift in mindset to accept the paradigm change **from "stability" to "dynamics"**: getting used to a continuous change instead of a one-time transformation project

High employee participation should turn digitalization into a kind of **"joint venture" with employees**, by giving the opportunity to actively shape new structures & processes for e.g. spending working time more meaningful & productively

➡ **An open minded culture for change drives a fast adoption of innovations across employees**

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

The combined tech & company know-how is key to successfully manage the digital transformation process

Tech opportunities have to be tailored to the company's needs & capabilities

(Digital) technology expertise & foresight

In-depth expert knowledge related to digital technological feasibility like e-commerce or app-based platforms, search & analytics methods, content marketing, social media, search engine optimization, …

→ looking for the latest tech solutions

→ development of a holistic technology strategy

→ implementation of technology

1

merging both factors for company success

+

2

Company insights & market understanding

Holistic know-how about company specifics, their evolution & hidden limitations as well as organizational structures & processes in relation to the market development

→ implementation of "green table" solutions into the company organization

→ understanding the impact of the transformation process on the company performance

→ ensuring (long-term) success of business activities

often done by a team of newly hired tech specialists

in practice market consultants or long-time employees

Activities have to be benchmarked with competition & market trends for generating digital relevancy

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

The tech industry needs a new set of professional & personal skills from their employees

University of Applied Management

GfK Verein

Know-how & skills are the limiting factors in any digital transformation process

1 **New hires**, esp. young staff with latest digital skills & understanding of the new business rules (winning the digital avant-garde)

2 **Continuous training** (in-house & external) for equipping own staff with the skills necessary; improving & building-up company-internal know-how and a visionary mindset

3 **Leave the comfort zone** with learning & training by cooperating with external consultants
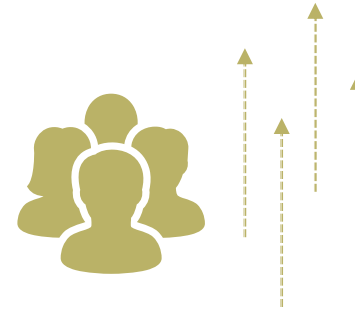
"Often know-how is already there, but employees must be given space to be creative and unleash their potential." (DE)

"There is no such thing as complete knowledge – there will also be a lot to learn. That's why we see ourselves as a learning organization." (DE)

➡ Living an open, entrepreneurial, flexible & dynamic corporate culture is essential for transformation

Corporate Culture – examples for turning digital transformation into kind of "joint venture" with employees

Management have to act as a digital pioneer

showcasing the added value, making sure, staff is able to understand their individual benefit

internal marketing & communication campaigns

prepare staff for their new digital environment, e.g. processes

e.g. leaving tiny messages/ post-its on coffee machine, fridge or screens that demonstrate the benefits of digitalization

client centricity: teach staff how to think from a customer perspective & understand their new needs in a digital transformed market place

trainings aiming at digital competences, how to understand & use the new technology

encourage participation & feedback to management

fostering a digital culture where digital feedback to management is possible at every step of the transformation journey

task forces for developing efficient internal processes, how your staff would really like them to be in the future

Internal communication of the transformation journey is a CEO responsibility to shape the new culture

Corporate Culture Statements

"A strategy is quickly changed. The challenge is to make sure that employees do what they're supposed to do. They're still the same people as before. It really requires a change in their mindset & attitudes." (DE)

"The company that doesn't develop this new culture and these internal competences to keep track of processes, will be left behind." (BR)

"You must be open-minded towards these transformations, that's why I told you about the talents - the internal development from the acquisition of other people - because it requires such a big mindset change; to keep remodeling premises on a daily basis over time, in every process of the company." (BR)

"Definitely. Our corporate strategy few years ago is to embrace and immerse our organization with the change of the internet and information landscape." (CN)

"This doesn't necessarily mean renewing our teams, but instead bringing digital culture to our staff." (FR)

"What digital transformation does is, from a reactive you will become proactive." (IN)

"Everybody is an empowered worker and has access to the same digital team" (IN)

"So before digital transformation, a transformation of human mind has to happen in India if we have to really enjoy this digital transformation, which will take time." (IN)

"Once the data is digitalized, anyone can access it. It would be open for everyone. Whoever accesses the data can gain insight. Easier access to data will make overall corporate culture become more flexible and open." (KR)

"Corporate culture is changing towards mobility and training of personnel in DT. Workers have been provided with mobile devices so they can perform their tasks from any place and be more efficient." (ES)

The understanding, how supply chain networks are working is the pre-condition for making your own value network competitive

»

In a digital business environment

with myriads of alternatives, disruptive innovations and

unrelenting technological progress,

the only sustainable USP is learning & acquiring new

knowledge.

Companies can duplicate your products, use your

technology infrastructure and re-design your processes,

instruments & workflow almost instantly.

But as long as your organization is understanding,

learning & acting faster than theirs, you will always

remain ahead in the race for the customer.

«

Source: iSCM

2

Digital Transformation –
a paradigm shift for the technology industry

Across industries, the ICT sector is clearly perceived to be a first mover, adopting new technologies fast

Insurance sector

Consumer Electronics

Automotive

Household appliances

Travel sector

Production industry

„... ready for Digital Transformation ..."

Trade

Telecommunication

Sports

B2B

Information Technology

Each sector has an individual adoption rate for digital technology

The ICT industry benefits from an early digitalization of their core business as well as from their "ready-made" digital strategies

The technology adoption rate is specific to the different industries

digital first movers

The ICT industry – especially the IT industry – drives Digital Transformation with dedicated solutions like cloud, XaaS or UCC

Especially e-tailers are focusing on individualized targeting/marketing with especially B2C customers; they see "digital" as core competence for their companies

Service industries are looking for "complete" digitalized purchase journeys (e.g. portals) & integrated digital services

digital laggards

Lack of digital orientation of business models & solutions. Limitations due to physical products & long development periods.

To change structures is taking a long time, which is slowing down transformation.

"Being a small player, we're not the ones defining the standards. Therefore it's okay for us to be early adopter regarding topics that are not part of our core competences. The effort necessary in order to become first mover in such things isn't worth the hassle." (DE)

➡ Companies need a digital transformation road-map to keep pace with the rapid technology change

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

Within an industry sector, leadership and courage is needed to align activities and create a new set of digital assets

Success factors have to match a digital connected eco-system with an increasing number of mobile devices

success factors

→ transparent setting of priorities for (digital) investments

→ clear focus on business sectors

→ recognizing the opportunities and impact of (digital) processes

→ systematic establishment of new structures across the company

→ defining digital transformation teams pushing digital initiatives forward

→ in-house experts for testing & final process implementation

→ reviewing the entire product portfolio for digitalization

the "mobile" factor

usage of mobile devices changes the way in which companies cooperate along their supply chain network:

internally

→ mobile access creates a modern & flexible working style

→ "always-on" delegates accountability & increases responsiveness

externally

→ detailed & 24/7 information access for partners

→ instant response time towards customers
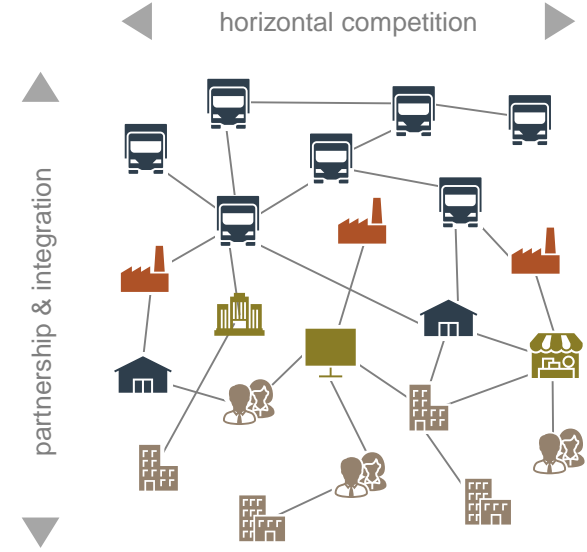
→ "mobile first" approach for marketing

→ "Doing" is by far more important than "perfect planning" in a digital world with myriads of opportunities

Connectivity along the supply chain network will shift negotiation power towards the customer

Consequences of digital transformation on the different levels of the connected supply chain network

Industry
→ production on demand
→ small series production
→ diversification of assortment
→ product bundling & virtualization

Distribution & Wholesale
→ globalization, M&As
→ vertical cooperation
→ transformation into digital market places

Retail/E-Tail/ Reseller
→ same day delivery & 24/7
→ focus on customer experience, e.g. showrooming
→ omni-channel presence

Customer
→ convenience & simplicity
→ decreasing loyalty
→ volatile demand cycles

horizontal competition

partnership & integration

Change of perspective:
the new customer centric model replaces the old production centric model

Digital transformation puts the customer in the center of the entire supply chain network

Retail/E-Tail/
Reseller

Industry

Distribution &
Wholesale

Real-time data & analytics leads to customer centric, individual & just in-time production

Industry landscape
2030

Industry

M&As & further consolidation towards strong brands; challenge of R&D resources and internationalization

increasing number of new & innovative competitors due to low market entry barriers

vendors will follow an omni-channel approach with own online shops and flagship stores in addition to the traditional channel

health & security as industries with the highest growth expectations

➡ The industry has to guide their value chain network based on real-time data & predictive analytics

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

Tailor-made mass production will be the ultimate strategic industry objective

Industries have to balance standardization and customization for maximizing ROI

mass production & standardization

… in between …

tailor-made services & customization

mass production & standardization
- reducing & keeping costs low
- convenience of usage based on standardized products
- looking for economies of scale
- high level of automation
- high usage of industrial robots
- outsourcing of production

… in between …
- combination of traditional & additive production technologies
- centralized production in low-cost countries
- (partly) assembling in key-target markets
- striving for high automation levels

tailor-made services & customization
- flexible small series & prototype like production
- diversified product range
- customized services & solutions bundled with standardized products
- localization of product-service bundles
- decentralized production in major target markets

strategic objective of cost leadership

"price-performance" as a strategic option

strategic objective of innovation leadership

IT & Telco industries are tech-driven, Home Appliance & Consumer Electronic industries are application driven

Industries are showing a clear, but different focus

technology & efficiency

IT   Telco

→ **digital products & services** (sw, cloud, XaaS) replace physical products turning distribution & logistic business models upside down

→ hardware becomes more & more a **commodity**: OPEX driven leasing concepts replace CAPEX driven ownership concepts, resulting in radically different sales, consultancy & invoicing concepts

→ **seamless integration** of service solutions & product bundles into a cloud (public, on premises, hybrid) based technology backbone

→ **end-users** have increasing influence on B2B hardware purchase decisions due to consumerization effects

convenience & simplicity

HA   CE

→ **connected, smart products** are state of the art, even if clear user benefits & use cases are still questionable

→ **product ownership** will still be relevant; however subscription, leasing & sharing business models will gain further shares in the market

→ **a centralized hub** (open technology platform, cross-platform standards & app ecosystem) is key for adopting smart home services like linking devices, voice & gesture control in the mass market

→ **lifetime, convenience & ease of use** will drive purchase decision more than price as product-life-cycles will become longer again

→ The next revolution: IIoT & Industry 4.0 will change the known industry landscape completely

Distribution landscape 2030

Distribution & Wholesale

distributor's business model will become solution driven; being a service provider & solution enabler will replace pure "box moving" step by step

consolidation & internationalization will continue with M&As and cooperation along supply chain networks due to tight margins & scalable cloud services

vertical integration along the supply chain will take place due to a general "bridging role" (taking over functions from vendor & channel) between industry & customers

business migration into regional or global digital marketplaces offering a wide range of trusted product quality & services to customers (channel & enterprises)

Distribution is the core (logistic) element for being competitive in a digital world with physical products

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

Trust based on service performance & quality is the key asset for shaping the future role of distribution & wholesales

University of Applied Management

GfK Verein

Distributors have to create a unique customer experience for benefiting from digital driven opportunities

threats

→ **vendor direct sales** to the channel or SME & large enterprise customers (as well as consumers)

→ **digital products** distributed via cloud, automated updates as well as direct customer feedback

→ **just-in-time production** & predictive maintenance reduce the need for (high) stock levels

→ **e-tailers** addressing the channel with broad assortment, low price levels & free shipping

→ **B2B activities** of internet giants like Amazon foster vertical integration skipping distribution

→ increasing number of **returns**

→ expectation of **same/next day delivery**

→ increasing demand for HW integration, services & consultancy due to a **complex infrastructure**

opportunities

→ *"single point of order"* for a cross-vendor, full - service solution portfolio incl. know-how & consultancy

→ *"single point of contact"* for especially B2B customers for complaints, returns; consolidation of different accounting models into one bill

→ *"single point of organization"* for an overall finance & life-cycle management

→ becoming an **integrated solution provider** by bundling products across vendors (e.g. cost per seat solution)

→ providing **decentralized logistic functions** especially in rural areas

→ **go-2-market partner** especially for small vendors

→ Distribution & wholesales will be the center of any customer driven supply chain management

Channel landscape 2030

Retail/E-Tail/Reseller

Industry

Distribution & Wholesale

Retail/E-Tail/ Reseller

transformation towards a seamless omni-channel approach in addition to limitation in retail space and focus on a showroom function (customer experience)

IoT and digital assistants will foster a shift towards e-tail by self-ordering function and direct link to shops/brands

specialized 'niche player' will gain ground in the traditional channel: focused product range, in-depth know-how & consultancy

a better understanding ropo* customers and their information, decision & buying/purchase process in will be a decisive differentiating factor for sales success

The channel will evolve to a set of experience points, demonstrating products & educating customers

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US); *ropo: research online & purchase offline

A clear focus on customer experience & customer centricity will re-invent the channel: resellers, retailers as well as e-tailers

Augmented reality will create a smooth cross-over between the real world & artificial (product) worlds

reinventing the channel

→ **fast digitization** of own in-house processes; especially retailers & resellers tend to lag behind the new digital capabilities; target: to drive efficiencies aggressively

→ **close cooperation** along the supply chain network with knowledge transfer in both directions to make best use of customer & sales information (e.g. for avoiding out-of-stock situations)

→ **embracing the omni-channel** approach by opening web shops, running flagship stores or pop-up stores, or opening traditional stores; target: to gain stronger market presence & visibility

→ **introduction of new business models** (e.g. leasing, sharing, subscriptions, XaaS) along the complete product life cycle to gain relevance

understanding the customer

→ **real products experience** (& personal contact in B2B) is still a primary need
+ show room, live shows & events (e.g. cooking)
+ product demonstration & testing
+ understanding & experience for (I)IoT

→ **providing added value** to very well informed (prospective) B2B & B2C customers
+ better & more in depth consultancy
+ training for getting real in-house tech-experts
+ giving clear purchase guidance to customers

→ **offering "additional" services** to increase (an in general decreasing) customer loyalty
+ on-site services like installation, repair, maintenance, hotline, tech-expertise, first use assistance, …
+ individual shipments like delivery, pickup-point, drop-points, same day delivery, guaranteed delivery time, …
+ simple returns handling & RMA processes

→ The channel USP: "selection function", making a complex product & service landscape transparent

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

Customer landscape 2030

GfK Verein

Retail/E-Tail/ Reseller

Industry

Distribution & Wholesale

Customer

the gadget & experimental driven smart home approach will transform into a benefit driven home automation approach linked to a connected IoT world

"voice systems" like Alexa, Cortana, Bixby or Siri will be game changers due to an integration into information & purchase processes

the acceptance & therefore the demand for cloud & XaaS will increase – both concepts will enter, penetrate & turn the SME market for ICT upside down
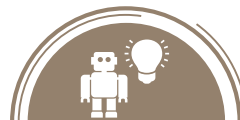
Industry 4.0 & IIoT are creating a strong demand for combined security, computing, storage & infrastructure solutions – especially for large multinational enterprises

➡ Large enterprises lead the "digitization process"; SMEs, SOHOs & Consumers are catching up fast

Real customer benefits & comprehensible use cases are needed, have to be illustrated & communicated – for B2B as well as for B2C

Digital Transformation will be the growth engine for the next decade!

B2B customers

→ **mental open mindedness**, calculable & reasonable migration costs as well as definition of standards are necessary to speed up digital transformation

→ a new (& young) **generation of managers** will increase the speed of migration; transformation will be more ROI driven

→ **clear policies** & rules concerning data security & data ownership (especially if servers are hosted in challenging countries) are needed to get a broad acceptance for digital business models

→ **high cost pressure** will drive digitization by implementing new (digital) innovations for optimizing workflow and complete business models

B2C customers

→ **smart home features** have to be already integrated into products right now, even if the future usage & benefit is not clear due to long product life- & replacement cycles

→ **zeitgeist** meets technical possibilities: consumers are willing to invest, if long-term benefits are clear

→ **marketing & sales** are going mobile:
  + advertising is becoming more effective due to geo-fencing & beacons
  + social media marketing will address customers more individually
  + the complete customer journey becomes mobile driven; virtual & augmented reality enriches touch points
  + electronic price tags will make pricing more flexible, for competing against online
  + mobile payment will replace step by step real wallets as well as credit cards

→ **B2B as well as B2C customers are looking for standardization across digital products & solutions**

Customer centricity and therefore branding will become a decisive factor in any digitally transformed economy

»

In a digital business world, you have to listen to what

your customers is telling you.

Therefore you have to understand & speak the language

of your customers, even if your own language is

different.

Speaking the same language is creating the customer

loyalty & trust needed in a globalized, digital world,

offering numerous alternatives at all times.

«

Source: iSCM

Digital Transformation –
a future scenario for the technology industry

AI is unanimously seen as a key aspect as it will change every single area of life … but it has a scary appeal making the human mind replaceable too

»

I think I feel good about it, it's already happening.

But it's also scary. What are the ramifications for

the economy, for our education system? In some areas it

makes a lot of sense, e.g. medical diagnostics.

Incremental improvements there can have huge

breakthroughs, to the degree that we as humans forget

to think. That can be scary, you know? We already have

a large part of the population that doesn't think, and

taking a large part of the population that already does

think and spends time thinking and saying you don't

have to, is a scary proposition to me.

«

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US)

GfK Verein /// Digital Transformation - The Big Bang of the 21st Century for the Technology Industry /// January 18   52

AI shakes traditional concepts & thinking, it has the potential to take business to the next level …

AI & related technologies are a key-decisive factor in a five to ten years time horizon

Artificial Intelligence

- ... will be a relevant basic technology for all business sectors
- ... will be an omnipresent feature in all kind of software apps
- … will be a huge challenge for our society

Machine Learning

- … is often equated with AI
- … will analyze data in a smart way & take decisions automated
- … recognizes pattern and transfers acquired knowledge to relevant business situations
- … will create a self-optimizing production environment

Cognitive Computing

- … is seen as a part of AI
- … is a powerful paradigm shifting technology which will become inevitable for business
- … is a promising deep-learning technology relevant for business automation

"The future. Basically, it helps with analysis to get more understanding, with faster responses and to be able to crunch a lot of data and information." (US)

"It will happen, it's the future of decision-making." (BR)

"Yeah massive, it actually touches, and will touch, everybody's lives in every particular way that it probably can, and we don't even know. The danger is how to police it, and then secure it, in many respects." (UK)

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US); iSCM

GfK Verein /// Digital Transformation - The Big Bang of the 21st Century for the Technology Industry /// January 18   53

Sharing Economy is predicted to be growing especially in younger generations …

Big data & rapid production is the basis for product customization

Sharing Economy

- … is in vogue, gaining momentum especially in young generations
- … social & environmental aware-ness are additional aspects within this topic
- … has the potential to turn entire industry upside down

Big Data

- … selecting the appropriate data will become a key challenge
- … analytics has to become more tailor-made & targeted
- … with AI & IoT more & more data will be processed automated
- ... companies have to acquire new analytic competences

Rapid Production

- … plays an essential role during the R&D process (with robotics)
- … makes production more agile as basis for customized production of products
- … additive manufacturing will be a key element of industry 4.0

"The concept of utilizing what is being wasted." (KR)

"Increased production efficiency using advanced equipment and digitalized management methods." (CN)

"Customization will depend much on that." (BR)

"Availability of data is no longer the issue. The issue for the future is how to make sense of it and to understand how to get the best from it." (IT)

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US); iSCM

Bitcoin, Gamification or 360° Cameras provoke polarizing reactions …

Nerds are fascinated, but it is difficult to find real beneficial mainstream applications

Bitcoin

- ... view some as an innovative financial system of the future
- … others view it as a short "digital gold hype" that will soon be irrelevant
- … might be relevant for digital payment systems, but with niche potential only

Gamification

- … has a huge potential to be a powerful tool to drive customer engagement
  … is often criticized for lacking clear beneficial use cases
- … provides high promises in combination with augmented reality
- … is just a short hype, say some

360° Cameras

- … show growth especially in the security, marketing & advertising sector
- … have huge potential in combination with VR technology
- … are just nice gadgets lacking a clear long-term value proposition
- … have a moderate potential as "build-in" devices

"Bitcoin will become a new standard in the future." (KR)

"Bitcoin is still lacking momentum, and its benefit still seems questionable for me." (DE)

"Gamification will further increase where products and brand environments provide potential for it. But I have difficulty imagining how these principles will work outside these narrow parameters of entertainment and gaming." (UK)

It will be a basic element of the Internet of Things, in home appliances and security." (BR)

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US); iSCM

Basic (long-term) technology innovations seems to get a bit lost in a customer driven tech industry …

The value of innovation depends on real, beneficial & demostrated use cases

Blockchain

- … is the technical security mechanism behind Bitcoin
- … is still young as technology
- … does promise a lot in theory, but has a lot of limitation in in reality
- … has no known applications for the mass market currently

Beacons

- … is a technology innovation, experts are familiar with
- … have a limited potential only (already beyond its hype)
- … is lacking use cases currently
- … might become relevant for "geo-management" in combination with e.g. drones

FinTech

- … is viewed as a new & emerging technology relevant for finance only
- … has the potential to digitaly disrupt & transform financial institutions
- … is of limited scope for the ordinary consumer/customer

Blockchain is very interesting in theory, but we still need to understand how to use it."
(US)

"It's a buzz word which a lot of people are using…it has a lot of potential applications for data, open source data sharing so I am sure we will see it definitely being used within financial sectors … a network that is being developed but still not moving to applications." (UK)

"Beacon technology still has to prove that there is some true benefit to it, that there are really advantageous applications." (DE)

"A new era of finance, based on algorithms." (IT)

Source: GfK, 150 Expert Interviews (BR, CN, DE, ES, FR, IN, IT, KR, UK, US); iSCM

Digital Transformation – the transition from industrial into the digital value chain networks

» Digital Transformation is offering myriads of alternatives. Therefore, digital Darwinism is taking place: it is not the largest of the companies that survive, nor the most intelligent, nor the most powerful, but the one most responsive to change! «

Source: iSCM

www.iscm.iun-world.com | Institute for Information & Supply Chain Management

www.gfk-verein.org | Think tank for market research

www.gfk.com | One of the largest research companies worldwide