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INFORMATION AND EDUCATION FOR THE

The demand for digital processes of transformation is change management – only information, communication and educational work can make it a success. We have to be innovative to overcome the challenges faced. The transformation process has begun – the question of how it is to be mastered was discussed by Armin Daubmann of Fujitsu, Stephan Kaiser of PAC, Professor Heiner Diefenbach of Fujitsu, Michael Schmidt of H. B. Fuller and Professor Key Pousttchi of Potsdam University (from I. to r.).

Digital Innovation

Disobedience

^{as a} Necessary Virtue



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Our culture celebrates rebels; people who couldn't follow the old rules and struggled to free themselves from the constraints of bureaucratic organizations. Henry Ford, Thomas Edison, and Howard Hughes became icons. In our own era Steve Jobs and Bill Gates achieved the same status. Now we expect the likes of Mark Zuckerberg, Marissa Mayer or Elon Musk to deliver more disruptive ideas.

But, for all our admiration of their courage, most organizations are hesitant to think differently.

Dr. Joseph Reger Fujitsu Fellow Chief Technology Officer EMEIA, Fujitsu

The CIO's role is difficult. They're being told by consultancy companies that they must be the agents of change and the leaders of the digital revolution, but they also have to ensure business as usual, cut costs, and ensure processes comply with industry standards and market needs. They need strategic help to think through how to do the one and how the other. There are conflicting requirements, not always easily resolved.



Peter M. Färbinger

Digital transformation is communication

Digital is not new. Transformation is change management and businessprocess redesign or reengineering. There's no reason for concern, or is there in fact something new? Numerous processes of consolidation, automation, harmonization and virtualization will remain the same, but the infrastructure is changing. What is digital communication?

he innovation brought into being by digital transformation is the communication between all participants. There is no media-switching in the digital future. The economy will be digital - or it will cease to be. The fuel for a digital value-chain is communication or, to be more precise, the ability to have barrier-free communication between users, processes and things.

loT, the Internet of Things, is initially a technical and financial challenge. If every component, from a CNC milling machine and a talking refrigerator, right through to the driverless car, is allocated an Internet address (IP), then that in itself is first of all a technical masterstroke, and then secondly an infrastructure that has to be financed. Analysts forecast that in a few years every "thing" with an end price of more than USD 100 will have an IP chip installed. This means that billions of products and machines will be able to communicate.

Digital transformation empowers a global exchange of information. The transformation process is the digitalization of communication - not at a technical level, but at a semantic level. The syntax is the Internet, where every "thing" (Internet of Things) is issued an IP address. Due to the consolidated infrastructure, it is now possible, for the first time, for mutual "understanding" to evolve. Semantic processes are the added-value of digital transformation. New value chains evolve as a result of new communication channels. Already-existing information can be passed on.

Industry 4.0 is a part of digital transformation. The new area of expertise is largely based on M2M, machine-to-machine communication. It is not machines that are being reinvented, but the exchange of information between the components: the ERP system understands them and talks to production. The transparent factory is a semantic M2M communication network.

The legitimate request for digital transformation processes is change management, which can only succeed with partners who are equal to the task and with a great deal of educational work. In order to resolve these challenges we must be innovative. The digital transformation process has begun, and here we will discuss how to manage it. One cannot take an automated approach to change the organization of structures and of procedures, or to introduce new business processes. The user needs the IT supplier as a partner and consultant during this transformation.

The challenge for users and IT suppliers is the joint creation of digital value-chains. These cannot be generated with a couple of new and faster servers, smart tablets, and panorama monitors. Information technology and the Internet of Things provide the basis for the digital transformation process - but not the solution! Communication channels are not generated by the mass laying of Ethernet fiber-optic cables. New concepts - digital innovations - are needed to enable the factory to communicate with the ERP system and to enable end-users to talk with the Internet shop via Facebook and Twitter. Business processes must be redesigned, jointly with IT providers and consultants. Industry 4.0 can only be the beginning. The next goal is M2M, IoT and empowerment of all value-chains for digital communication without any media-switching. The key to success is communication between users and providers, between suppliers and consumers, and between machines and business processes.

Peter M. Färbinger Editor-in-chief, E-3 Magazine

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The digital transformation process is a "digital tsunami" – everything is changing

Digital transformation and sovereignty

Digitalization eliminates barriers and media-switches, thus enabling the implementation of global communication, which in turn necessitates sovereignty. The free flow of structured and non-structured data is an opportunity, which also goes by the name of big data. A user, an analyst, a university professor, and two representatives of Fujitsu discussed and analyzed the transformation processes.

he following people met at the airport in Frankfurt am Main in mid-September 2015: Information Security Officer and SAP Technical Manager Michael Schmidt from H. B. Fuller; the analyst Stephan Kaiser from Pierre Audoin Consultants (PAC); Professor Key Pousttchi from the University of Potsdam, Director of Application Consulting Services; Armin Daubmann from Fujitsu and Professor Heiner Diefenbach, Vice President Services Central Europe, Fujitsu. During this meeting, the impact and challenges of digital innovation and transformation processes were analyzed. The aim in reproducing this meeting here is to provide a means of orientation in a rapidly changing global economy. The talks were moderated by the editor-in-chief of E-3, Peter Färbinger: the digital transformation process has begun and will change the antiquated structures and organizati-

on of procedures. At the beginning of the year, the digital association Bitkom made the following statement at CeBIT: "Digitalization will lead to fundamental changes in the market conditions of the German economy". In more than half of all companies, the business model will change as a result of digitalization. "But the question that remains largely unanswered is whether digital innovation is disruptive or non-disruptive. One pragmatic answer, generally accepted by now, is "Disrupt or be disrupted".

The Fujitsu Round Table found that tackling digital change is the most important task of management. If IoT and Industry 4.0 change the market model, the company must either adapt or disappear from the market, sooner or later. According to Bitkom, 86% of the top managers interviewed see digitalization more as an opportunity than a risk, and 10% view it more as a danger.

Digitalization is a task for the whole of society. Fujitsu also represents this holistic approach in the round-table discussions. Bitkom demands a greater commitment from industry. To be able to actively shape the digital world, Germany must avoid dependencies and master key technologies. It became evident that both the SAP user Michael Schmidt, from H. B. Fuller, and Professor Pousttchi indirectly support the requirement for more digital sovereignty. Digital sovereignty means that we have our own expertise in central areas of technology - in user-companies themselves, with IT providers like Fujitsu, and ultimately in the whole of society. Bitkom also adds that we must be capable of deciding, in a self-determined and competent manner, between the offers provided by capable and trustworthy partners. More digital sovereignty can only be attained if all areas are more intensely aligned towards digitalization.



Prof. Heiner Diefenbach, Fujitsu: Cooperate in a sovereign way



Prof. Key Pousttchi, University of Potsdam: Challenge Google & Co.

Färbinger: Digital transformation is the current topic of information technology. Gartner analysts are even talking about a "digital tsunami".

Diefenbach: The digital transformation process is extremely exciting. The "digital tsunami" is an accurate description of the situation, because the effects can clearly be felt in both private and business sectors. At Fujitsu, we have been observing this process very clearly and we see that our customers are rethinking the existing business processes. However, "digital tsunami" sounds too technical. What is actually happening is that the business models are changing. We must accept this and help our customers succeed when it comes to this transformation process.

Färbinger: Is it now essential to find the right balance between the technical and business transformation process?

Pousttchi: We are perfectly positioned at the interface. Digital transformation will change how we manufacture, how we provide our logistics, and also how we organize ourselves – and that is already a fair amount of change! But, above all, digital transformation will alter our sales behavior – i.e. how we sell and what we sell. The perspective is currently very much focused on the B2B aspect. Yet, as a counterpoint to this – a point that Mr. Diefenbach's remark already addressed – the life of each individual person is affected. This change

in B2C is dramatically underestimated. When we observe just how life is changing due to smartphones and big data, we can actually gauge the intensity of the change. This will not only affect individual companies but also entire sectors of industry and economies, because market power is being redistributed. In this case, the term "tsunami" is only partially correct. The term correctly embodies and reflects the wave that is rolling over all of us. However, this image of the wave also suggests that coincidence exerts greater influence and strategy exerts less influence. However, I see the exact opposite of this - greater influence exerted by strategy and less influence through coincidence.

>> The world is changing too quickly for us to rely on five-year old know-how from a course of university studies. <<

> Prof. Heiner Diefenbach, Fujitsu

Kaiser: The digitalization of processes began in the 90s, with e-commerce and the development of B2B channels. However, the speed at which these changes now take place is, of course, breathtaking. People use digital media differently today, they communicate differently, buy differently. The importance of data has increased vastly and thus allows new business models. Companies must react to this change, but are partially prevented from doing so by excessive frictional losses and a "silo mentality" of perceived self-containment.

Färbinger: Mr. Schmidt, you come from H. B. Fuller and are a Fujitsu and SAP customer. Can you sense these challenges and the pressure of digital change?

Schmidt: Yes, in some instances this is clearly evident. In our view, the individual not only brings constant challenges into the company, but also makes justified claims. The data exists, but what am I to do with it? Today, everyone wants everything and wants it everywhere. Dealing with IT and data on a private basis results in new situations and requirements. The private environment is put on a par with the work environment. The adage used to be "less is more", but today more data is available and simultaneously less complexity is required. Of course, the aforementioned "silo mentality" should be done away with - it's ultimately a matter of using data sensibly in order to generate a market advantage. The current problem is that there is a great deal of data - but how do I consolidate it? How do I specifically position this data where it can be sensibly used? It ultimately comes down to developing a strategy, because we are not yet quite aware of what is heading in our



direction. We need to ask ourselves what it means if we do not decide in favor of this digital transformation. In my opinion, the greatest challenge is change, namely adapting the existing processes.

Farbinger: In other words, technology is not the challenge but the change and adaptation processes.

Schmidt: Yes. How do you organize these processes? How can you implement a strategy in an orderly way from top to bottom? At present, individual departments are very much the driving force. There is no uniform strategy. We are currently wasting a lot of effort and energy in order to understand or also consolidate the digital transformation processes. One question that remains unanswered is that of where the processes are being driven and controlled from, and by whom?

Färbinger: Do business processes have to be revised and changed?

Schmidt: I don't think that everyone has grasped this. Somewhere down the road, and as a minimum, IT departments will have to take on a leading role as regards technologies. At present, however, there are in general only very medium-term strategies, that are very budget-oriented.

Färbinger: Mr. Daubmann, let's do a reality check. When you visit Fujitsu customers and SAP customers and confront them with the idea of a digital transformation



Prof Key Pousttchi, University

process, what do you experience and what role does the size of the company play?

Stephan Kaiser, PAC: Overall IT responsibility beyond the CIO

Daubmann: It isn't necessary to convince people. If we look at which topics are imminent in real life, it is very often the tasks of digital transformation. Of course, we call it something different, such as the "automation of a supply chain" or "investments in customer relationships" that are based on large volumes of data. We distinguish more when it comes to customer size – for example medium-sized customers, who have to react because they have consumers who want certain processes to be handled electronically. This is where the investment in digital business processes is implemented or the business relationship is lost. Another challenge is posed by the management of relations toward the end-customer – in the B2C sector it is often alarming just how little the supplier knows about his consumers. With respect to revenue – yes, more is known, but, for example, evaluation of till receipts is the exception. In future, the aggregation of all the available data will definitely provide a competitive advantage.

Farbinger: How do you react to this operative challenge of data aggregation within the context of digital transformation?



Peter M. Färbinger, E-3 Editor in chief: All disruptive



Armin Daubmann, Fujitsu: Retail 5.0 with in-memory computing technology



of Potsdam: Genuine big data is rare

Daubmann: In the past, we always placed emphasis on database technology. In-memory computing is a very important topic for us and, in the case of SAP, you can add the retail sector with its countless innovative features at present.

Diefenbach: But who hit on the idea of what could be gained from the data? Can innovations also be turned into money?

Schmidt: There are as yet not many concepts for users. To some extent, there is not yet an instance that provides a clear direction – someone with vision and a strategy.

Diefenbach: That is an important point. There are no strategies. There are stand-alone ideas, but there obviously is no large-scale, overall picture.

Schmidt: Yes, there is a reaction to the digital transformation process, but the long-term objective is lacking. Where am I going? And how do I get there?

Pousttchi: We have been told that data is like a jewel, but it can also change into the opposite. Namely if we find that the scenarios that you describe here can already be managed by others. What happens if someone else knows more about our custo-



Michael Schmidt, H. B. Fuller: Top-down or bottom-up for processes and strategies.

mers than we do ourselves? The owner of a smartphone operating-system could be this "someone else".

Färbinger: Who is then responsible for the vision of digital transformation? We are obviously all in agreement that this change exists.

>> There are companies already in existence today that know a lot more about consumers than the companies providing the offers. <<

> Prof. Key Pousttchi, University of Potsdam

Diefenbach: The initiative comes from the users and customers. The customers themselves will determine what they want and what they need – and also where they are prepared to cooperate.

Pousttchi: You mean the end-customers?

Diefenbach: Yes, I believe that the initiative originates with the end-customers

and is then incorporated into the business processes.

Pousttchi: But this can also be very dangerous. There are already companies today (such as Apple, Google, Facebook or Amazon [editor's note]) that already know a lot of more about consumers than the suppliers. If these companies use all the end-customer data to make "big data" which a store like Rewe* or Edeka** cannot do-things will become exciting. Someone will then know what the customer is going to buy before the customer himself knows. And that someone then asks retailer 1: "What will you give me if the customer comes to you?" The same question is then asked of retailer 2, and online trader 3, and then you start all over again. If we were now to say that the Amazons, Googles and Facebooks of this world want to take over the business of traditional companies, this wouldn't be completely correct - because they only want the margin. In other words, value-chains change and strategic customer ownership comes into play via this B2C scenario, which has the effect of monopolizing the end-customer interface.

Diefenbach: I agree, but it only works as long as the customer is willing to play along. If the customer says he will no longer hand over his details – it's all over.

^{*} The REWE Group, a cooperative, is one of the leading trade and tourism groups in Germany and Europe. In 2014 the company generated total external sales of over EUR 51 billion.

^{**} EDEKA is the largest co-operative in German retail. In 2014 a total revenue of EUR 47 billion was generated by approx. 11,500 supermarkets.

Kaiser: Of course, the end-customer simply does not have the holistic point of view and responsibility. That is why this is clearly a topic for managing directors and CIOs. And industry has good examples of strategies and visions, for example at Mercedes, where it's a matter of transforming a car manufacturer into a logistics provider. That entails 95% digitalization. So not everyone is asleep or waiting to be told what to do by end-customers.

>> Digital transformation is a strategic topic. <<

Stephan Kaiser, Pierre Audoin Consultants, PAC

Färbinger: So do we need central coordination for this change management? Who can be responsible for the digital-transformation process? Stephan Kaiser said that there are innovative and visionary managing directors. From an IT viewpoint: do you have sufficient time and resources to reflect on this and to plan the vision? Or is a Chief Digital Officer needed?

Schmidt: My job at present is to ensure that information security is still a given. This is not really a matter of course if flexibility is required in order to simply have everything available everywhere. Our CIO is also active in operative terms, of course, because he is very aware of the interfaces to individual departments. However, he acts strategically - and in my opinion, there is no need for an additional role in the company to manage the digital transformation process. Nevertheless, an additional administrative department could also help to give greater emphasis to this task. Clearly, if IT is regarded as a cost center and the CIO reports to the CFO, then a real cost center will probably be needed.

Farbinger: When you visit customers, how often have you ever met a CDO, Chief Digital Officer?

Daubmann: That's just what I was asking myself. Not once. For me, the role of Chief Digital Officer is increasingly performed by innovative heads of specialist departments, who then put internal

IT under pressure but who naturally, on account of their external contacts, see where the end-customers and the market are going. IT must then create the prerequisite to implement these requirements.

Diefenbach: But the CIO has been lucky if departments merely make demands – and do not each react in a different way.

Schmidt: Yes, we also frequently experience decision-making at department level on a basis that is very independent of the role of IT.

Daubmann: That can often happen quickly. Here's a problem and there's the solution – and afterwards the CIO has to put everything back in order again.

Diefenbach: In this case, the CIO is in a difficult situation. He has to bear the cost pressure, has to ensure data security and the operative processes – how much can he then still invest in strategies? Should he then drive the digital change alone?

Schmidt: This will undoubtedly not work as a part-time job. At the least, an appropriate budget also has to be available.

Diefenbach: However, to some extent there are resources in the specialist departments.

>> IT departments will at some time have to assume a leading role. <<

Michael Schmidt, H. B. Fuller

Kaiser: Yes, and then I would have to centralize things with the CIO or create the position of a CDO and give him the resources. But that means reorganization.

Diefenbach: Or you have to live the digital transformation process on a holistic basis and cooperate – i.e. look for partners within the company, with whom you can tackle the tasks together. And then, of course, the budgets must then be thrown together into the same pot.

Schmidt: Unfortunately, it's a rarity to have this togetherness, with everyone pulling in the same direction. And then along comes the specialist department with solutions, IT believes that it's not possible and security has other concerns. Because if everyone is following their own goals, it's not necessary for everything to go in one direction, namely the right direction.

Diefenbach: In other words, does the CIO have to set the pace?

Kaiser: Yes, certainly. And, from our viewpoint as analysts, for some time now we have seen that it is becoming necessary to form these interfaces - also between the user and the service-provider. This results in an interesting tandem function between the service-provider and the CIO, who can go into an organization together and actively provide solutions or sensitize this organization for the transformation process. The CIO is not close enough to the business processes, but it also cannot be left to the individual specialist departments alone - digital transformation is a strategic topic. In this situation, some large companies rely on spin-off companies, which can tackle a transformation quite differently as so-called "speedboats" - independent of the rest of the organization. Audi is doing this with a separate team in Munich, which is consciously not located at headquarters in Ingolstadt, so as to perhaps not be crushed by conflicting priorities. Detached from the day-to-day operative business, this team can experiment very freely in the field of digital transformation.

Färbinger: In that case, that was a statement in favor of the Chief Digital Officer. Do universities train such managers? How do you become a CDO?

Pousttchi: If you're clever, you study business informatics. The topic of digital transformation is a topic for CIOs. The core business of more than 90% of all companies is affected by digital transformation. If the CIO does not take care of this, then he is not the right man. It goes without saying that he needs the CEO, because his IT resources are only limited. A CDO is not necessary if the CIO accepts his new role. But a CIO who still only takes care of his own IT today – well,



SAP Technical Manager Global Michael Schmidt, H. B. Fuller: Administrative departments for the protection of the digital transformation processes.

his time is up. If he is only in charge of IT, he should then also be called head of IT and not CIO. At the same time, however, the CIO needs to be brought up to management-board level. It is wrong to have a CIO that is the head of IT. And a CIO who reports to the CFO is a nuisance.

Diefenbach: But the latter is still often the case nowadays.

Pousttchi: Yes, unfortunately. Thus the first thing a CEO who wants to tackle digital transformation has to do is make decisions regarding employees and organizational structures. I know a CEO of a medium-sized Italian company who regularly brings the leading heads of department and managing directors from Europe together for two days in a very pleasant hotel. In that way, he gets feedback and acquires know-how from every department and no-one can avoid him, thus ensuring that they can work on the digital transformation processes together.

Färbinger: Are our CIOs so innovative and competent?

Diefenbach: The CIOs that I know and those at management-board level have these skills. On the other hand, I don't believe that you can acquire these skills during a course of university studies. It is a process of continuous learning and of further development – also in close contact with the university – that ultimately creates the ability to achieve digital transformation. The world is changing too quickly for us to rely on five-year old know-how from a course of university studies.

Pousttchi: I think both have to be taken into account. If universities cannot train you for the challenges of the digital transformation process, then they are superfluous. At present these topics are being used to take decisions about the welfare of German and European industry and also society – or the lack of it. Europe will get an enormous problem if universities are not involved in these innovative and visionary developments. Of course, this does not mean that we now have to train the companies' CIOs. But we do want to train young people for future challenges. At the University of Potsdam we have a cross-subject, interdisciplinary module entitled "Implications of Digital Life and Business". This is done by business-administration graduates, who on the one hand can distinguish between bits and bytes and on the other hand also understand the company. We need to understand that digital transformation is a cross-functional problem that has a dramatic impact on every core business. The ability to understand and manage digital transformation should be classified in a similarly cross-functional manner as the ability to speak English.

Daubmann: I also think that the ability of the CIO to work together with others will be very much in demand. In future, it will be a mistake for anyone to see IT as a fortress that no-one can enter or leave. It will not be possible to implement digital transformation in this way. But anyone who is in close contact with the colleagues in his/her department will overcome the transformation process.

Farbinger: Mr. Schmidt, are there any such interdisciplinary work groups in your company?



Prof. Key Pousttchi, University of Potsdam: Big data versus data mining

Schmidt: Only to a limited extent. Our CIO, however, is also not the typical engineer - within the company, he was always a business partner for the other heads of department. Thus, our CIO is in a very good position to cope with these tasks. Nevertheless, it must be asked to what extent a certain initiative must be

>> In B₂C it is often alarming how little the supplier knows about its consumers. <

shown at the very top -i.e. by the CEO.

Armin Daubmann, Fujitsu

Kaiser: For decades now, IT has been used to acting in a very effective way. And that will also remain so within the context of digital transformation. From a strategic viewpoint, however, the overall responsibility for digital transformation lies with the CEO, because the challenges are so extremely interdisciplinary. In general, we are considering new modules as to how cooperation can take place in future. My proposal would be to stay away from "silos", from a self-contained mentality.

Diefenbach: However, as long as the CIO remains stuck in the CFO environment. he is budget-driven.

Färbinger: Is it still possible to master the balancing act between informatics' piece of wisdom - "never change a running system" - and the agility and transformation that are required here?

Daubmann: We always try to simplify and consolidate the systems for our customers so that different objectives can be brought together. In so doing, we also make a clear distinction with regard to operative systems that have to be highly available and stable. On the other hand, we are working together with our customers to design innovative tasks and have also trained new employees for this purpose. Since last year, we have recruited data analysts who advise our customers on digital-transformation processes. The customer expects us not only to provide technical IT advice, but also to explain what he, the customer, can do with the technology. In part, the customer cannot yet imagine what can be achieved with big data.

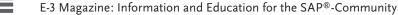
Pousttchi: Big data is not just data-mining with more data, but the automated, algorithmic finding of similarities in large data quantities. And then someone will



Stephan Kaiser, Pierre Audoin Consultants, PAC: Strategy

know what the customer is going to buy before the customer knows that himself - as I already mentioned beforehand. However, traditional retailers such as Rewe or other retail shops do not have these quantities of data. It even becomes very difficult for Payback* to consolidate sufficient data for this analysis. Compared to this, the Internet businesses previously referred to have a lot more customer data than the aforementioned retail companies and, at the same time, they are in direct contact with the end-customer. If you now consider this from a microeconomic point of view, in retail this leads to the break-even point. The retailer thus no longer pays a costly city-center lease and does not have qualified sales employees paid according to collective wage-scales any more. This will have a devastating impact on retail in two to three years. If this digital transformation process is not recognized now, the opportunity will have gone. According to retail businesses it's the banks who will be affected, then the insurance companies and finally the manufacturers of consumer goods and so on. I'm not a pessimist but a realist, and I am trying to build value-chains and systems in order to avoid this. But anyone who has not understood where this radical digital transformation is going will also probably no longer be around at the end of it.

* PAYBACK is part of the American Express Group and a subsidiary of the management holding company Loyalty Partner GmbH. Loyalty Partner clusters three companies under this umbrella, covering all aspects and services of the customer management and loyalty sectors.







is a matter for the CEO

Prof. Heiner Diefenbach, Fujitsu: The CIO in a CFO environment



Michael Schmidt, H. B. Fuller, Information Security Officer and SAP Technical Manager

Schmidt is a graduate mathematician. As an information security officer with global responsibility he is responsible at H.B. Fuller for the implementation of an effective information security system, incl. policies, processes and technologies. His duties also include endpoint security incl. patch management as well as the development and implementation of processes for the improvement of user awareness. As SAP Technical Manager Global he heads the Global SAP Basis Team for the planning, implementation and maintenance of the SAP infrastructure and services. He also coordinates cooperation with external consultants or outsourcing consultants.



Stephan Kaiser, Pierre Audoin Consultants, PAC, Member of the PAC Group Executive Committee & Partner Kaiser is a member of the PAC management board. He has more than ten years' experience in the IT industry and joined PAC in 2004. Stephan Kaiser develops and manages consulting projects for global and local software and IT service providers. The latter help companies plan and implement a constructive go-to-market and growth strategy. In so doing, Kaiser focuses on strategic consulting and operative support with regard to future / growth markets, portfolio and positioning as well as sales and marketing.



Prof. Dr. Key Pousttchi, University of Potsdam, SAP Foundation Professor for Business Informatics and Digitalization, in particular IT Strategy and IT Viability

Prof. Pousttchi is working on his doctorate on the topic of mobile payment at the University of the German Army in Munich and qualified as a professor on mobile business in 2009 at the University of Augsburg, where he was subsequently head of the research group and associate professor for business informatics and mobile business. In 2001 he founded the research group wi-mobile, one of the first research bodies for m-commerce and mobile business. He also taught at the universities of Magdeburg, Frankfurt a. M. and Zürich. In 2014 he was appointed to the faculty of economic and social sciences of the University of Potsdam.



Armin Daubmann, Fujitsu, Director Application Consulting Services

Daubmann has been with Fujitsu TDS GmbH since 1994 and worked in his current position as Director Application Consulting Services since 2006. The duties of the business administration graduate (University of Karlsruhe) were previously in software development, project management as well as management of the specialist department SAP Financials.



Prof Dr. Heiner Diefenbach, Vice President Services Central Europe, Fujitsu

Prof. Dr. Heiner Diefenbach has been with Fujitsu TDS since 2005. The graduate business engineer was responsible for TDS finances from 2005 to 2008. He subsequently assumed the position of chairman of the publicly traded company until the change of name in April 2014, when he assumed responsibility as managing director of Fujitsu TDS. He has also been responsible for the service business of the Fujitsu region Central Europe (Germany, Austria, Switzerland) since October 2013 and has as managing director headed Fujitsu Services since February 2014.



Digital Transformation & Simplicity

Underestimated B2C Dimension

For a number of companies, real-time enterprise is merely the unimportant side of the coin. Everyone is talking about digital transformation. And companies are primarily considering their own processes. However, the "digital tsunami" is an external phenomenon – as a result of the digitalization of end-customers' lives and its impact on the core business.

By Prof. Key Pousttchi, University of Potsdam

ata-driven approaches are a central element of digital transformation, for which various courses of action are proposed. Typical questions are for example: "What data do we have?", "What data could we have?" and "What can we do with it?" This is indeed sensitive and important for B2B businesses, as well as for processes within and between companies, such as logistics chains or predictive maintenance; yet there is a decisive element missing for B2C businesses, such as retailing, banks or insurance companies - namely the strategic focus on the end-customer. This does not mean to say that the end-customer does not play a role in many analyses of digital transformation. Indeed in many practical approaches, for example apps and mobile payment at Edeka or Rewe, the main focus is placed on the customer. The problem is that the focus remains at an operative or tactical level. Above these levels, progress is undermined by professionally-blinkered approaches. As honorable as the attempt may be, the usage figures, e.g. at Edeka and Rewe/Yapital (a mobile payment method), speak for themselves; this outcome was foreseeable beforehand - in this case, the failure of approaches of this kind is also not a big problem.

If, however, your own company is not the starting-point of the analysis, but digitalization of end-customers' lives is, the result is a different perspective. Likewise, simplicity must not be primarily seen from a company viewpoint. The most important instrument of this digitalization and customer-related simplicity, the smartphone, collects user-data of hitherto unknown commonality and quantity: location data, contact data, communication data, Internet connections and usage data of every kind. Two important areas will be added in future: health data and (mobile) payment data, for which the competition is already raging. Mobile business is changing from an operative to a strategic element.



Prof. Dr. Key Pousttchi is holder of the chair for business informatics and digitalization, in particular IT strategy and IT business value, at the University of Potsdam (SAP foundation chair). His research focuses on digital transformation.

By way of comparison, the most frequently-quoted example concerning the difference in quality between big data and the older type of data-mining in B2C, namely the forecast of divorce cases by MasterCard in the USA, is based on an almost ridiculous database: classic credit-card billing data, which does not even include the respective shopping basket. However, if the above-mentioned comprehensive data from smartphone usage is used as a basis, the result of the innovative application of big-data technologies on end-customer data is a forecast-option and influence on customer behavior on a level of comprehensiveness that is hitherto unknown.

The result is a universal power of recommendation that shifts between the customer and retailer: this enables retailers to always make the initial offer to end-customers, an offer which is very accurate in the combination automatically selected for the individual customer (content – time – communication channel). This is how simplicity works for the end-customer.

From a microeconomic point of view, this means monopolization of the customer interface: thanks to auction-like mediation, this results in the complete skimming-off of the margin. This prospect concerns not only retailers, banks and insurance companies, but also the hotel and restaurant industry, consumer-goods manufacturers and – to a different degree – ultimately every company that offers or manufactures products or services for end-customers.

The scientific analysis shows that there are four market participants with such a large quantity of cross-disciplinary customer data which enables them to achieve a market position of this nature. (Pousttchi / Hufenbach 2014). These are primarily the two owners of the leading smartphone operating systems (Apple and Google), and secondly the leading social-media provider (Facebook), followed – some distance behind – by the leading online retailer (Amazon). Before splitting up, the joint venture company eBay/PayPal also had to be borne in mind here; PayPal also remains a candidate, depending on how things continue to develop. The acronym AGFEA, based upon the first letters of the names of each of the original group-of-five, was also coined for these disruptive market participants (Asian companies, such as Baidu or Alibaba, were not part of the analysis). Each of these players has a very specific strength/weakness profile. But they all have something in common, i.e. their stock market valuation is based on very bold expectations of growth that can only be achieved by expanding their market dominance from the virtual world into the real world. Contrary to many assumptions, they will only want to take over the business of existing real-world companies in individual cases. The objective is much more to perform the function of intermediary between the customer and retailer (strategic customer ownership) and to skim off the margin.

The aforementioned disruptive market participants have currently only partially developed the capabilities required for real-time evaluation/forecasting of customer behavior, for automated configuration/implementation of one-to-one marketing measures and the commercial infrastructure for the intermediary marketing function. The required database is also not available in its entirety. Realistically, market effectiveness is not expected for another two to three years.

The aim of the companies that are active in B2C business, and are thus affected in their core business, must therefore be to include this side of the digital transformation in their analyses and activities over the next few years. Only then will they be able to adapt in good time to the expected strategic changes in the value networks and take measures to arm themselves against the "digital tsunami" (Gartner). Appropriate counter-strategies are part of our research at the University of Potsdam.

www.uni-potsdam.de/en

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Pousttchi, K.; Moormann, J.; Felten, J.: The Impact of New Media on Bank Processes – a Delphi Study. In: International Journal of Electronic Business 12 (2015) 1, S. 1–45. Roadmap for a networked world

Transformation is the necessity, simplicity the requirement

E-3 Editor-in-Chief, Peter M. Färbinger spoke to Otto Schell from DSAG, the German-speaking SAP user group's management board for industry and business processes, about the future topics of digital transformation and real time, as well as the new challenges for companies and organizations.

In your work environment, what has been affected by digital transformation? And what has not?

Otto Schell: Digital transformation is in full progress. Constantly and everywhere. It has played a permanent role since we began supporting corporate processes with IT. However, it's only now that new technologies are enabling us to do things in "real time" that were conceived by us twenty or thirty years ago.

Could you give us an example?

Schell: Computer Integrated Manufacturing (CIM) is now operating under the name of Industry 4.0 or Smart Factory. These new technical options are changing entire industries. Technology cycles have long since overtaken the classic business cycles. Digital transformation refers both to business processes / models and to the organization. Today, for example, it is necessary and also possible to develop and provide new applications in less than 24 hours in order to reorganize a sales or production process. The market and the customer will not wait (any longer). New, innovative and disruptive players are increasingly setting the pace. This concerns almost all business areas and sectors.

What does it mean for companies, their IT staff and IT?

Schell: The world is becoming increasingly networked and agile. However, in spite of increasing back-end complexity, front-end technologies must become increasingly simple and user-friendly to enable companies and their employees to work more productively, more efficiently and more cost-effectively. Operating

a smartphone or installing an app presumes that the users have learned and accepted the standard. It is the backbone needed to cover both requirements and to create digital transformation. However, new technologies also enable completely new business models. When we talk about real time today, it really does means real time. With an immediate impact on previous actions and the philosophy of how to organize processes and companies. We are therefore currently in a period of constant change in our actions, in personal terms, but also in entrepreneurial and production-related terms.

How can we succeed in mastering these challenges without the entire organization or individual employees falling by the wayside? SAP calls for "Run Simple" Schell: A business or production process becomes increasingly complex by means of its procedures and the partners involved. When I speak about simplicity, it is essentially about dividing process complexity into smaller packages and consistently planning and implementing the latter in an agile way. Companies must initially become aware of exactly what an end-to-end process entails. Which people, departments, partners and responsibilities are involved? Which systems, individual processes, process stages, and interfaces are affected? In other words, a form of "process inventory" must be made.

Sounds simple.

Schell: But in practice, it is by no means so trivial. Many companies are organized



Otto Schell is Global Business Service Regional Lead & Head of SAP CCoE Europe at Adam Opel and also a member of the DSAG board.

into silos, in which a "silo mentality" also prevails. This is why open communication is vital. Specialist departments and IT must talk to each other a lot and openly. In the next step, you need to ascertain whether the status quo of how work is done still fits in with the roadmap and future vision of the company. Digital transformation means nothing more than the consistent alignment of the organization for the future. This means anticipating technology requirements and adapting system landscapes in such a way that they can quickly cover any imminent requirements. Who is responsible for this? Who can assume this broader view, required to resolve this silo approach to mentality, organization, processes and data? And then advance this topic?

Schell: I see this as the CEO's obligation. He is responsible for the overall organization and its sustainability. However, the CEO cannot do this on his own: he needs a transformation board, in which the various instances responsible work together openly towards the desired business direction. The major challenge is to break down time-honored structures and then address the topics "real time" and "digitalization". This is anything but easy. The interests within a company are too multifaceted. To put it cautiously, full transparency through digitalization is not a favored goal - even with a great number of managers bearing responsibility at division or board level.

How should companies go about this? **Schell:** It must be clear to all those responsible, to all employees in the company, that Industry 4.0 is not just around the corner. It has had a foot in the door for a long time now and is already having a great influence on our business world. The basis for the transformation is transparent communication. In-depth change processes, like the next industrial revolution - and let us be clear that this is what we are talking about - must be understood and backed by the entire company.

How can we convince as many as possible to all pull together?

Schell: Tangible business plans with a clear added value are required - for sectors of industry, businesses, and users - not just existing business processes that can be simply streamlined and sold as innovation. Close coordination is required between specialist departments and IT, and other sets of skills are also required in the company. Digital transformation can mean fundamentally rebuilding the entire business concept. It is difficult to hold this discussion with the so-called "frozen" middle management. To do so, companies need young people with fresh ideas. Transformation is the necessity and simplicity a requirement of this generation. It's now a matter of showing that Germany is actually able to take part in the change. We at DSAG offer companies a platform for this.

Joseph Reger, Fujitsu: an E-3 Special short interview

Digital value-chains

Joseph Reger is CTO at Fujitsu. He is well-known because his enlightening analyses give structure to the innovation processes of IT. The editor-in-chief of E-3, Peter Färbinger, spoke to him.

Digital transformation processes are virtually indispensable. But are these processes of a technical, organizational or business nature and what is our focus on - is it IT or the individual, in the form of the CEO, CFO, CIO, CTO, etc.?

Joseph Reger: Digitalization can be useful in many ways, but the new dimension is only really opened up by digital transformation. This innovation doesn't really transform contents and data, but rather the processes themselves. And this means all processes: technical, organizational or business processes. Subsequently – and often during this transformation - all the new or innovative processes are consolidated. And a new value chain evolves, which was previously considered to be impossible or unthinkable. Focus is not placed on people and certainly not on IT, but on the value chain, and innovation is the added value.

The IT that people need to manage the digital transformation process appears in many ways to be disruptive. How do we handle disruptive innovations?

Reger: IT – well, at least good IT – has always been disruptive. The best thing that can happen is for this good IT to become part of the innovation process. We should aim to no longer be able to determine which percentage IT is to have of the so-called disruption and which percentage the business innovation is to have. We could then call this innovative reshaping "radical, digital transformation".

Fujitsu puts people at the center of IT innovations. Can people be the center of a digital transformation process, or



Dr. Joseph Reger, Chief Technology Officer (CTO) at Fujitsu.

do they remain one of the many "means" of implementing innovations?

Reger: What we at Fujitsu refer to as human centric innovation has two dimensions. On the one hand, we emphasize that the innovation activity and our innovation commitment is to benefit everyone - i.e. is aimed at people. And on the other hand, it emphasizes that this innovation should arise with the involvement of everyone if possible. We will then have more and better innovations. In our model the people are not instruments and do not implement anything, either. They are the objective and the means of the innovation. I think it's not possible to be more at the center of attention.

Dr. Reger, thank you for the interview.

<u>Comment</u>

Small steps and fast benefits

There is no big bang

It is important to me to play an active part in digital transformation and to drive it. This is why, at the end of 2014, in the company I was then working for, I set myself the goal of developing corporate IT into a digital business and using it as a showcase for the possible digitalization of the entire corporation.

By Josef Richter, Giesecke & Devrient



Dr. Josef Richter is Chief Information Officer (CIO) with the technology corporation Giesecke & Devrient in Munich. Until September 2015 he was CIO with the industrial enterprise Hoerbiger.

n my opinion, digital business is based on four pillars: firstly, on the consistent digitalization and transparency of all content. This means that all the existing documentation in IT moves from its information silos, such as Office files in collaboration tools, wikis, blogs or web pages, and thus becomes "locatable", and consistently usable in a digital form.

Secondly, end-to-end process integration and process digitalization. This means that the systems are fully integrated along the chain of IT value, finance and reporting processes and also that the data flows without any switching from where it was collected to where it is to be used.

Thirdly, it is a matter of being able to analyze and use this information in real time.

And finally and fourthly, digital business is based on a comprehensive mobility strategy. I drive digitalization from my smartphone, with the aim of being able to fully control my business from a mobile device in future. For example, this includes the configuration of a mobile KPI performance dashboard, in which up-to-the-minute performance parameters of corporate IT can be seen, communicated and actioned. Strategically, digitalization is a task which is the responsibility of the entire board and the top-level managers of the corporation. Operatively, it is the obligation of the department affected and of corporate IT. Everyone has to understand the necessity and benefits, and drive the transformation from within. From my point of view, moving the responsibility to a

Chief Digital Officer is purely cosmetic. This shows that a company has not really understood the significance and potential of digitalization and is just "continuing as before". Everyone must be actively involved with the different areas of focus that stem from the contents of digitalization. New service models and business models must be drawn up under the leadership of business managers. The CFO will be absolutely interested in the business plan and must be convinced in order to approve the budgets. The CEO, however, is and remains the head of the management team. A good CEO recognizes the opportunities of digitalization at an early stage and mobilizes his company. The CIO then joins the board and becomes the closest partner of the CEO. Parallel to this, we will then see a new kind of CFO who, as an already established partner of the CEO, now no longer sees IT as a pure cost factor, but also recognizes the leveraging of IT for business success. The digital strategy is developed and substantiated together at board level. The new opportunities that emerge will motivate all departments and facilitate a continual acceleration in change. In order to create the fine balance in practice, between operation and maintenance on the one hand and innovation and flexibility on the other, I recommend you to stay cool and go further down this path in a focused manner, step-bystep. There is no big bang - and a great deal has to be learnt and tried out. Which is why it's important to start, experiment, and gain experience. As far as the financial means for this are concerned, budgets will move and have a different or new focus. However, there will be no major increases. An enterprise cannot process a substantially higher volume of change, all at once. This means that the amount spent on IT or digitalization will not suddenly double. Furthermore, no department can take sensible action alone during the digital transformation of a company. Joint initiatives take place, which are implemented within the framework of existing or slightly increased budgets. Here it is also important to take small steps and implement fast benefits.

The three strategic imperatives of digitalization

Digital transformation requires "lean" IT

Digitalization and its consequences for companies are currently the key topics at top management level. Digitalization is not a new phenomenon and disruptive technologies have always required companies to make considerable modifications.

By Nicole Dufft, Independent Vice President PAC

he extent and speed with which digital technologies are changing business models and business sectors have increased exponentially. The same applies for opportunities and risks. It is therefore obvious why digital transformation has become the strategic focus everywhere. Companies have to set forth new strategic guidelines, which PAC has defined as the "three strategic imperatives of digitalization", namely consistent customer orientation, data-based business strategies, as well as agility and an ability to innovate.

Consistent customer orientation: in the networked digital world, in which customers share their experiences with the whole world and can switch to the competition within seconds, optimal customer experience has become the central key to competition. The strategic focus must be on the holistic and individualized optimization of the customer experience across all points of contact.

Data-based business strategies: due to the growing use of digital interaction-channels with customers and the increasing number of devices and machines connected to the Internet, the amount of business-critical data has virtually exploded in the last few years. The intelligent use of this data not only forms the basis for individualized optimization of the customer experience, but above all for the optimization of processes, operative and strategic decision-making, and business innovations. Companies must be capable of centrally collecting and saving the mass of data from various sources, evaluating this data in real time and providing it for various applications. Data-based innovations and decision-making processes must be part of the company DNA.

Agility and an ability to innovate: in this digital age, the ability to quickly react to new market trends and provide innovations is essential for survival. Companies must do away with conventional thought and work processes, outdated management approaches, and traditional control mechanisms. They need agile IT architectures and working environments!

The new role of IT

IT must play a central role in the transformation process - both from a technical and an organizational perspective. Digitally successful companies cannot even be conceived of without IT taking a central role. A central organizational unit is required that coordinates digital initiatives on the basis of an overall digital strategy; in so doing, it ensures that the applications developed during this process intermesh. In order to fulfill this strategic role and position itself as a pioneer and service provider for other specialist departments, the IT organization itself has to change fundamentally. Similar to a start-up, it must become an agile, interactive and learning system, in which the planning and control are replaced by a step-by-step approach to problem solutions. For this purpose, a degree of freedom must be attained: IT organizations that are "entangled" in operative tasks will lack the staying power required to push through the necessary change.

Freedom can be generated through the consolidation, standardization



Nicole Dufft is Independent Vice President with PAC.

and modernization of the existing IT landscape ("legacy") and by using technologies and business models such as cloud computing, outsourcing and offshore. Most IT departments today are fighting to sustain and operate their "legacy", and therefore only have limited resources for innovations. They suffer under the complexity of their own IT landscape, which has evolved over the course of the years as a result of modifications, extensions and integration measures. Most systems were also developed to support existing organization units. New IT must be "lean IT", i.e. comprise simple, efficient, suitable processes and organization forms.

www.pac-online.com



A mouse-click away

IT in a globally strong position is a decisive success factor for the VBH Group, the market leader in the retail of building fittings. However, the existing business warehouse system could not provide the necessary performance. IT management decided to migrate to Hana.



uring the course of a proof-of-concept (PoC), a production environment (PRD) was to be established on the basis of a virtualized Hana system (vHana) and comprehensively tested without any impairment to the day-to-day business. Fujitsu had already been reliably operating and hosting the complex SAP landscape of VBH for three years. The service provider was now also commissioned to migrate the existing SAP BW system to Hana. Fujitsu began the installation and configuration of the systems in February 2015. The PoC environment was set up in a similar way to the production system, via a system copy, and with the aid of SAP Post Copy Automation (PCA). Parallel to this, Fujitsu also performed a release-upgrade of the PoC environment to SAP NetWeaver (NW) 7.4 and migrated the database platform to Hana. The experts also set up the required interfaces and took care of the network connections and activations. The original BW PRD system on the basis of a DB2 database, and the PoC under vHana, were operated und tested in parallel for approximately two months. After the successful conclusion of the tests the PRD and DEV systems were set up in parallel. On account of the deadlines set, Fujitsu had a very tight implementation schedule right from the outset. The deadlines were reliably met.

Minutes became seconds

The in-memory database went live in mid-April 2015. The advantages of the Hana architecture soon became evident: thanks to the fast in-memory technology, the 150 users at VBH benefit from a substantial increase in performance. The time required for complex requests for customer-data was reduced from several minutes to just a few seconds. With just one mouse-click, customer consultants now have all the relevant information that they need, in real time. They are able to provide their clients with information at short notice over the telephone, which considerably increases the consulting quality in service and sales. VBH views it as an obligation to the customer to provide a special service in the form of fast response times and short delivery deadlines.

As this is of great significance for VBH as an internationally-operating specialist retailer, the plan is for the in-memory database to also support all e-business processes in future. Hana is to be used as a stable and high-performance platform: information about the usage behavior of buyers and visitors to the online shop is to provide an insight into customer wishes and product preferences.

The huge amounts of data (big data) that result are then to be evaluated and

analyzed in real time with the aid of in-memory technology. This will enable VBH to better understand the requirements of its customers and quickly and precisely draw up offers which are tailored to their requirements. The planning envisages that the new platform will in future also be used both to enable customers to be contacted efficiently and also to open up additional sales potential in the international environment.

Conclusion

Through migrating its business warehouse system to Hana, the VBH Group has been able to considerably increase database performance. In future, the decision in favor of Hana will permit additional applications with a high valuein-use for the core business, especially e-business.

Customer benefits

- Proof-of-concept permits comprehensive tests to be run without impairing operation
- Significant increase in business warehouse performance
- Systems by Hana
- Customer data requests
 processed within seconds
- Analysis and evaluation of large quantities of data from complex reports, for improved customer relationship management
- Reliable operation of the Hana infrastructure in highly secure and certified data centers in Germany

sap-simplicity.global.fujitsu.com www.vbh.de (English version of the site is available)

Think Fast and Slow



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Businesses have to be able to Think Fast and Think Slow – a concept popularized by Daniel Kahneman, Nobel Prize Winner in Economics, which showed how humans use two thinking systems simultaneously to make decisions. One acts decisively on instinct; the other deliberates more and modifies decisions to match the broader, more information rich picture.

In 'Accelerate',* Kotter suggests that established organizations have within them the ability to use both asystems to their advantage.

Dr. Joseph Reger Fujitsu Fellow Chief Technology Officer EMEIA, Fujitsu

Digitalization fits that model perfectly. You have the core IT which can be termed 'Slow IT' – not because it is actually slow, of course, but because it has legacy systems, and is concerned with core processes, and supports the backbone of the organization and therefore doesn't change that fast. Then you have 'Fast IT' – which is where business innovation is achieved. You can buy-in data center capacity or Software-as-a-Service, or platforms and applications which enable you to think faster about innovation and collaborate across internal teams or with outside partners.

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