

SUCCESSFUL DIGITALIZATION – HOW TO IMPROVE PRODUCTIVITY AND QUALITY

STEINBEIS STUDENT DEVELOPS A CONCEPT FOR DIGITALIZING CONTRACTUAL PROCEDURES AND INVOICING

Companies have little choice these days when it comes to processes – they need to be as digital as possible if they want to remain competitive. There are a number of reasons for this. The first is that employees, customers, and suppliers expect a smooth user experience with the software that underlies processes, so it's important to map entire processes and not jump between different systems or media – at every stage of the value chain, across the company. But systems also have to ensure that documentation requirements are adhered to and must respect issues such as legal and internal compliance, such that everything remains transparent and understandable at any given time. Then there is the need to improve productivity, without increasing the burden on staff. Overall, this is a complex challenge, but it's not insurmountable, as Jonas Pospischil has shown with a degree project conducted for his studies toward a Master of Business Engineering at Steinbeis University.

Everybody is talking about digital transformation these days. But is there a systematic and structured way to deal with the digitalization and automation of processes? Which processes are best suited to initiating digital transformation? And what expectations do people have when it comes to using tools to digitalize processes? These were the challenges faced by Jonas Pospischil when he embarked on his degree project. He had a number of areas he wanted to tack-





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le. His goal was to digitalize the processes used by a supplier of floor coverings for large shipping vessels – from assigning tasks to crews to providing feedback on finished work, the automatic delivery and invoicing of services, and client approvals. The entire process should become digital from start to finish, capturing in excess of 3,500 paper-based processes digitally on a single platform. This would also pave the way for new kinds of business evaluations and control mechanisms. The project was carried out as part of a part-

nership between Steinbeis University, JobRouter, and the sponsor of the project, Smart Solutions for Industry.

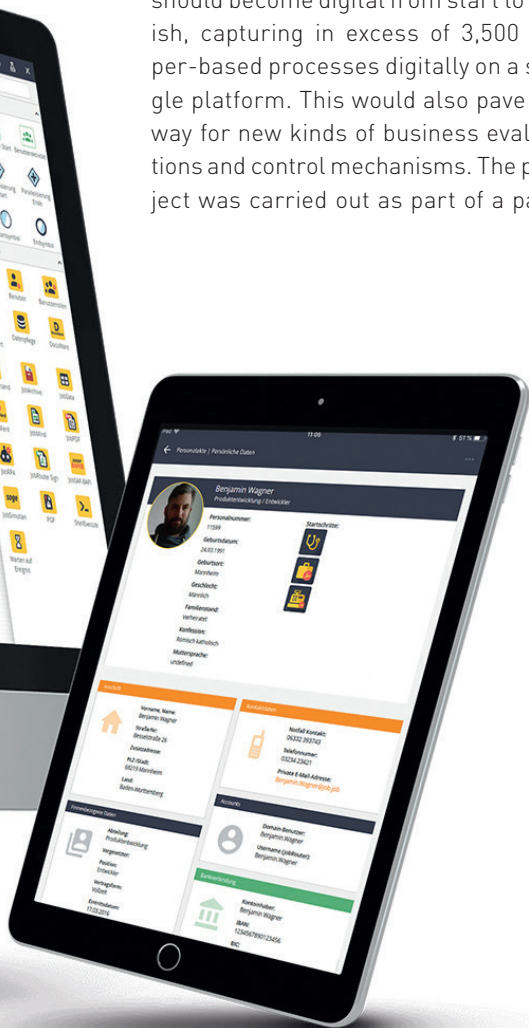
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AUTOMATING PROCESSES WITH THE HELP OF A DIGITALIZATION PLATFORM

A digitalization platform is a type of software that pulls together different kinds of technology. Its key role is to make software straightforward and understandable for users. Why? Because that saves time when systems enter operation, thus raising user acceptance. Optimally, systems should be based on “low-code” principles. What this means is that the development environment used for the software results in processes that model information visually or show graphs. That way, there is little need to use traditional, text-based programming methods. This significantly reduces the time invested in developing and deploying business applications. By offering users a browser-based graphical interface, even process designers with little knowledge of programming are able to model processes and apps. Providing software applications in web-based formats or native apps for mobile end devices makes it easier for users to carry out tasks at any time, wherever

er they are. In a nutshell, the priority should always be to ensure users have quick access and that they find it easy to use the software; there’s little benefit in introducing software if it can’t be used by everyone, for all intended tasks.

The starting point for Pospischil’s project was an extremely long-winded evaluation process used to plan tasks assigned to each crew per day. The system also involved incoming information on work carried out and special services, but it was being weighed down by paper. After this part of the process, information had to be transferred to spreadsheets using Microsoft Office, resulting in frequent errors that were difficult to review. Documents were being printed out to approve time sheets. And then there were more than 1,000 invoices per year, which were first printed and then scanned in before being sent to customers or forwarded to in-house accounting. Overall, the process involved more than 3,500 individual document-based processes, which had to jump between three different systems. “In terms of numbers, the challenge was to save several thousand sheets of paper, cut processing times from weeks to hours, and avoid hopping between three different systems,” summarizes Pospischil. His goal was to make it possible to run the entire process on a single digital platform and avoid gaps between different systems caused by printing out documents. It should also become possible to conduct evaluations every day, rather than once every six weeks,



to improve the quality of information, and to archive information safely for review purposes.

To understand the current situation, Pospischil organized workshops and face-to-face interviews. This allowed him to structure requirements and develop a rough concept for the target process. To ensure processes could be developed based on agile methods, he avoided drafting a detailed concept. Instead, he moved quickly on to process implementation, using agile methods to include ongoing feedback from key users and regular customer reviews. This was made possible by the low-code process digitalization platform, which also enabled the target process to be implemented quickly and effectively within the software. Within a short time, it became possible to come up with operable prototypes for users to try out, evaluate, and give immediate feedback on. This feedback flowed directly into further development work.

DIGITALIZING PROCESSES

Digital transformation requires a solid understanding of how business processes are digitalized. Business processes comprise a series of interrelated tasks ending in the provision of a service or product. "But that doesn't mean digitalizing processes entails mapping analog processes. It's about developing new and optimized processes spanning every area of the company – so you transform them by using the power of digital technology," emphasizes Pospischil. There is significant benefit in digitalizing and automating processes beyond the boundaries of individual departments and linking different types of software. As a result, digitalization always entails changes in existing processes and gaining a new understanding of different roles and responsibilities.

The frequency with which new processes are now being introduced to busi-

ness – or existing processes have to be modified – has accelerated in recent years. Often, business processes have to be realigned or adapted within weeks, sometimes for project-related reasons. If processes are too rigid, people stop thinking about them. Agile processes are a sign that the world itself is now becoming increasingly agile; responsibility is being handed back to the user. Enforcing rigid rules, or even stopping processes because they don't fulfill the right conditions, makes little sense in modern business. This may be asking a lot of the people who develop processes and implement process standards. But it's not the process that defines the way forward, but the people who are responsible for processes – so they should also be involved in the thinking.

DIGITALIZING DOCUMENTS AND INFORMATION

The aim is to reduce the amount of paper used in the office to an absolute minimum, not only to cut processing time, but also to ensure key stakeholders have access to the right, latest information at the right time and in the right place. Digital decision-making processes need reliable data and information based on this data.

A data management system (DMS) makes it possible to set up different documents in central databases so that the information they contain can be extracted and processed. The focus lies in digitalizing data and information – not creating digital copies of paper documents. This makes it possible to manage access to required documents based on current circumstances, or to extract information depending on how far certain processes have progressed. Such databases also store supplementary information on each document for quick and easy searches.

This document archive can then be simply connected to other systems. The

WHAT SHOULD COMPANIES LOOK OUT FOR WHEN DIGITALIZING PROCESSES?

1. Use an integrated platform for business processes
2. The project plan should include a "big picture" of individual application scenarios
3. Ensure using the system is as straightforward as possible
4. Apply low-code methods to reduce the complexity of software modifications and extensions
5. The project should address aspects such as process digitalization, document digitalization, and issues such as robotic process automation and digital signatures
6. Software must be capable of expanding simply according to the number of users, processes, documents, data records etc.
7. Make good use of interfaces with other company systems

underlying software also automatically detects which documents are needed and extracts relevant parameters from documents. As well as saving time for what would otherwise be a protracted archiving process, this also offers the potential to fully automate processes. Staff at the company work together on data and information in parallel. This information is then inserted and processed electronically in other digital documents, such as contracts. It is even possible to use digital processes to add legally valid electronic signatures to documents.

It would not be possible to use this digital information for further processes without a system for storing, administering, and processing data digitally. Stored correctly, roles can also be distributed and managed in completely different ways. Reducing the amount of information held in analog formats on paper – by systematically converting it into data – thus lays a foundation for digital transformation.

MARCUS NAGEL

mnagel@jobrouter.de [author]



Co-CEO
JobRouter AG
(Mannheim)

www.jobrouter.de

LOOKING BACK ON THE PROJECT

Jonas Pospischil was a student at Steinbeis in parallel to his work for Smart Solutions. He succeeded in digitalizing the processes used by the supplier of floor coverings for large shipping vessels. In addition to reducing the number of times information jumped between systems – it now only skips once – he completely eliminated the need to manually transfer information several times between Excel spreadsheets. Furthermore, by integrating contract information into the system, he has prevented bookings being incorrectly entered for already completed or non-existent assignments.

After discussing and capturing the required process, Pospischil worked in partnership with JobRouter on transferring this process to its digitalization platform. It was extremely important when planning the individual elements and steps of processes to involve the people who would use the

software in the development project. After all, they would be dealing with the software for everyday tasks. At the end of defined sprints, users and managers were kept informed of progress to allow them to give feedback that could be worked into the next sprint phase.

Once the development phase was completed, it was time to test all relevant requirements of the prototype process. A further small project team was formed for this in order to introduce the new processes to a front-line operational setting in parallel to the old processes, which were still in place. This took up a great deal of resources in the short term, but it was extremely important for the success of the project. This step also made it possible to make minor adjustments or changes under real conditions, not only so that final touches could be made to the process but also so that users could be given effective training.

ALEXANDER WOBETZKY

a.wobetzky@sms04i.com [author]



COO
Smart Solutions for Industry AG
(Filderstadt)

www.sms04i.com

JONAS POSPISCHIL

j.pospischil@sms04i.com [author]



Company Designer & Process
Consultant
Smart Solutions for Industry AG
(Filderstadt)

www.sms04i.com



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