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DIGITALISING WORK PROCESSES AT OÖ. BLITZSCHUTZGESELLSCHAFT

Knowledge Dimension:
Human Resource Management

Basic Teaching Case
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This case was developed solely as the basis for class discussion. Cases are not intended to serve as endorsement, sources of primary data or illustrations of effective or ineffective management.

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Despite some inconveniences, one was not that unhappy with the previous situation in Austria's biggest competence centre for lightning protection: The good old AS/400 has dutifully and reliably fulfilled its purpose, technicians and assemblers eagerly practiced the filling out of excel sheets and other print forms and the back office was responsible for accordingly handling all orders and invoices. However, the back office was regularly pressurised as soon as all records were to be completed simultaneously. So, in 2013, the Oberösterreichische Blitzschutzgesellschaft (BLS) started to digitalise its work processes in order to increase its work efficiency. Noticing that the integration of a mobility solution within the already existing AS/400 system would not lead to the desired efficiency gains and productivity increase, the company decided to implement an entirely new software system. In the beginning of the implementation phase, BLS's employees were enthusiastic and open-minded about the upcoming changes that should ease their work. Also, they were supported by an external software firm who accompanied the change process. However, during the transition from the old to the new software system, various aspects have caused the employees to experience difficulties in adapting to the new mobility solution, therefore leading to resentment amongst some of the staff. Although today the new software is well received by all employees and has led to major improvements with regard to the efficiency of the firm's work processes, the Managing Director is still wondering about some issues … What could have mitigated the employees' resistance towards the new software solution? Which measures could have facilitated its implementation? And what could be done differently in the next change projects?

Oberösterreichische Blitzschutzgesellschaft (BLS) - Background Note

The Oberösterreichische Blitzschutzgesellschaft[1] (BLS) was founded in 1951 and is a technical office for electronics and lightning protection, the construction and repair of lightning and fall protection systems as well as the trade of lightning protection material[2]. In 1999, BLS became the first company in the lightning protection sector to have a certified quality management system which shows that BLS has undertaken efforts to continually develop itself in order to keep up with innovations and quality standards. The company is fully owned by the Upper Austrian Post for Fire

[1] English name: Upper Austrian Lightning Protection Company

[2] In Austria, buildings have to be equipped with lightning protection systems if they are either in danger of being struck by lightning due to their location, size or construction method, or if their intended purpose or cultural-historic purpose make it necessary. Buildings which successfully pass a lightning risk analysis or whose above-ground gross space is smaller than 400 square meters are exempted from the obligation to install lightning protection systems.

Prevention[3]. Besides the technical office for Lightning Protection (BLS) and the Upper Austrian Post for Fire Prevention, the corporate group additionally includes the Institute for Fire Technology and Security Research[4] and a technical office for the Institute for Fire Technology and Security Research.

While the construction and repair of lightning protection systems represents BLS's core competence ever since its foundation, the company has broadened its service portfolio to additionally include fall protection systems (BIA[5]) since 2010. The combination of lightning protection and fall protection systems enables BLS to serve a unique niche in this segment. In addition to that, BLS processes around 3500 to 4000 examinations of lightning protection systems per year, resulting in the competence leadership of the firm in Upper Austria. However, the Managing Director acknowledges that BLS is "moving in a shark pool" because of the over 1600 potential competitors in the Upper Austrian region alone. Precisely, the large amount of potential rival firms stems from the fact that in Austria, every electrical engineering company is allowed to build and, consequently, offer lightning protection systems. However, BLS's extensive experience and knowledge in the lightning protection sector makes it one of Austria's three largest companies in the industry. The range of customers is broad: from business clients in agriculture, industry, trade and large buildings to public institutions and private clients. While around 70 percent of BLS's core business is effectuated in Upper Austria, the company also serves other regions all across Austria and Lower Bavaria. To handle the geographic scope, BLS cooperates with external assemblers. Internally, BLS has a staff count of 25, whereof around 80 percent consist of technicians in the area of project planning as well as assemblers. The remaining 20 percent are represented by the management, back-office and employees responsible for material logistics.

The AS/400 era

Until 2010, BLS used the ERP system AS/400 to handle its orders and other work processes. However, due to the fact that the firm relied solely on paper records, processes were rather lengthy and complicated at that time. For instance, when a customer asked for an offer, a technician was sent to the construction site where the object was documented. Back in the office, the technician calculated the project by means of a tool that was not incorporated in the ERP system. Next, he passed the offer on to the secretary who entered the information into the ERP system, printed it out and finally gave it back to the technician who controlled the offer. Whenever

[3] Oberösterreichische Brandverhütungsstelle; https://www.bvs-ooe.at/

[4] Institut für Brandschutztechnik und Sicherheitsforschung; https://www.ibs-austria.at/

[5] Blitzschutz mit integrierter Absturzsicherung

the technician had to make any corrections, the entire process had to be repeated. As soon as the offer was approved and signed by the technician, it was passed on to the Managing Director and only then it was sent to the customer. With the use of the AS/400 system, an additional redundancy in work processes was caused by the fact that delivery notes had been recorded several times in different programs. Also, the monthly accounting for assembly workers was cumbersome and lengthy (i.e. it took one technician about one week of work) because of the specific know-how required for each construction site.

Rising pressure on the good old AS/400

Despite the complexity, the redundancies and the timely inefficiencies caused by working with the old AS/400 system, work processes were still carried out correctly and without any greater problems. However, in the late 2000s, two aspects have significantly triggered the firm to question the old solution and to think about new alternatives. On the one hand, increasing price pressure forced BLS to adapt to the market needs in order to not fall behind the competition. Although BLS is still Austria's market leader with regard to lightning protection and is known for its high quality and reliability, the competition is big. Not only the fact that, in Austria, every provider of electronic devices can offer lightning protection, but also that they do so at a cheaper, price forced BLS to react. On the other hand, pressure to change existing work processes came from BLS's employees who claimed that many of their routine work steps are superfluous and that the work flows could be done in a more time-efficient manner.

Deciding for digital transformation

Searching for solutions, the Managing Director was aware that something needed to happen not only with regard to external pressures, but also because of the demands of the internal work force. Initially, he was just thinking about a mobile solution for BLS's assembly partners and field workers. However, the Managing Director quickly noticed that only a complete solution could guarantee sustainable improvements that are needed to compete in the future. In 2011, he then made effective the decision to undergo a digital transformation, both inside the office and outside at the construction sites. The introduction of mobile devices furthermore aimed at supporting technicians and assembly workers in handling their orders and to reduce the necessary timely amount of work between preparing an offer and its billing. Referring to the Managing Director, the ultimate goal was to conduct work within (e.g. process offering) and outside (e.g. inspections of lightning protection) the office in a more efficient manner in order to "do more work in the same time and all that with less stress". He therefore was very deliberate about weighing the

advantages, disadvantages and needs of new investments, claiming that “the digitalisation of work processes should be more than just a nice to have - it should result in actual efficiency and productivity gains”.

Setting up the digital transformation project

In 2011, at the very beginning of the implementation process, a designated steering group that was composed of managers and selected employees documented and evaluated the work processes within the firm. This step aimed at making all work processes at BLS visible. Precisely, all work steps involved in each process were listed. Jointly, it was then decided which work steps are superfluous, too lengthy or too complex. Consequently, the steering group thought of ways how work processes could be reorganised and how a supporting software solution could help with this endeavour.

Engaging in collaboration with an external software firm

Soon after the idea of implementing digital work processes emerged at BLS, it became clear that the realisation of this project cannot be done without the help of external experts. Consequently, the Managing Director got in touch with an IT consulting firm in Linz. Together with them, a phase coined by generating ideas and possible solutions that would adequately cover the needs of BLS began: Before coming to a final software solution, there were first attempts to stick to the already existing AS/400 system. The idea was to modify the old solution and to integrate a mobility solution within this system. However, it soon turned out that this would neither lead to the desired efficiency gains nor to an increase in productivity. Consequently, one had to think of other alternatives on how to slim down work processes at BLS and consider that an entirely new solution might better respond to the needs of the lightning protection company. After coming to the conclusion that only an entirely new software solution will adequately satisfy the needs and demands of BLS, an intense cooperation started with the software firm in order to support the entire work force during the implementation process. A complex and individualised solution of Microsoft Dynamics 365 was ergo developed in order to fully and efficiently depict all processes in one system.

The transition from AS/400 to Microsoft Dynamics 365

To prepare the employees at BLS for the changeover, multiple mandatory workshops that were guided by assigned supervisors of the software partner were organised with around 50 percent of the internal workforce between 2011 and 2012. Precisely, the aim of these workshops was to

document employees' needs and to give them initial training with regard to the new software system. As soon as the workshops have been completed, the software firm set up a first ready-to-use solution of the Microsoft Dynamics 365 for BLS. Because the new Microsoft Dynamics 365 system had to be modified various times in order to fulfil the individual needs of BLS, the old AS/400 and the new CRM system ran in concurrent operation in the last two quarters of 2012. However, this also allowed employees to get acquainted with the new software and to facilitate its adoption. Because some employees initially did not feel so comfortable in working with the new solution and tried to use the digitalised work processes as a "supplement" to the traditional work processes, the Managing Director has set a rigorous deadline on December 31st 2012 in order to avoid the two-track pursuit of the old AS/400 system and the new Microsoft Dynamics 365. Consequently, on January 1st 2013, the new software system was official activated at BLS. By 2015, the firm has additionally completed the cross-company implementation. Although today old files are still archived in hard copy, new paper records have been entirely replaced by digital ones. This meant that procedures changed. Work routines changed. Tasks changed. In the past, employees were responsible for individual districts in Austria and were thus responsible for covering the whole process from tendering to billing. Now, due to digitalisation, the processes and tasks are increasingly split up. However, the transition phase from the old to the new software system was accompanied by various problems…

Firstly, the fluctuation of the software firm's supervisors during the transition phase constituted a problem with regard to the transfer of knowledge. Precisely, although the software firm continually guided the employees and modified the software solution whenever the employees reported difficulties in its application, the change in personnel has led to knowledge losses and urged BLS's employees to explain the same problems multiple times. Because they were already quite busy with their actual work, the additional time they had to expend on these issues discouraged them to make suggestions for sustainable improvements with regard to the new software system. That the software solution did not function optimally from the beginning on, but that the modification of the system to meet all the company's needs took several months has additionally caused some resentment amongst the workforce. Despite the software firm accompanying the change process and giving employees support and guidance, some employees had the feeling that much of getting acquainted to and working with the new solution had to be done "learning by doing". Consequently, although they were generally aware of upcoming changes, uncertainty arose amongst the employees because for them it was not only hard to estimate what exactly would change and how digitalisation will affect them and their work, but also how the process of the transition itself was to be implemented.

In the beginning of the transition process towards the new Microsoft Dynamics 365 solution, especially BLS's older employees experienced problems. Although initially there was strong pressure from the work force to minimise "unnecessary" work steps, the employees that "screamed the loudest" were also the ones who showed most resistance towards the implementation of the digitalised work processes, mainly because of the increased transparency that was given through the new software. Additionally, because the new mobility solution enabled technicians to prepare offers directly at the construction sites, offers were no longer passed on to the secretaries anymore. This lead to the misperception that technicians felt they were doing the work of a secretary. Initially, they also felt uncomfortable that with the new software solution they did no longer have the possibility to control and double-check their offers before passing them to Managing Director.

Because the integration through mobile devices has led to an associated increase in transparency, BLS was able to employ contract workers and installation partners. This, however, theoretically allowed to permanently monitor employees and their work. In that respect, employees felt that they were under surveillance because the digitalisation made the real-time capture of data from the construction sites technically possible. However, monitoring employees and the amount of time they need to fulfil their tasks was never the aim. Quite the contrary was the goal - namely to support employees to work more efficiently and to reduce unnecessary work steps.

A new digital era?

By 2015, most of BLS's work processes have been digitalised and are now handled via mobile devices. More precisely, these include the assembly and the examination of lightning and protection systems, customer management, the evaluation of objects, the process-offering requests and the complaint management. Technicians, assemblers, the division manager as well as the Managing Director were equipped with industry smartphones with the aim of accelerating workflows. These new devices are able to capture data from construction sites in real-time and to shorten the period between tender preparation and billing. Moreover, these devices have shown to increase transparency and coordination. Sales representatives were additionally equipped with industry tablets.

The previously described work processes were thus drastically simplified. In terms of tender preparation, technicians still have to go directly to the customer in order to gather the relevant data. By means of the mobile device, however, the technician is now able to immediately calculate an offer and, if the customer agrees, the order is directly placed in the system which is then sent to the customer. Despite the initial resistance of the technicians during the implementation phase

of the new software solution, the transition from paper files to digital files could reduce the crowd of paper records in the secretaries' office to a minimum. According to the software firm that supported BLS, the firm therefore is a decisive trendsetter because it independently and timely decided to engage in digitalisation and thereby did not solely respond to some marketing hype.

Questions for discussion

1. Explain the circumstances that made BLS adopt digitalised work processes. What other drivers for digitalisation can you think of?
2. Who initiated the change in work processes? What are typical challenges of top down change?
3. Portray the transformation process. What are the positive, what are the negative sides of it?
4. Some employees raised their concerns throughout the implementation process. Why? How were these concerns handled? How would you handle these concerns?
5. Some employees resisted to work according to the new processes? Why? Could this resistance be avoided? If yes, how? How would you deal with resistance?
6. If you are to design the transformation process, how would you facilitate the implementation of the digitised work processes?
7. Digitalisation and change pose certain challenges to managers and employees? What are they? Which competences do employees and managers require with regard to transitions such as the digitalisation of work processes?
8. Which implications for Human Resource Management (recruiting, selection, HR development, promotion) can you derive from this case?