

Achieving a digital workplace

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Abstract: This paper aims to analyze the classic approach towards the Workplace ecosystem and make a set of general recommendations, business-agnostic which applied, allow organizations to reach a Digital and Integrated Workplace. An overview is presented on the key components of a reliable IT department, with a focus on the critical infrastructures across all levels: Front-End, Middleware, and Back-End systems. It starts by gathering the most important innovation methods in the IT domain. Then, our research follows on a concrete example of a company that underwent the implementation of these changes and check how effective they have proven to be. The research focuses on the adoption of these measures and how they has been reflected in their employee satisfaction level. Finally, the most interesting Key Performance Indicators from multiple standpoints are advocated: resource allocation (cost, time, manpower), user experience, and the impact of emerging technologies based on AI and service governance. While it is clear that all of these riders' implementation depends mainly on the budget, according to Gartner, 62% of IT services buyers confirmed that their organizations are willing to pay an extra 11% to 20% of the already allocated budget for top premium IT services, tailored to their custom needs with a focus on the user experience.

Keywords: Digital Transformation, Digital Workplace, Key Performance Indicators, ITIL Processes, Success Recipe.

Crearea unui mediu de lucru digital

Rezumat: Această lucrare își propune să analizeze abordarea clasică a ecosistemului locului de muncă și să ofere un set de recomandări generale, aplicabile indiferent de tipul de afacere, care, dacă sunt implementate, permit organizațiilor să ajungă la un mediu de lucru digital și integrat. Încercăm să oferim o imagine de ansamblu asupra a ceea ce face un departament IT de încredere, concentrându-ne pe toate structurile implicate: structuri Front-Line, Middleware și Back-End. Începem prin a aduna cele mai importante metode inovative din domeniul IT. Apoi ne concentrăm cercetarea asupra unui exemplu concret oferit de o companie care a trecut prin implementarea acestor schimbări și verificăm cât de eficiente s-au dovedit a fi. Analizăm cum au adoptat aceste măsuri și cum s-au reflectat acestea în nivelul de satisfacție al angajaților lor. În cele din urmă, susținem cei mai interesanți Indicatori cheie de performanță (KPI) din multiple perspective: alocarea resurselor (costuri, timp, forță de muncă), experiența utilizatorului și impactul tehnologiilor emergente bazate pe inteligență artificială și guvernanta serviciilor. Deși este clar că implementarea tuturor acestor măsuri depinde în principal de buget, conform Gartner, 62% dintre cumpărătorii de servicii IT au confirmat că organizațiile lor sunt dispuse să plătească, un supliment de 11% până la 20% din bugetul deja alocat pentru servicii IT premium de top, adaptate nevoilor lor personalizate, cu accent pe experiența utilizatorului.

Cuvinte cheie: Indicatori cheie de performanță, procese ITIL, rețetă de succes, mediu de lucru digital transformare digital, inteligență artificială.

1. Introduction

In the last decade, according to Caliskan (2021) more and more companies have decided upon the externalization of core IT management, operations, and service desk functions due to the continuously increasing costs. This should come as no surprise since most companies want to ensure that they run the correct IT functions, offering the needed capabilities to their users, in a completely safe and secure way, ensuring the proper tools to increase productivity. Adopting a project-based approach to innovate IT with the help of an external consultancy company while keeping the governance internal, seems to be standard nowadays.

In this context, (Sołoducho-Pelc & Sulich, 2020) states that companies had to be creative to survive on the market in a continuously unstable context, including a global pandemic, a huge inflation ratio, and a sensitive political situation entailing a regional war. Not only has the word been put on pause, but CEOs, business owners, and leaders have had to overcome challenges like

recession, and supply chain shortages and still be able to attract talented employees. Add to all this the ability to keep those employees happy, and you have created another full-time job. According to LinkedIn (2023) one of the major aspects that keep employees happy is increased productivity. In the speed era where a tool for every business function is available, when those tools don't work or perform as expected, productivity is impacted. The authors argue that good IT makes life easier and user-friendly tools give a sense of self-confidence. In most cases, if the core business of the company is not IT-related, the management does not want to deal with the burden of an internal IT department, so they choose to outsource these services.

A very important challenge that modern digital Workplaces is facing in recent years is the seamless integration of AI into multiple software components (Saravanan et al., 2023) through AI-driven virtual assistants, AI-based adaptive systems, generative AI tools for language spelling and many others. In (Piardi et al., 2024) the authors explore the potential of AI-driven technologies to facilitate a more harmonious integration of humans in industrial Cyber-Physical Systems (CPS). They analyze various aspects and the requirements for achieving Human-in-the-Loop (HitL) and Human-in-the-Mesh (HitM) integration topologies within CPS. They demonstrate their assumptions regarding the role of digital technologies in human-CPS interactions both at HitL and HitM levels.

When arguing about *Well-being*, the author of Corbett (2024) propose a framework of operations that includes the answers to the following questions: *Are we happy as individuals? Are groups treated fairly? Is society sustainable?* The methodology presented organizes "operations" into five broad areas: (i) pace and productivity, (ii) predictability and probability, (iii) process and prevention, (iv) performance and payment, and (v) pollution and protection. This approach is very close to the objective presented in this paper, a novel approach for digital workplaces.

When it comes to the digital transformation journey, as indicated by Smart Insights Caliskan, (2021), around 34% of the companies do not have plans to undergo a digital transformation, 34% do want to start in the next year, 23% have been transforming within the last 2 years and 9% for more than 2 years (see Figure 1).

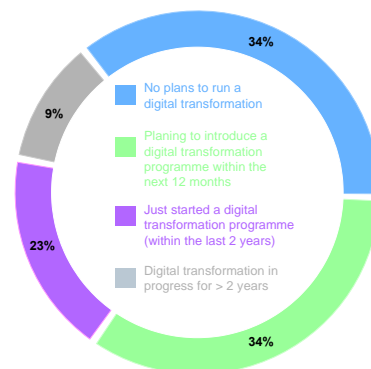


Figure 1. Adoption of digital transformation programs in business Caliskan (2021)

The authors (Noor & Shahrom, 2021) present a study that evaluates the usage of social media among employees and examines whether social networking can increase the levels of employee job performance. Their approach, based on IBM SPSS Statistics Version 21 offers valuable insights into employee engagement and their performance in the context of digital workplaces as mentioned in (Taanila et.al., 2013).

In Gilbert (2021) the author provides a variety of definitions and a well-structured taxonomy of public policies related to the digital transformation, with a particular emphasis on the digitalization of administration. It explores tools and techniques for public policy decision-making, as well as methods for collecting, monitoring, and evaluating information to enhance data utilisation for more precise analyses. Their approach, the "e-PP_portal" facilitates the presentation and development of activities related to public policies, including definition, analysis, modelling, decision-making, implementation, monitoring, and evaluation, within a flexible and collaborative framework.

The rest of the paper is structured as follows. Section 2 presents an overview of the challenges and limitations of digital workplaces. In Section 3, a novel approach for a successful recipe for designing a modern digital workplace is presented. In Section 4 the KPIs analyzed are highlighted, and in Section 5 and 6 a real use case is presented and the relevant results are shown. Finally, Section 7 is for conclusions of this research and a potential time frame for the adoption of the novel approach.

2. Workplace capability

There is no fixed definition for the workplace. According to (Colbert et. al., 2016), the workplace of the future is described as a combination of technological, physical, and psychological aspects meant to empower employees to achieve business efficiency while being satisfied as shown in. Based on Colbert's design, in Figure 2, a novel approach is proposed to an enhanced digital workplace based on digital and technological tools:

- *Collaboration tools* such as messaging or video conferencing: everybody is used to having their workplace peers a click away;
- *Project management applications*. Almost everything in today's business is a project. So, having the tools to track the initiation, planning, execution, control, and closure of a project is key. This helps organize, keep track of resources, and make sure deliverables are obtained in due time;
- *Document management and archive handling tools*. Everything in corporations, non-profits, e-commerce, or industry relies on instructions, manuals, contracts, and legal documentation. It is imperative to have a central repository where to store this data in digital format and in a structured way;
- *Intranet and internal websites*. Employees need a communication means via which they can obtain business-critical information, and this cannot always rely on e-mail. Intranet is not regularly used by all businesses, but it can be a powerful tool;
- *Reward and public recognition apps*. Public praise can create a positive workplace culture. It can motivate not only the person getting the recognition but also his entire team.

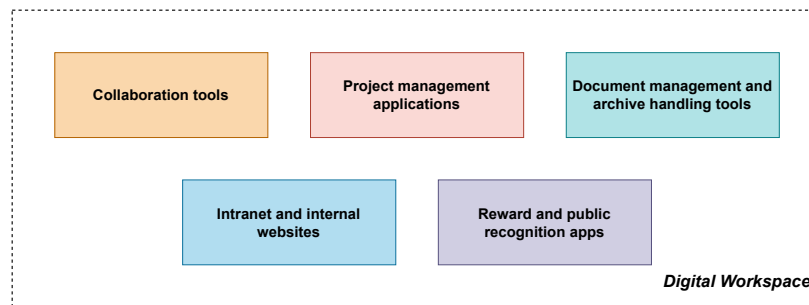


Figure 2. The main components of the proposed digital workplace

Having a reliable workplace eliminates a lot of the problems that users are familiar with. A list of shortcomings in IT workplaces is proposed, based on our experience in multiple domains, including academia (National University of Science and Technology POLITEHNCA Bucharest), and high-end European agencies (European Space Agency) and multiple relevant scientific papers. This list includes the following:

- No basic self-service capability for users, such as installing company software individually;
- Overcrowded offices with noisy environments (Kakati & Das, 2021);
- Duplication of existing IT services;
- Inability to properly scale services (office, hardware, software, capabilities) as the team grows (Kuratko et al., 2020);

- Outdated services (hardware, software, or technical) (Zhang et al., 2012);
- Lack of communication across departments;
- Over-sophisticated and bureaucratic processes;
- Inflexible software licensing models linked to a fixed number of assets and platform types;
- User frustration caused by the inability to telework (Hallin, 2020);
- Inability to customize the employees' professional experience so that it reflects the company culture;
- Data-lake capability or inaccessibility (Halevy et al., 2016; Barbu, 2019).

Having to deal with these challenges in a workplace is one of the causes for which many employees resign. In the last years, the salary has not been the only incentive for employees to change jobs. Employees seek not only to attract good talent but also to retain it. Since the modern workplace capability has increased the importance score, especially during the pandemic, many businesses chose to invest in transforming their workplace into a digital one (Afrianty et al., 2022) In the following section, we try to gather a general success recipe for companies facing this challenge.

In the following sections, we present our novel approach that includes a series of best practices and recommendations that overcome the challenges and shortcomings presented above.

3. The successful recipe

In addition to following the old project management principles: initiation, planning, execution, monitoring and controlling, and closure, adhering to the best practices presented in Figure 3 is recommended.

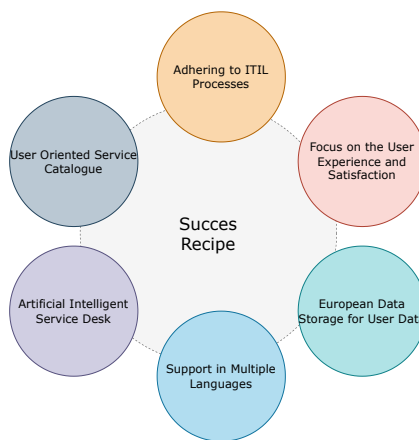


Figure 3. Proposed best practices for a success recipe

3.1. Adhering to the ITIL processes

Although this is one of the most obvious and basic capabilities an IT Department should possess, not all businesses apply the ITIL principles (Hochstein et al., 2005), it is critical to have a reliable Configuration Management Database and provide a central authority for all the components within an IT department.

All the IT services together with the associated documentation, the physical infrastructure like servers, computers, printers, mobile devices, and the software stack like corporate applications, should all have a main entry point.

Consequently, deriving proper processes that allow a harmonious integration among them all for both the AS-IS and TO-BE context is extremely important.

3.2. Focus on the user experience and satisfaction

One of the most common market trends that business experts have been advocating for, including Forbes (Gilbert, 2021), is to shift the management focus from the old, well-known Service Level Agreements (SLAs) to User Experience Level Agreements (XLAs). In the last decade, the bar of the expected quality of services offered by public companies like Microsoft (Karim et al., 2024), Apple, and IBM has been raised very high. Customers, being accustomed to great consumer experience, tend to expect the same from their workplace. Users are likely to care more about their personal experience with the support rather than about the technical readiness of the person interacting with it.

Still, the way to internally measure the user experience and satisfaction remains a challenge because it is very particular, to each company. It depends on the business, company vision, culture, employees, and public they address. What might be critical for one person might not bear the same importance for another. Companies should be more focused on how to proactively mitigate risks and outages rather than fixing them. Some users even claim that they can fix it by themselves. Many times, giving users more control is something that can be done and educated, other times, the risk of doing so is simply too great due to the data handled.

3.3. European data storage for user data

Since the GDPR regulation (Hoofnagle et al., 2019) was put into effect in May 2018, all companies processing personal data located in the EU or outside of the EU but handling services related to the EU individuals must respect it. The main IT services should be subject to a Data Protection evaluation and conclude: if they are collecting personal data, who is the data controller, who is the data processor, what is the purpose of collecting such information and what is the retention policy? Seldom, to avoid explaining the GDPR to companies outside Europe, companies prefer to just choose vendors from within. Storing all the user-related data in Europe is a requirement set by the Company's Data Protection officer.

3.4. Support in multiple languages

This capability is especially important for companies distributed across multiple countries. According to Pérez-Llantada (2022), the majority of users are happy to receive support in regular plain English, and some minorities of users prefer to speak in their native language. Therefore, having this option offers a particular encounter, the user describing it as a “*tailored experience, designed just for me*”.

3.5. Artificial intelligent service desk

Some time ago, the concept of Artificial Intelligence taking over some of the real-life occupations seemed like a long Sci-Fi scenario. Now this is not so far from reality as the Robotic and Automation industries have evolved. Many support websites have a chat box with a Digital Assistant asking users what they need. Based on a machine learning algorithm using inputs like keywords, patterns, or preferences, the agent will propose the best-matched Knowledge Base Articles. A very popular use case is the implementation of Artificial intelligence in SAP systems (Rege, 2023). If the proposed solution does not match the user problem, based on the feedback received, it “learns” and next time tries to suggest a better solution. This is only an example of where the concept of Artificial Intelligence can be used. Although one may argue that this can cause companies to fall into the trap of Automation, which ruins the employee experience, more and more businesses adopt this strategy, hoping it will decrease costs. Getting a person on the phone to assist with a problem will become harder.

AI has the potential to revolutionize workplace practices within organizations especially for Service Desk, through AI-based technologies and tools, especially chatbots or similar solutions. Primarily, employees are reluctant to these approaches, and to bypass this gap, an investigation to

the factors leading to an innovative use of AI is nodded, specifically by defining employee trust as a multidimensional concept. Thus, according to (Wang et al., 2023), employees' trust in AI tools is conceptualized as a second-order construct that has three dimensions: trust in functionality, trust in the reliability, and trust in data protection.

Changing organizational culture in most companies is not a trivial task. The key changes will need to be made to move from the mentality of controlling and monitoring a process to meet a goal, to facilitating flexible design with the aim of delivering value. This change from a control-oriented process to a collaborative-oriented process involves merging people, machine learning and AI tools. Therefore, this approach is based on four pillars:

- Workers use ML tools to engage in mutual learning through data exchange;
- Workers use ML tools to experiment with the transition across roles;
- Workers engage in ongoing governance processes to balance the authority and freedom of all implied actors;
- Workers and ML tools are leveraged to design and build the best possible scenarios.

3.6. User-oriented service catalogue

This is one of the capabilities that is specific to each company. In general, a team/board decides what gets inserted into the Services Catalogue. The range of services is extremely diverse but the IT ones can be split into (i) *Software Services*: any application that requires a license and needs to be used by an employee. All the different kinds of software: in-house/on-prem, SaaS, or web services are referred; (ii) *Hardware Services*: any piece of equipment allowing an employee to perform their work. It can be a laptop, a mobile phone, a tablet, a video conference device, etc. The hardware selection is usually subject to the compatibility with the Corporate Apps; and (iii) *Technical Capabilities Offering*: any service allowing new projects/implementations/evolution activities.

4. Key performance indicators

As organizations embark on the famous digital transformation journey, they need to measure the progress. In general, the companies use the KPIs shown in Figure 4. Artificial Intelligent Service Desk.

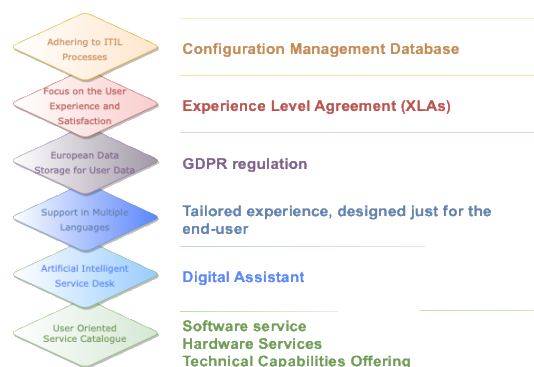


Figure 4. Artificial Intelligent Service Desk

The main KPIs are:

- *Workflow Productivity and Efficiency based KPIs*: duration, group, resources assigned, budget, and risks;
- *Adoption and Engagement KPIs across multiple apps*: leverage analytics to observe patterns, common behavior, and metadata. This gives an overview of the speed and cost of the new processes adopted;

- *Service Usage-based KPIs*: once the projects are transferred to operations in production, these are the indicators that reflect the service quality;
- *Employee satisfaction*: provide people with a completely anonymous capability of freely providing honest feedback.

5. Adapting employees and management mindset

This is one of the most challenging transformations a company must undergo while transitioning to a digital workplace. The entire transition is not just a project of bringing in new business processes, new tools, and equipment, new service offerings, and capabilities. An important amount of time is also spent in explaining to the employees the reason for this transition, in proving the efficiency increase, and in exemplifying the added values.

Getting used to the new ways in which colleagues communicate, e-mails are sent, and documents are sent online instead of as attachments; this all takes time. Leadership and management must arm themselves with a lot of patience but also budget to be invested in user pieces of training or competence centers. Attending them, employees will get familiar with the new processes, tools, applications, or reporting capabilities.

The adoption and familiarization have a direct dependency on the amount of time the legacy tools and processes like manual tasks or paper-based ones were in place. The longer they were used, the more time (and sometimes even resistance) it would take to switch to the "*new ways*". The level of people's motivation, agility, and adaptability are also very important factors.

6. A practical example

In this section a case study of a real company X, which started the Digital Transformation journey, and concrete examples of what has changed are presented. The name of the company will not be made public, neither specific project or implementations due to certain NDA policies. The core business is not IT-related and that it is a fairly mature company with many in-house applications and legacy systems. This use case is conducted only on one company since this approach is feasible for medium to large companies and in this case, multiple top-management approvals are required.

What has been done? They started by categorizing their functions in a clear structure and naming the people responsible. We list below these major structures:

- Application Development;
- Business Intelligence;
- Systems Infrastructure;
- Network Administration;
- IT Security;
- IT Management;
- Workplace and Services;
- IT Procurement.

Employees were given clear instructions and objectives. For the management board, it was very important to make sure that people understood the vision, strategy, company culture, and what the end goal was. Next, each team began its transformation journey, always maintaining close collaboration and communication with the other structures. This was critical as most of the changes one of them implemented, had consequences and dependencies on one or more adjacent structures.

6.1. Application development

The major business advisors and consultants advocate the need to be extremely critical and rigorous when it comes to corporate applications. To make a change, a clear distinction must be made, based on the application scope. In general, there are two main categories: (1) *Business-Specific applications* - these are the tools that need in-house development; and (2) *General-Purpose applications* - serve functions like HR, Finance or Legal can be replaced with off-the-shelf vendor products.

For the first category, the organization switched from developing heavy, cumbersome, in-house applications in the old client-server style, to making the same applications available as web services, leveraging concrete security mechanisms such as Multi-Factor Authentication.

Following the assessment, they realized that, historically, a lot of development effort entailing time, money, people, coding skills, and testing was spent in trying to cope with the new operating system releases and upgrades. In recent years, the OS vendors have gradually reduced the Operating System's General Availability life cycle.

This meant that the speed at which a new version of a corporate application had to be released was increasing. This implied as well a higher number of updates on the endpoints. Additional consequences such as the need to train users to use the new versions, new interfaces, or even information campaigns towards the users, were not negligible either.

To release themselves from this burden, they had to progressively switch towards web services which eliminated the need for a local client to communicate with the server. No more patches, just maintaining the compatibility with the browsers.

Additionally, this made it easy to offer access to the service from mobile devices. There was no longer the need to develop mobile applications for the Mobile Device Management systems, but the services were distributed as web links.

For the second category, the idea was to start adopting SaaS solutions, for the company's general functions. Departments like Human Resources, Finance, or Legal are mainly in need of a Document Management system, ERP system, internal search engine, corporate services catalogue, etc. There is no point in developing these internally when there are plenty of companies specialized in these domains selling ready-to-use products. They even offer customization capabilities such as name, logo, etc.

Adopting this tactic ensures that the in-house maintenance for the infrastructure needed to run the services is handed over to the vendor. The SaaS solutions did have higher licensing costs, but the company released the system administration for the operations and maintenance of the servers, network, database, firewall, etc. So overall, they achieved an important budget saving.

6.2. Business intelligence

According to Google's statement, a data lake provides a scalable and secure platform that allows enterprises to ingest any data from any system at any speed, store any type or volume of data in full fidelity, process data in real-time or batch mode, and analyze data.

Information is power, especially the right information in the proper format and in real time. Before building a solution, they worked on improving the business relationships with the other departments in the company. After multiple stakeholder discussions and round tables, it was clear that they did not have a “*one size fits it all*” solution so they had to create it.

They aimed at developing a services-oriented system to store data in the way each of the company's departments needed, giving them a choice over the store and over the preferred needed type (structured, unstructured). The final portfolio design comprised solutions for database systems, data mining systems, reporting, and analytics capabilities.

Users needed to quickly analyze large amounts of data based on the defined criteria and, most often, in real-time. This highlighted the need for "Big Data" technologies which are gaining popularity in the enterprise world.

6.3. Systems infrastructure

The structure responsible for the company infrastructure had its challenges. First, they aimed at removing the shadow IT which tended to build a different data center for each different business unit. Once the business needs were reviewed and the capacity planning assessment was done, they replaced all the geographically spread hardware with two main data centers equipped with new hardware. The missing operational procedures and processes were created. The infrastructure was then completed by a single governance team which also developed a capacity increase plan, a fail-over procedure, and a disaster-recovery emergency plan.

6.4. Network administration

The most obvious course of action for this structure was to increase the network bandwidth. To achieve this goal, the network architecture had to be reviewed and reorganized. Container networking concepts were applied in practice as they yield a smaller footprint than when the network is full of servers. A Network Access Control system was designed to enforce corporate policies on endpoints and to ensure that only authorized and compliant users and devices are allowed to be connected to the company network. In this way, they contributed to the cybersecurity strategy, protecting users from viruses such as malware or ransomware. In addition, one of the biggest projects in the pipeline was Software-Defined Networking. This provides visibility over the entire network in a holistic way and provides the capability to control the network through software applications. It also enables the network provision programmatically, dynamically adjusting and resizing segments. This results in capacity planning and improved performance. The private networks were resized according to each department's number of endpoints and the main offices were connected by faster links.

6.5. IT security

The Security structure had a very clear objective: to alert the company about threads in real-time. This goal was handed over to a team having similar responsibilities and duties as a security operations center. With round-the-clock monitoring of the network traffic, strange behaviors, and patterns on the endpoints, threads like ransomware or malware with serious financial implications can be avoided.

If the company is handling sensitive data, having a Security Emergency Response team is key. In addition, they installed a Password and Access Management system. The PAM consists of a set of tools and technologies used in exerting control over the elevated "*privileged*" access and permissions for users, accounts, processes, and systems in an IT environment. It helps companies to reduce the risk of unauthorized access by applying the principle of "*Least Privilege*". This implies the restriction of access rights and permissions for accounts, users, and systems to the absolute minimum they require to perform the legitimate function. Applying this principle ensures risk mitigation which can arise not only from attacks but also from unwanted human error. Disruptions can therefore be avoided and inside privilege, missus is eliminated.

6.6. External user access

Finally, Multi Factor Authentication: is an authentication method that requires users to provide more than one factor to prove their identity. It is a best practice that prevents bad actors from gaining access to a system, application, or network if they have a stolen PIN or password. According to Microsoft's definition, MFA is composed of:

- *Something you know*, like a password, or a memorized PIN;

- *Something you have*, like a smartphone, or a secure USB key;
- *Something you are*, like a fingerprint or facial recognition.

6.7. IT management

The management team spent a lot of time rendering the back-end system into a healthy and reliable condition and updating the infrastructure and tools. Once this has been done, the back-end solution has evolved to support the multiple types of platforms in the production devices fleet. Next came the effort of adopting the existing fleet under the same MDM system and the deployment of a single, common set of settings, platform agnostic.

Then, they decided to replace the outdated hardware. The team also developed a new device installation logic applying the 0-touch installation principle and automatized the corporate application stack and settings within this process. Each user was called in to have his workplace device replaced with an updated one. The new device was delivered with increased hardware capacity, a new Operating system, and a new set of corporate apps and collaboration tools. This entire process took more than one year due to the limited user availability, limited technicians, logistic capacity, and purchase quantity shipping. They also developed an IT newcomers training for the new people joining the company. This was sparing the Service teams of a cluster of tickets that users would generate until they got accommodated to the tools.

6.8. Workplace and services

This group worked intensely at adopting a new set of collaboration tools, a new system for video conferencing, and replacing the e-mail system.

Training capability was increased to teach the users how to use the new applications but also how to develop new ones with the new development tools customized on their business units' needs.

In parallel, the company Service Desk was modernized by setting in place a modern ITIL tool used for several functions such as Incident Management, Service Management, and Change Management. Modern support capabilities were implemented, such as (i) a Virtual support chat agent, (ii) Machine learning algorithms suggesting Knowledge Base articles based on keywords, and (iii) a Self-Service Portal for free services.

A new set of set of user-oriented services was developed. Users gained the option to choose which Hardware to order from a series of multi-platform devices, such as laptops, workstations, mobile devices, monitors, and peripherals.

While from a management and standardization point of view, this might not seem like the straightforward choice, the nature of the business the company operates, and the fact that activity was so diverse across the departments, has convinced the decision boards to meet all the user requests, accommodating functional jobs from human resources, operations, research, development or core business related. The quality of the XLAs has increased, the user satisfaction has grown exponentially. The downside of the decision was that the cost of purchasing this new range of equipment, the cost of the compatibility testing each time a new model was inserted (due to the supplier shortage), and the management license also increased. But this was a consequence they were willing to face and cope with.

The organization's *Software* services catalogue was represented by the below categories:

- The in-house business-specific apps which were modernized by the Applications Development structure;
- The Technical capabilities services developed by the Business Intelligence structure, organized in storage, workspace, container, or license;
- The off-the-shelf, general-purpose apps (example: accounting, project management, diagrams, analytics).

Here, they contributed to the insertion of more software in the third category.

6.9. IT procurement

IT Procurement faced a challenge for the third services category as their main objective was to make efficient use of licenses. To achieve this, they aimed to replace the device-specific licenses, with user-based ones, where possible. Where this measure was not possible, they opted for the second measure, which was to put all the devices, even the legacy ones or the ones that had corrupted client binaries, under healthy configuration management. By relying on the fresh hardware inventory reported, unused licenses were recovered, and savings were achieved. The action, highlighted the need to have a corporate License Metering and Inventorying implemented. The tool automatically identifies unused subscriptions and software installations so that the company can optimize the licenses or subscription level. This may lead to uninstalling, downgrading the software edition, or reducing the subscriptions. This all translates into an overall increased company productivity and software reliability.

7. Summary and conclusions

All the presented courses of action from this case study took more than 1.5 years since the start of the project and at the time of this writing, they were still not completed. Looking into the chart defined by Smart Insights [1] this is rather common. One of the top conclusions of this paper is that it is much more difficult to transform a Workplace than it is to build it from the ground up with all the updated technologies in place. To sum up the necessary steps, they would be:

- Gather the business requirements defining measurable deliverables in a defined time frame;
- Check the market trends on the most used and stable technologies;
- Identify the processes that need to be changed along with the most suitable tools to support it;
- Align the business stakeholders by raising awareness and setting expectations;
- Execute the change;
- Measure and communicate the closure;
- Derive the lessons learned and avoid similar blocking points in the next project/change.

The transformation journey is a long one with a lot of hiccups. It is necessary to have critical assessments of the current situation and clarify the objective of the end goal.

Management must rely on project managers to coordinate the goals and risk assessments, resource assignments, and cost estimations as precisely as possible.

They need to cope with challenges like technological changes, industry standards change, employee turnover, and cost increases. Often, depending on factors like company size, business domain, geographical distribution, and budget, it takes between 1 and 3 years.

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