Guidelines
Managing the Digital Transformation
smartly securely sustainably

CEC
EUROPEAN MANAGERS
We live in a world where there is more and more information, and less and less meaning.

Jean Baudrillard

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"Managing the Digital Transformation: smartly, securely, sustainably"

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The Voice of Managers in Europe - since 1951
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While digital investments are set to reach around 2.3 billion USD in 2023, most digital change managements fail due to a lack of vision, competence and purpose.

In the EU, digitalisation could not improve productivity at macroeconomic level. Already productive companies, above all in the ICT sector, were among the only ones to improve it. European SMEs need a fairer level-playing field to flourish.

The design thinking approach is useful to accompany the digital change management process in which users, who might be consumers or employees, are the subjects of observation and intensive questioning.

Digitalisation is a paradigm shift, centred on networks and knowledge. Putting end-users first, actively involving stakeholders, realising economies of scope, continuous learning and a mindful approach to technology development count among the most important business challenges.

The Simon-Says-mentality has to be replaced by questions such as “Why do we do this” and “Where do we really want to go”. Less buzz words and more action. Less “Fail fast, fail often” and more learning from past failures.

Like for any change management, the process starts with a thorough, wide and deep assessment of the initial position. Using questionnaires, brainstorming meetings, focus group studies and other techniques can be useful to get a broad engagement, and ultimately ownership, for the process.

The digital strategy should not be seen as a strategy apart, but be complementary to the overall orientations of the organisation. It can make sense to use the process also for a general review, as well as for the digital change.

Since digitalisation is not an objective per se, it is important to view it as a transversal instrument that contributes to different corporate goals and objectives. Two objective dimensions can be differentiated:

1. The “material” dimension – the “what”: directly measurable objectives in the economic, social and environmental domains

2. The “procedural” dimension – the “how”: practices and “know-hows” helping to deliver on the material dimension through professional management and a learning culture.

As with any large-scale cultural change, digitalisation will best succeed by combining a top-down with a bottom-up approach. Top executives, under the board’s leadership, have to back the change management and be clear in their communications. At the same time, it’s important to get a maximum of persons participating in the process to ensure a diverse information pool and to legitimise the change.

Organisations have to learn how to combine exploiting existing tools and exploring new ones. The ability to manage both innovation and incremental progress is called ambidexterity. Cross-functional teams within matrix structures can help deliver on this challenge.

A digital risk prevention strategy can help to clarify which processes are needed to manage issues such as privacy, data protection or psychosocial risks stemming from an overexposure to digital tools.

Social dialogue at company, sectoral, national and European level can help to better accompany change management at the appropriate level. Worker and manager representatives can have specific perspectives and ideas on how to make the transformation more successful, effective and supported by all involved.
Vision, purpose and collaboration - we need leadership in digital

As advocates for professional management and purposeful leadership since 1951, CEC European Managers has accompanied a series of transitions in the public and private sector. This time however is different. From a macro-economic point of view, two megatrends are particularly relevant: climate change and digitalisation. For probably the first time in history, we face both threatening challenges and a plethora of tools to respond to them. Today, nearly all necessary information to tackle these global challenges is available, but we need to make sense of this information.

The digital transformation is above all a mindshift. New technologies allow to automate routine tasks and make place for unprecedented human creativity, the satisfaction of human needs and new forms of global communities. Today, we share global knowledge and are able to use that knowledge locally. This requires a vastly different managerial approach than the archaic "command-and-control" type of manager.

The manager able to make a success of the digital transformation facilitates the development of people, ideas and processes. She/He supports individual and organisational potential within a collaborative organisational ecosystem, connected digitally. The manager of the future is someone who co-creates a shared meaning in the information flood. Big data alone is not helpful. Only with purpose, competent staff and a strategic vision can this data be converted into information as a resource.

"The Economist" has rightly recognised that data is the new oil. But the new raffineries, that's the way we work together and make sense of the data. The human work of the future will be the opposite of that of machines: it will be socially intelligent, mindful, have purpose and deliver a better life for customers and citizens. The digital transformation is above all a choice. A choice to advance together and use technology to do so. Not the other way around.
1. Introduction

The diffusion of digital technologies has enabled significant transformations in businesses and public service. Beyond digitally native companies, the spread of digital technologies to all economic sectors has led to an increase of business spending on these technologies, forecasted to amount to $2.3 trillion in 2023\(^1\).

However, research shows that 70 percent of complex, large-scale change programs don’t reach their stated goals, according to McKinsey\(^2\). These failures are often linked to a lacking purpose, involvement of employees and sustainability of the change management strategy. Instead, restructuring programmes are too often set up hastily, without a clear vision and without getting the companies’ employees on board.

At macroeconomic level, productivity growth has remained sluggish in the European Union. A decentralised market structure, the predominance of SMEs and the absence of “digital champions” is what marks the European digital landscape today. Gains from digitalisation did not spread evenly across firms. Firms having better access to key technical, managerial and organisational skills have benefitted more than other firms. Besides productivity gains, climate change and growing social inequalities add to the new business opportunities digital technologies can unleash.

With these guidelines, CEC European Managers, who represent around one million managers at EU-level, provides handy recommendations to manage the digital transformation in a smarter, more secure and more sustainable way than today: with vision and purpose. By incorporating its principles on Sustainable Leadership, these guidelines factor in the economic, social, environmental and managerial dimensions of digital development.

### Labour productivity
annual average growth 2014 - 2018 in OECD countries, OECD

![Image of bar chart showing 0.9% growth]

### Digital investment
Global projection for 2023, IDC 2019

![Image of euro symbol with 2.3 trillion]

### Low Digital skills
% of EU labour force with low or no digital skills, DESI 2019

![Image of light bulb with 35%]

### Information overload
% of managers feeling overloaded with information, EMP 2018

![Image of cloud with 43%]

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1: https://www.idc.com/getdoc.jsp?containerId=prUS45612419
2: https://www.mckinsey.com/industries/retail/our-insights/the-how-of-transformation
Digitalisation can be understood as a socio-technological change processes with effects on supply chains, competition, productivity and employment. Digital technologies also affect the way businesses interact with customers, employees and suppliers by changing product design, production processes, automating tasks and/or introducing telework. If well-managed, it can lead to productivity gains, better work-life balance and higher customer satisfaction. On the downside, digital tools can lead to an over-exposure to screens and an overflow of information and potential distractions that can contribute to psychosocial troubles and reduce workers’ ability to focus.

2.1. Macroeconomic challenges

At macroeconomic level, the ongoing digitalisation has not been able to offset the steady decline of productivity growth in industrialised economies (see figure). Furthermore, more productive businesses benefitted more from the digital transformation than other firms - the “modern productivity paradox”. Particularly companies in the ICT sector have made great productivity gains, making them the most valued companies on global stock exchanges.

Today however, the advances in the domain of ICT have started to slow down, while new and potentially ground-breaking technologies may lay ahead of us. The current digital landscape is restructuring and starting to enter a phase of maturity.

With the proliferation of digital platforms - the platform economy - whole markets are being redefined. In transport, Uber is the most valued company worldwide without owning cars nor, at least in their self-understanding, employing people. In accommodation, AirBnB follows the same principle. And the biggest global retailer, Amazon, only owns warehouses but defines whole markets.

While these businesses’ productivity growth has benefited from pooling goods and services on a global scale, by defining the rules of the game, they have contributed to macroeconomic productivity growth only to a limited extent. Furthermore, employment growth has until now been mostly limited to non-typical forms of work, notably freelancers. The new European Commission has also underlined its determination to create a level playing field for all companies in the EU to pay their share in taxes.
2.1. Business challenges

As seen, for European businesses to succeed in the digital transformation, they have to be aware of the game-changing dynamics spreading to an increasing amount of sectors. Particularly SMEs require better access to digital infrastructure than large companies in order to realise productivity gains. Advocating the provision of shared infrastructure by public authorities, such as access to databases, can be a way to improve SMEs competitiveness. Furthermore, considering the complex digital development processes, digital development should be seen in a larger context than digital alone. Only if the technology is employee-centred and purposeful for the end-user, a success is possible.

Digitalisation is first a mind-shift

For the past century, analytical thinking has helped solve the complicated problems that arose from the Industrial Revolution. These challenges were predictable, linear and well defined, typically arising over a long period of time. On the other hand, today’s quick-shifting world of digital is rife with complexities that are unpredictable, non-linear, chaotic, ill-defined and with short timeframes. This requires a vastly different approach.

The design thinking framework encourages a fully human-centred approach in which users – who might be consumers or employees – are the subjects of observation and intensive questioning. Key contributors to the team, they provide inspiration and insights for meaningful change, help to define the problem and ultimately solve it. A cross-functional approach is welcomed, in which diverse approaches are valued and nurture a range of possible solutions to seize new opportunities.

Digitalisation is a paradigm shift, centred on networks and knowledge. It may prove necessary to revise the assumptions of a corporation, its internal processes, the interaction modalities between them and how the same processes have to create strong relationships with the external customers and with stakeholders.

Digitalisation implies a series of challenges managers have to respond to. They can be summarised as follows:

User centricity: with the end-user of a product and service in mind, Apple had revolutionized industrial design. Since then, business models have changed from being transaction to relationship-oriented, which means that new sets of capabilities have to be developed, among others: agile organisational structures, human-oriented metrics, humble and horizontal communications, inside-out trust management, constant learning and feedback.

Data: the Economist had labelled data the new oil. And indeed, businesses will need to better know their customers and markets by using quantitative and qualitative methods to source information about them. However, data alone is useless, if not transformed into relevant, purpose-driven and meaningful information. Depending on the market, niche and business models, different sources of data will be needed. It is important to understand data sets, hidden biases and other factors that can lead to wrong conclusions and undesired consequences if not handed by a technically, socially (in the sense of understanding societal patterns) and economically skilled workforce. Artificial Intelligence builds on these skills, since it still requires human labour to train the algorithm, check the dataset and draw conclusions.

Stakeholders: digitalisation leads to a growing importance of cooperating within business networks in which data and learning can circulate more easily. Better cooperating with customers, competitors and innovators thus becomes essential to evolve within this ecosystem. Also other types of stakeholders, like universities and social partners, are important to accompany the digital process in the most innovative, human-centred and beneficial way.
Economies of scope: with the introduction of industry 4.0 and related technologies such as 3D printers, traditional economies of scale, focused on scaling few products, are increasingly being replaced. Economies of scope can be realised by globally sharing knowledge and know-how (e.g. in industrial design), while producing a variety of products locally. This requires a broader set of skills, including creativity for ever-changing products and services.

Becoming a learning organisation and transforming company culture: due to the collaborative nature of digital tools, inherent in the open innovation concept, traditional top-down structures can face significant challenges by these technologies. Individual value increases when value for all increases. That’s why sharing knowledge, through a cultural shift, should be encouraged. Managers become networkers and facilitators ensuring that employees can unleash their potential. The control-and-command mode becomes superfluous.

Mindfulness and health: an overuse of digital tools can also bear risks like limited attention, stress and ultimately lower productivity. Learning to use digital tools mindfully, while providing times to relax is even more important in times of constant information flows, particularly for managers. The more digital we become, the more we need to counterbalance in the analogue world, through silence, quality social relationships, healthy food, enough movement and good sleep. The blurring of private and professional life requires managers to pay attention that these fundamental human needs are met. Developing mindfulness through practice is important to avoid silo-thinking and confirmation biases.

6: The Simon-Says mentality describes an unreflective attitude leading people to blindly follow buzz-words

3. Setting-up a digital strategy

Rather than searching for a one-size-fits-all solution for businesses and public administrations, it is important that managers define their own digital roadmap suiting their organisation’s needs. A digital change strategy is an opportunity to come back to the roots of the organisation and leave everything potentially open for the future. In that sense, it can be seen as a general questioning process.

Following the design thinking approach, the digital transformation process must start with the end in mind. That is to say that the focus should be put on the way the technology is implemented and which general, digital and sector-specific skills are needed to do that. It is important to get a maximum of persons involved in the process and to validate managers’ conclusions and strategies at the end. This will avoid unnecessary frictions among employees, identify the true challenges of the organisation (especially, if employees feel they can answer freely) and increase the field of potential innovative solutions.

The Simon-Says-mentality in a previously unmapped digital landscape has to be replaced by questions such as “Why do we do this” and “Where do we really want to go”. Less buzz words and more action. Less “Fail fast, fail often” and more learning from past failures.

Digitalisation is also about shared resources. The World Wide Web has made knowledge widely available, creating the ground for shared digital progress. The winner takes it all does not work anymore. Creating infrastructures (like knowledge platforms, industrial processes etc.) available for SMEs will become increasingly important.
Assessing your organisation

Like for any change management, the process starts with a thorough, wide and deep assessment of the initial position: why do we want to change (strategy), what tools do we want to change (technology) and how will we ensure they can be developed and used optimally (workflows and skills)?

3.1. Strategic assessment

The most important step in the digital change management process is to get the strategic questions right. Understanding the own current value proposals, market, customers, mission, values and, above all, motivation and vision is crucial to mobilise the necessary resources for the process. While the managerial focus is important for these strategic questions, it is even more important to get the broadest perspectives possible on the first assessment question on “what is”. Using questionnaires, brainstorming meetings, focus group studies and other techniques can be useful to get this involvement. Note that this step looks at the present, not the future.

(Why) does your organisation want to change? Who is motivated to change and for which reasons?

What challenges do you want to tackle and for which reasons? Is there a shared understanding of them?

What are your current mission, vision and values? Are they really practiced or just promotional catchwords?

What’s your customer base? Which segment is the most valuable and why?

What’s your organisation’s position in its stakeholder network? What’s your personal position and margin of influence in your organisation and could you build alliances to get people behind your idea?

What’s your organisation’s impact? How does your organisation impact competitors, the sector/market, employees’ well-being, the society at large and the environment?

3.2. Technology assessment

Now we will investigate your current state of affairs for the use of digital technologies. The technical inventory should not only list the types of technologies you are using, but also analyse how they are really, and not supposedly, used.

✔️ Which digital tools are used both in-house and externally by employees, customers and any relevant stakeholder? You can for instance differentiate the type of digital tool (e.g. social media, accounting, sales software etc.), its technical function and the user groups.

✔️ What are the costs of using the digital tools? Here, you could list the investment costs, running costs and time-related costs for using the current tools.

✔️ How do managers, workers and customers use these digital tools? Are they user-centric and easy to use? Are there patterns in the way they are used (specific devices, places and times)?

✔️ What is the impact of the tools? How do they influence your competitors and other stakeholders? How do they affect users’ mental and physical health, quality of collaboration/social relationships, the climate and environment?

✔️ Are the tools secure both from a technical and human perspective? How important is data security for your organisation? Are there issues with data security and privacy? Is the data saved on secure servers in a secure location/country? Can users easily ensure that the tools are used in a secure way and if not, why?

✔️ How dependent are you from the digital technologies? Are there alternatives you could use, if necessary (if so, how quick)? Is there a plan B if they do not work anymore?
3.3. Workflow and skill assessment

This stage of the assessment takes a closer look at the ways workers and managers currently work together in the organisation. Furthermore, it is the occasion to make a comprehensive skill assessment, at least for digital skills.

What is your company structure? How is this structure legitimised/what is the reason for the structure? What organs does your organisation have and what function do they (really) have? Please note that the formal structure (organigramme) very seldom corresponds to the de facto structure of an organisation. A network analysis can help to identify key actors, also beyond pure decision-making (e.g. supporters, networkers, motivators etc.).

How well do your current structures work (departments, project teams, matrix structures etc.)? Do they meet your expectations or objectives? Are there repetitive work patterns? What do managers and workers think about the structures?

How are decisions made and by whom? How is information currently compiled to take decisions and what criteria are used to take a decision?

If a worker has a new idea, who can/he/she turn to and what will happen with that idea? What are the criteria for selection? Is there scope for self-initiative? Is there an open culture valuing new ideas?

How do you deal with failures and errors? Is there a right to error? Is there a culture of accepting and learning from mistakes? How do you use past failures for your future?

Who do employees turn to, if they need help? Are there support structures? Does the formal structure of help correspond to the de facto structure?

What kind of generic and professional skills do your workers and managers have? You can make a skill assessment (e.g. through an anonymous questionnaire, otherwise you risk biased answers) in the areas of technical skills, profession-specific skills, social and emotional skills as well as managerial and leadership skills (you can read CEC’s leadership report). Familiarity with online services and others.

✓ What kind of digital skills do workers and managers have? Some of the most important digital skills are, depending on your needs: ability to use digital devices, digital communication skills (mastering unspoken rules for e-mail, social media etc.), ability to search for information online in a structured way, social media management skills, coding skills, specific software skills (e.g. graphic design software), ability to filter and judge adequacy of information, familiarity with online services and others.

4. Define the digital strategy

After having assessed your organisation’s starting position, it is now time to look into the future by defining the digital strategy. Here again, it is important to get the broadest participation possible to ensure that diverse opportunities are seized and expectations clarified. Unlike in pre-digital times, the strategy should be seen as a “living document” to be updated regularly in order to be up-to-date with recent developments both inside and outside the organisation. The digital strategy should not be seen as a strategy apart, but be complementary to the overall orientations of the organisation. It can make sense to use the process also for a general review, as well as for the digital change management.
4.1. Pooling expertise to define strategy

Since digitalisation implies a cultural mind-shift, it can prove essential to adopt a diverse mind-set from the very start of the change management process. This implied to consult with various stakeholders, departments and operational units, if applicable. Involving worker representatives and/or workers from the start can help to build sustainable support for the digital strategy and boost motivation of workers. On the managerial front, all directors should be involved, in particular the managing director, HR, Communication and IT director. The tools for participation can take various, but complementary forms such as brainstorming meetings, surveys, strategy teams or others.

These questions can help you identify contributors:

✔ Who will be most affected by the change in the way digital technologies are used in your organisation?
✔ What incentives do workers and other stakeholders have to give innovative, honest and independent opinions and feedback during your strategic process?
✔ Which measures can you put in place to give workers a sense of security that they will be accompanied and supported in the change process?
✔ Which kind of processes for consultation and strategy development are workers and other stakeholders used to? Will they be able to contribute constructively to tools such as events, surveys or project teams?

4.2. Values, mission and vision

Are your current values, vision and mission still fit for purpose in the digital age? How do they align to broader societal challenges like growing inequalities, climate change or integration? These three organisational basics can be seen as your identity card visible to both workers and the outside world. They can become a source of inspiration for your objectives and future actions.

✔ Values: What does your organisation believe in? What are your most basic ethical foundations shared within your organisation? How should these values guide individual behaviour? Mentioning a few powerful, but honest values can help to differentiate yourself from others and indicate to newcomers what kind of organisational culture and values are lived. With the ongoing digitalisation, issues such as privacy, innovation and learning become more important.

✔ Vision: Where do you want to go? If the values are the foundation, then the vision is the picture of the goals you want to achieve. The vision should motivate stakeholders to contribute shaping and putting in place your ideals. This creative and intuitive exercise can serve as a compass to orient your organisation. Aligning the shared vision to broader societal challenges can be a way to show that you are taking responsibility and care for more than just your own business.

✔ Mission: What do you do best? While the vision is potentially shared by other organisations, the mission is your own action, your purpose. What can your organisation contribute best? What can you make differently (products, services, market position etc.)? What is your (future) position with regards to others? And how can digitalisation enable you in your mission?

4.3. Setting objectives

The clarification of your values, vision and mission can help to define specific and measurable objectives. These objectives should be linked to your general strategic objectives to give a purpose and meaning to the digital tools you will use. Since digitalisation is not an objective per se, it is important to view it as a transversal instrument that contributes to different corporate goals and objectives. Following CEC’s guidelines on Sustainable Leadership, the objectives are classified twofold:

1. The “material” dimension - the “what”: directly measurable objectives in the economic, social and environmental domains.
2. The “procedural” dimension – the “how”: practices and “know-hows” helping to deliver on the material dimension through professional management and a learning culture.
The potential opportunities listed below can serve as an inspiration to formulate digital objectives. It can prove useful to clarify how they contribute to general business goals. They are of course only indicative and do not claim to be exhaustive. The objectives are associated with examples to illustrate potential tools for achieving them.

### 4.3.1. Economic objectives

**Productivity gains:** you can increase your productivity either by using less means to achieve the same objectives or by achieving more with the same means. The use of digital technologies can help to save time and office space, among others, if used in a smooth and user-friendly way. By measuring corporate resources, it is also possible to better allocate them through technologies such as co-working software.

Examples: administration software, co-working/task dashboards, office space management

**Offering new products or services:** besides digitalising internal working procedures, the corporate output can change as well. Digital products and services can complement or substitute previously analogous offers, if they have an added value for the end-user. This is an opportunity to reach out to new target groups and create new value streams within an ambidexterous organisation (see section 5.1).

Examples: an application to facilitate the use of a product (complementary), consulting sessions via video-conferences (substitute)

**Realising economies of scope:** a larger variety of products and services through digital technologies such as described by the industry 4.0 concept can help to diversify and customize offers within a qualitative approach. Software-as-a-Service is a known example on how to better suit customer needs. Often, the access to a service or product is more important than its ownership.

Examples: 3D printing, SaaS, smart factories

**Creating business synergies:** digital technologies can have disruptive effects on markets by changing the rules of the game.

In some sectors, new digital ecosystems have been created through complementary cooperation such as through joint ventures. The Silicon Valley is probably the most famous example where local, human, intellectual and technical resources are shared to some extent. Particularly niche sectors can benefit from synergetic relationships to other sectors.

Examples: e-health sector, smart mobility concepts, creating an innovation project with companies in the same sector

### 4.3.2. Social objectives

**Work-life balance:** the introduction of telework and the transition towards an output-oriented work culture (instead of a presence culture) can help to improve the work-life balance of workers and managers. Agreements between management and workers, for instance through social dialogue, can help to clarify expectations, rules and objectives for telework. Since digital communication can sometimes lead to misunderstandings (absence of non-verbal communication), it may prove useful to find procedures and provide support for communicating respectfully and effectively. Regular in-person meetings can be agreed to ensure a minimum of team-building. You can read CEC’s report on flexible working arrangements here.

Examples: telework agreements, flexible working arrangements, job sharing schemes

**Safeguarding psychosocial health:** digital technologies can also affect collective and individual health. High workloads, constant information flows and stress factors such as noise or regular distractions can lead to mental and physical health issues. Preventing them by taking a due diligence approach and offering support and health incentives can help to keep co-workers motivated, performing and satisfied. Please find more information on psychosocial risk management here.

Examples: implementing the right to disconnect, due diligence plan for psychosocial risk prevention, establishing incentives for healthy behaviours
Promoting inclusion: inclusive leadership ensures that people can participate regardless of their gender, sexual orientation, skin colour, religion or other trait. Actively promoting values of tolerance, active listening, mutual curiosity and support will unleash individual potential and benefit your organisation. A diverse and inclusive workforce can attract new customers and future employees. Algorithms, but also other technical applications, are not neutral and can reflect the biases of the, often male, developer team. Please find CEC’s publication on diversity management here.

Examples: signing diversity charter, establishing criteria and procedures to avoid AI discrimination, employing more diverse people.

Contribute to a positive external social impact: philanthropy or a dedicated social impact can create trust among potential customers, improve reputation and help to create a fertile environment for your organisation to flourish (e.g. through better qualified future employees). Digital technologies can help to create access to shared resources like knowledge.

Examples: regular visits to schools, providing a free online learning platform, measure social impact

4.3.3. Environmental objectives

Saving resources: savings on working spaces, the reduction of emissions due to commuting through teleworking, the reduction and re-purposing of (e-)waste, energy management software and generally, a better allocation of resources can help to improve environmental performance. Digital technologies can help to better measure (i.e. Internet of Things) the environmental impact and make them visible.

Examples: improve space management, measure environmental impact through sensors, report on sustainability progress in integrated report

Limiting energy use: particularly energy-intensive digital tools such as algorithms or video streaming can overshadow savings in other areas. Using environmental criteria for the choice of service or product providers can help to improve your impact. Counterbalancing unavoidable emissions and other factors by dedicating resources to positive-impact projects, like reforestation projects, can be appropriate tools.

Examples: choice for data centre using renewable energies, allocating 2% of revenue to reforestation projects, make energy saving plan

Designing sustainable products and services: keeping the end-user in mind, an impact assessment of the (real-life) use of your products and services can help to improve its ultimate environmental impact. There are applications that help to save energy, reduce the carbon footprint or travel more sustainably. The Ellen MacArthur Foundation has created a tool to measure a company’s adaptation to the circular economy.

Examples: establishing a focus group for testing a product’s or service’s environmental impact, carbon footprint applications, opt for energy-saving solutions

A green workplace: natural light, plants, fresh air and green surroundings are not only beneficial to the environment, but also improve workplace performance of employees by keeping them healthy and motivated. Silence and relaxation become even more important in times of digital omnipresence. Continuous small steps by workers and managers can help to improve the workplace and the environmental impact. Sometimes it can be worth trying to influence the (city) government to do more for creating green and healthy environments, as well as mainstreaming sustainable modes of transport.

Examples: promote biking to work, buy air-filtering plants, convince municipal government to do more for the environment
4.3.4. Managerial objectives

**Facilitating:** Freedom and responsibility are two sides of the same coin. To allow for reaping the benefits of digitalisation, an empowering and learning-prone working culture is required. In this framework, managers have to ensure that workers are capable of working autonomously. The inherent flexibility with smart working principles comes also with a stronger sense of responsibility over outcomes to be developed. Managers need a new set of skills to become facilitators for the development of their teams, in particular social and emotional skills like mindfulness and coaching skills.

**Agile working and producing:** the essential components of agile work are the accountability and the relationship of trust between manager and employer. Trust and flexibility are the key concepts which the manager has to support workers to work in that way. Agile work principles allow to launch products and services when they are “good enough”, while incorporating permanent feedback loops to improve them progressively.

**Networking:** moving from a purely hierarchical understanding of management, the dynamics, speed and interconnection of the digital age require managers to become better networkers for people, ideas and processes. They have to develop a good understanding of people’s skills, know a variety of concepts and approaches and dispose of a wide toolbox to be used creatively. Only then can they act as facilitator for co-workers, other stakeholders and strategy development.

4.3.5. Learning objectives

**Make learning a natural and central element of your company and its strategy:** Management should support the learning process of employees, by establishing a learning culture and providing tools for learning. Mentoring programmes, where older and younger employees learn from each other become increasingly valuable. Training objectives can help to pave the way to a learning organisation, where learning becomes a natural aspect of work.

Examples: integrate lifelong learning to your corporate strategy; designate a manager responsible for corporate learning (e.g. an Innovation Manager); regularly speak with employees about their interests, also beyond professional topics

**Create access or establish a (internal) learning platform or learning tools:** The platform or tools should be easy to use; be supported by employees; everyone should be able to contribute and learn from it; there should be agreed weekly or monthly learning hours.

Examples: a digital dictionary for relevant keywords and concepts; a digital training platform to improve skills (Coursera or Udemy are known examples); regular peer-learning sessions to share skills among employees

**Incite employees to embark on personal learning journeys:** Lifelong learning becomes increasingly important for both employees and the economy. Inciting employees to discover new passions and learning subjects, also beyond the focus of the business, allows them to acquire transversal skills that your organisation needs: systemic thinking, curiosity, the ability to self-organise learning etc.

Examples: speak about employees’ interests in general to co-create a learning development journey; encourage taking evening classes (languages, sports, arts etc.), if possible also financially; encourage attending external events (fairs, conferences, seminars)
5. Implement the digital strategy

As with any large-scale cultural change, digitalisation will best succeed by combining a top-down with a bottom-up approach. Top executives, under the board’s leadership, have to back the change management and be clear in their communications. At the same time, it’s important to get a maximum of persons participating in the process to ensure a diverse information pool and to legitimise the change. Otherwise, there may be challenges with implementation.

Today, strategy formulation and execution need to happen simultaneously and ideally in a seamless feedback loop. Compared with the plethora of advanced predictive and analytics tools available to businesses today, the old-fashioned executive summary laying out binary choices may be too simple. Directors and executives must ensure that the will and ability to continuously change are built into the very fabric of the organisation. At the same time, they have to manage the risks linked to becoming more digital to avoid unintended consequences.

5.1. Establish agile workflows

Our world is characterised by volatility, uncertainty, complexity and ambiguity (VUCA). In this context, organisations have to learn how to combine exploiting existing tools and exploring new ones. The ability to manage both innovation and incremental progress is called ambidexterity. Cross-functional teams within matrix structures can help to deliver on this challenge.

Matrix structures can open up new opportunities for people’s development within their organisation. More and more start-ups, but also larger companies have adopted these hybrid organisational models. They allow becoming more agile and reactive to trends by using fresh and creative ideas of employees. To ensure that information can flow freely, simple, purposeful and practical workflows work best. Silo effects through departmentalisation, double roles and role overlaps can impede the necessary agility for innovation.

Instead, diverse teams with diverse competences can be pooled based on business needs and specific challenges. The idea is that challenges are best solved where they arise. In this setting, managers are responsible to support the teams with advice, resources and networking among teams to create better synergies. When the teams experience troubles, managers can challenge the structure and support the team to find solutions. To ensure that these teams do not operate in a vacuum, it’s important to incorporate constant feedback loops from customers and other stakeholders.

5.2. Manage risks

Risk management is an integral component of the digital workflows to be introduced. A regular check to ensure all parameters are safe should form part of the agile process. At personal level, it is important to equip workers and managers with security-relevant skills and behavioural rules. Depending on the security level needed by your organisation, these individual requirements can take different forms. Cybersecurity risks often stem from very simple human errors like too simple passwords or insecure connections, often via the smartphone. At organisational level, a digital risk prevention strategy can help to clarify which processes are needed to manage issues such as privacy, data protection or psychosocial risks stemming from an overexposure to digital tools. Diversity both in the composition of teams and the approach can help to mitigate risks such as biases in algorithms. This helps avoiding reputational damage and attracting new target groups. Finally, the risk prevention should take into account the systemic level. The interplay of technical tools is the technical system you are operating in. Antivirus programmes, maleware software, firewalls and, if needed, VPNs can ensure that threats are mitigated. Other systemic risks can stem from exchanges with other organisations or legal requirements like GDPR or due diligence for health protection (Psychosocial health risks) for instance. In times of Big Data, the prevention of data leakages and the establishment of crisis response tools becomes crucial. Also the server location should be well-chosen to avoid data losses and diminish geopolitical risks. Pushing for European solutions to strategic IT infrastructure can become part of a company’s advocacy strategy.
5.3. Involve stakeholders and encourage social dialogue

The digital transformation process has to suit the needs and capacities of various stakeholders. The introduction of new technologies is a process requiring a simultaneous evolution of management, workers’ skills, working culture and business relations to the company environment. The introduction of technology alone is blind to the human-centric logic of social/company transformations. Instead, a stakeholder culture shall be encouraged, while finding solutions to digital challenges through adapted processes, stakeholder-involvement and rights (including privacy at work).

Social dialogue at company, sectoral, national and European level can help to better accompany change management at the appropriate level. Worker and manager representatives can have specific perspectives and ideas on how to make the transformation more successful, effective and supported by all involved. Social dialogue has been shown to contribute to better economic and social performance of companies. Managers should encourage workers to engage in worker representation, health-boosting or cultural activities and other forms of participation that makes the workplace a more motivating, healthier and more innovative one. But they can also voice their own perspective as highly qualified employees.

5.4. Measure performance

Finally, the objectives set for your digital strategy should be consistently monitored by quantitative and qualitative indicators. Digital performance measurement tools for KPIs can help to track progress on multiple parameters. Furthermore, regular consultation of workers and managers can help to assess how the process as such is being perceived. Sometimes, KPIs only measure end results, without considering how they have been reached. The “how” question is equally important. Qualitative measures, such as through interviews with workers and managers, can complement quantitative indicators. These evaluations can help to adjust the change management processes if needed and provide insights on learning progress of the organisation.

6. Conclusion

Managing digital transformations can be complex processes. However, with the right questions, an organisation can set or re-orient its foundations. Using a diversity approach both for employee selection and for organising can be rewarding in terms of innovation, target groups and ultimately economic success. Managers are increasingly becoming facilitators in their organisation, helping co-workers and teams to unleash their potential and seizing opportunities that are offered by contemporary economic, social and environmental challenges. The digital world is based on interdependency and collaboration. Understanding this can pave the way for success in the information society. Paradoxically, it’s not those running fast, falling fast and often that will win the race, but those who take an appropriate and human-centric pace learning from their failures.