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Digital Transformation Concept



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This document is developed within the framework of the TransFormWork Project „Social partners together for digital transformation of the world of work. New dimensions of social dialogue deriving from the Autonomous Framework Agreement on Digitalization“ - VS/2021/0014

It outlines some key terms and definitions relating to the adoption of digital technologies in the context of EU and OECD documents. The main goal is to provide understanding of the digital transformation concept, frameworks and strategies, specifying their key elements and stages.

Value – the document provides a platform for further empirical investigation of the level of a company's digital transformation and social partner's role in this process.

Practical implications – the review of the evidence will be used to develop requirements and guidance for trade union and employer organizations to enable them to support their members within the context of digital transformation. A research instrument for a survey among business sector representatives can be developed using the findings of the given study, in particular, for structuring the questionnaire's blocks.

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Digital Transformation Concept

1 Introduction

We explore the essence of digital transformation as a vision to take this journey, its evolutions and how it is present across various business processes and industries. In other words: about transformation in a context of digital business where there is a decentralizing shift of focus towards the edges of the enterprise ecosystem. The customer in the broadest sense (external and internal with the borders between both blurring) is a key dimension in this equation with customer experience, worker satisfaction, stakeholder value/outcomes, partnerships and a clear customer-centric approach as components.

Digital transformation (also DT or DX) and its components, drivers and barriers in organisations, its strategies and its impact on companies operating efficiency – all these topics are frequently debated during the last two decades. It is one of the policy areas of the European Commission and the Organisation for Economic Co-operation and Development.

The European Commission (EU) prioritises digital transformation of business and society. The European Social Partners Framework Agreement on Digitalisation (2020) is an autonomous initiative and the result of negotiations between the European social partners as part of their sixth multiannual work programme for 2019-2021. In the context of article 155 of the Treaty, this autonomous European framework agreement commits the members of BusinessEurope, SMEunited, CEEP and ETUC (and the liaison committee EUROCADRES/CEC) to promote and to implement tools and measures, where necessary at national, sectoral and/or enterprise levels, in accordance with the procedures and practices specific to management and labour in the Member States and in the countries of the European Economic Area.

Digital Transformation Monitor and Digital Transformation Scoreboard are among EU initiatives aimed to measure progress on digital transformation in EU countries (European Commission, 2019).

The Organisation of Economic Cooperation and Development (OECD) launched a new global project – “Going Digital: Making the Transformation Work for Growth and Well-being”. Its goal is “to help policymakers better understand the digital transformation that is taking place and create a policy environment that enables their economies and societies to prosper in a world that is increasingly digital and data-driven” (OECD, 2018).

Why so much attention is paid to digital transformation? First, digitalization is an integral part of the overwhelming development of society, economics and business. Digitalization and globalization – or vice versa – these processes determine our existence nowadays. According to the European Commission „2030 Digital Compass: the European way for the Digital Decade “forecasts, a “transformative industrial and technological revolution” will be one of the key global trends to 2030. “All aspects of society – such as politics, governance, education, science, lifestyles, collective intelligence networks, the setting-up of open systems, and health, including the transformation of the human genome – will be transformed by technological breakthroughs” (ESPAS, 2015).

2 What is Digital Transformation?

Digital transformation is the cultural, organizational and operational change of an organization, industry or ecosystem through a smart integration of digital technologies, processes and competencies across all levels and functions in a staged and strategic way¹.

¹ <https://www.i-scoop.eu/digital-transformation/>

Digital transformation requires **a digital transformation strategy** that, as any strategy, looks at the goals, current situation and how to move forward on a transformational journey in a way that makes sense and connects the dots.

A digital transformation strategy aims to create the capabilities of fully leveraging the possibilities and opportunities of new technologies and their impact faster, better and in more innovative way in the future. A digital transformation journey needs a staged approach with a clear roadmap, involving a variety of stakeholders, beyond silos and internal/external limitations. This roadmap takes into account that end goals will continue to move as digital transformation de facto is an ongoing journey, as is change and digital innovation.

Digital transformation leverages technologies to create value and new services for various stakeholders (customers in the broadest possible sense), innovate and acquire the capabilities to rapidly adapt to changing circumstances.

While digital transformation is predominantly used in a business context, it also impacts other organizations such as governments, public sector agencies and organizations which are involved in tackling societal challenges such as pollution and aging populations by leveraging one or more of these existing and emerging technologies.

Digital transformation is not just about disruption or technology. It's about value, people, optimization and the capability to rapidly adapt when such is needed through an intelligent use of technologies and information.

Digital transformation is the profound transformation of business and organizational activities, processes, competencies and models to fully leverage the changes and opportunities of a mix of digital technologies and their accelerating impact across society in a strategic and prioritized way, with present and future shifts in mind.

The development of **new competencies** revolves around the capacities to be more agile, people-oriented, innovative, customer-centric, streamlined, efficient and able to induce/leverage opportunities to change the status quo and tap into big data and new, increasingly unstructured data sources – and service-driven revenues, with the Internet of Things as a vital enabler. Digital transformation efforts and strategies are often more urgent and present in markets with a high degree of commoditization.

Digital transformation is a journey with multiple connected intermediary goals, in the end, striving towards ubiquitous optimization across processes, divisions and the business ecosystem of a hyper-connected age where building the right bridges (between front end and back office, data from 'things' and decisions, people, teams, technologies, various players in ecosystems etc.) in function of that journey is key to succeed.

The human element is key in it on all levels: in the stages of transformation as such (collaboration, ecosystems, skills, culture, empowerment etc.) and obviously in the goals of digital transformation. Since people don't want 'digital' for everything and do value human and face-to-face interactions there will always be an 'offline' element, depending on the context. Yet, also in non-digital interactions and transactions digital transformation plays a role in the sense of empowering any customer-facing agent and worker.

3 Digital transformation areas

Digital transformation in the integrated and connected sense which it requires can, among, others, touch upon the transformation of:

Business activities/functions: marketing, operations, human resources, administration, customer service, etc.

Business processes: one or more connected operations, activities and sets to achieve a specific business goal, whereby business process management, business process optimization and business process automation come into the picture (with new technologies such as robotic process automation). Business process optimization is essential in digital transformation strategies and in most industries and cases is a mix of customer-facing goals and internal goals today.

Business models: how businesses function, from the go-to-market approach and value proposition to the ways it seeks to make money and effectively transforms its core business, tapping into novel revenue sources and approaches, sometimes even dropping the traditional core business after a while.

Business ecosystems: the networks of partners and stakeholders, as well as contextual factors affecting the business such as regulatory or economic priorities and evolutions. New ecosystems are built between companies with various background upon the fabric of digital transformation, information, whereby data and actionable intelligence become innovation assets.

Business asset management: whereby the focus lies on traditional assets but, increasingly, on less 'tangible' assets such as information and customers (enhancing customer experience is a leading goal of many digital transformation "projects" and information is the lifeblood of business, technological evolutions and of any human relationship). Both customers and information need to be treated as real assets in all perspectives.

Organizational culture, whereby there must be a clear customer-centric, agile and hyper-aware goal which is achieved by acquiring core competencies across the board in areas such as digital maturity, leadership, knowledge worker silos and so forth that enables to be more future-proof.

Ecosystem and partnership models, with among others a rise of co-opetitive, collaborative, co-creating and, last but not lost, entirely new business ecosystem approaches, leading to new business models and revenue sources. Ecosystems will be key in the as-a-service-economy and in achieving digital transformation success.

Customer, worker and partner approaches. Digital transformation puts *people and strategy before technology*. The changing behavior, expectations and needs of any stakeholder are crucial. This is expressed in many change subprojects whereby customer-centricity, user experience, worker empowerment, new workplace models, changing channel partner dynamics etc. (can) all come in the picture. It's important to note that digital technologies never are the sole answer to tackle any of these human aspects, from worker satisfaction to customer experience enhancement. People involve, respect and empower other people in the first place, technology is an additional enabler and part of the equation of choice and fundamental needs.

Technological evolutions and technologies, ranging from cloud computing, big data, advanced analytics, artificial intelligence, machine learning and mobile/mobility (a key game changer) to the Internet of Things and more recent emerging technological realities are 1) enablers of digital transformation and/or, 2) causes of digital transformation needs (among others as they impact behaviour of consumers or reshape entire industries, as in the digital transformation of manufacturing), and/or 3) accelerators of innovation and transformation. Yet, technology is only part of the equation as digital transformation is by definition holistic.

The current wave of technological change characterised by breakthroughs in fields such as AI, robotics, the IoT, big data, quantum computing, 3-D printing, nanotechnology, biotechnology, materials science, autonomous vehicles, and energy storage is often referred to as the fourth industrial revolution, that is characterized by a fusion of technologies that are blurring the lines between the physical, digital, and biological spheres (Schwab, 2017)².

While research on the social impact of ICT and the relationship between technology and employment has been conducted for over 40 years (Valenduc & Vendramin, 2017)³, it has been argued that the speed, scope, and systems impact of today's transformations represent the arrival of fourth industrial revolution. The speed of current breakthroughs which are evolving at an exponential rather than a linear pace, has no historical precedent. Moreover, it is disrupting almost every industry in every country, and the breadth and depth of these changes herald the transformation of entire systems of production, management, and governance (Schwab, 2017). The onset of a fourth industrial revolution is also expected to cause significant social changes, and one such change will involve labour relationships and the individualization of the relationship between

² Schwab, K. (2017). The fourth industrial revolution. New York: Crown Business

³ Valenduc, G., & Vendramin, P. (2017). Digitalisation, between disruption and evolution. Transfer: European Review of Labour and Research, 23(2), 121-134

workers and machines, which will affect unions' bargaining power and workers' collective actions (Caruso, 2018)⁴.

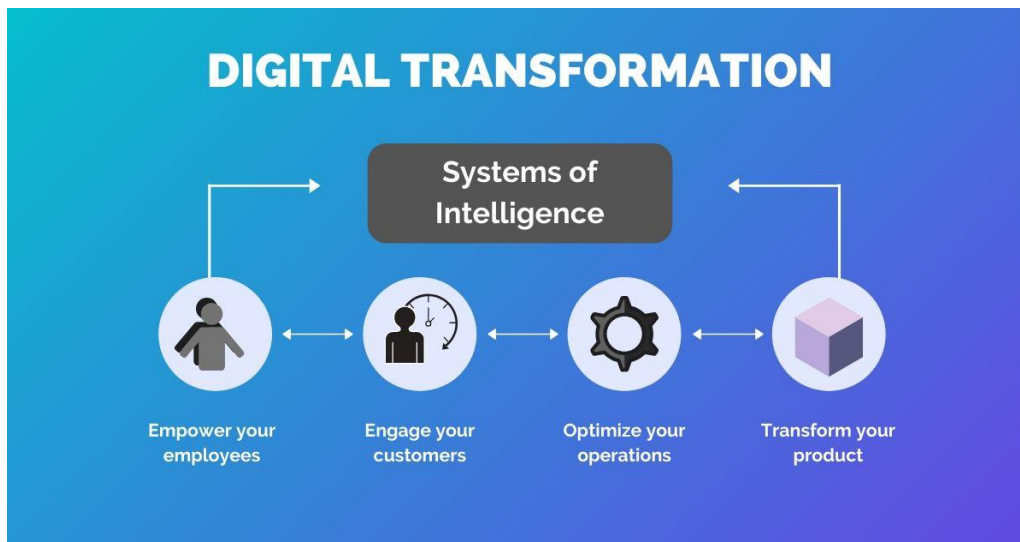


Figure 1

Data increasingly underpins digital transformation and has become an important source of value and a critical resource for decision-making and production (OECD, 2019)⁵. Although the role of digitized information as a strategic economic resource may seem to be a continuation of trends stretching back several decades, the most recent developments in massive data collection, storage, and processing, represent a quantitative and qualitative leap in this trend (Valenduc & Vendramin, 2016)⁶.

It is important here **to distinguish** the terms digitization, digitalization, and digital transformation, which are often used interchangeably. While **digitization** is the conversion of analogue data and processes into a machine-readable format, **digitalization** is the use of digital technologies and data as well as interconnection that results in new or changes to existing activities. **Digital transformation**, on the other hand, refers to the economic and societal effects of digitization and digitalization (OECD, 2019) (Figure 1).

4 Definitions

Digital transformation – the inevitable definition discussions. Definitions are important. Without common definitions we don't know what we talk about when we talk about it. What matters to us is that digital transformation takes into account all the parameters that are needed to succeed, depending on your strategy, roadmap, goals, stakeholders, context and so forth. What also matters to us is that you don't look at digital transformation from a pure technology nor a pure marketing or any other angle. There are plenty of definitions provided by academicians, government authorities and business experts. Some of them are summarized in Table 1.

Table 1

| Source | Definition |
|--------|------------|
|--------|------------|

⁴ Caruso, L. (2018). Digital innovation and the fourth industrial revolution: epochal social changes?. *Ai & Society*, 33(3), 379-392.

⁵ OECD (2019). *Going digital: Shaping policies, improving lives*. Paris: OECD Publishing.

⁶ Valenduc, G., & Vendramin, P. (2016). *Work in the digital economy: sorting the old from the new* (Vol. 3). Brussels: European Trade Union Institute.

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|------------------------------|---|
| European Commission (2019) | Digital transformation is characterized by a fusion of advanced technologies and the integration of physical and digital systems, the predominance of innovative business models and new processes, and the creation of smart products and services. |
| OECD (2018) | Digital transformation refers to the economic and societal effects of digitization and digitalization. Digitization is the conversion of analog data and processes into a machine-readable format. Digitalization is the use of digital technologies and data as well as their interconnection which results in new or changes to existing activities. |
| Deloitte (2018) | Digital transformation is the use of technology to radically improve the performance or reach of an organization. In a digitally transformed business, digital technologies enable improved processes, engaged talent, and new business models. |
| Bloomberg (2018) | Digital transformation requires the organization to deal better with change overall, essentially making change a core competency as the enterprise becomes customer-driven end-to-end. Such agility will facilitate ongoing digitalization initiatives but should not be confused with them. |
| citrix.com/glossary(2021) | Digital transformation is the strategic adoption of digital technologies. It's used to improve processes and productivity, deliver better customer and employee experiences, manage business risk, and control costs. Digital transformation represents myriad tools, solutions, and processes. An effective strategy is one that's customized for each unique organization |
| enterpriseproject.com (2021) | Digital transformation is the integration of digital technology into all areas of a business, fundamentally changing how you operate and deliver value to customers. It's also a cultural change that requires organizations to continually challenge the status quo, experiment, and get comfortable with failure |
| Forbes(2021) | Forbes defines digital business as "The creation of new business designs by blurring the digital and physical worlds" and stated that "What makes digital business different from e-business is the presence and integration of things, connected and intelligent, with people and business." Another critical characteristic of a digital business is speed of execution. The speed of a digital business is as much as 5 times faster than the speed of a traditional business. |

Digital transformation tomorrow – a next generation not a reiteration. A different definition centres on creating new combinations of the information based and physical based resources. Those combinations created new avenues for creating value, realizing revenue etc. Avenues based on seeing, thinking and doing things differently.

5 Ecosystem

The rapid advance of digital technologies has led to the development of an ecosystem of interdependent digital technologies, as depicted in Figure 2, that underpins the digital transformation that will drive future economic and societal changes.

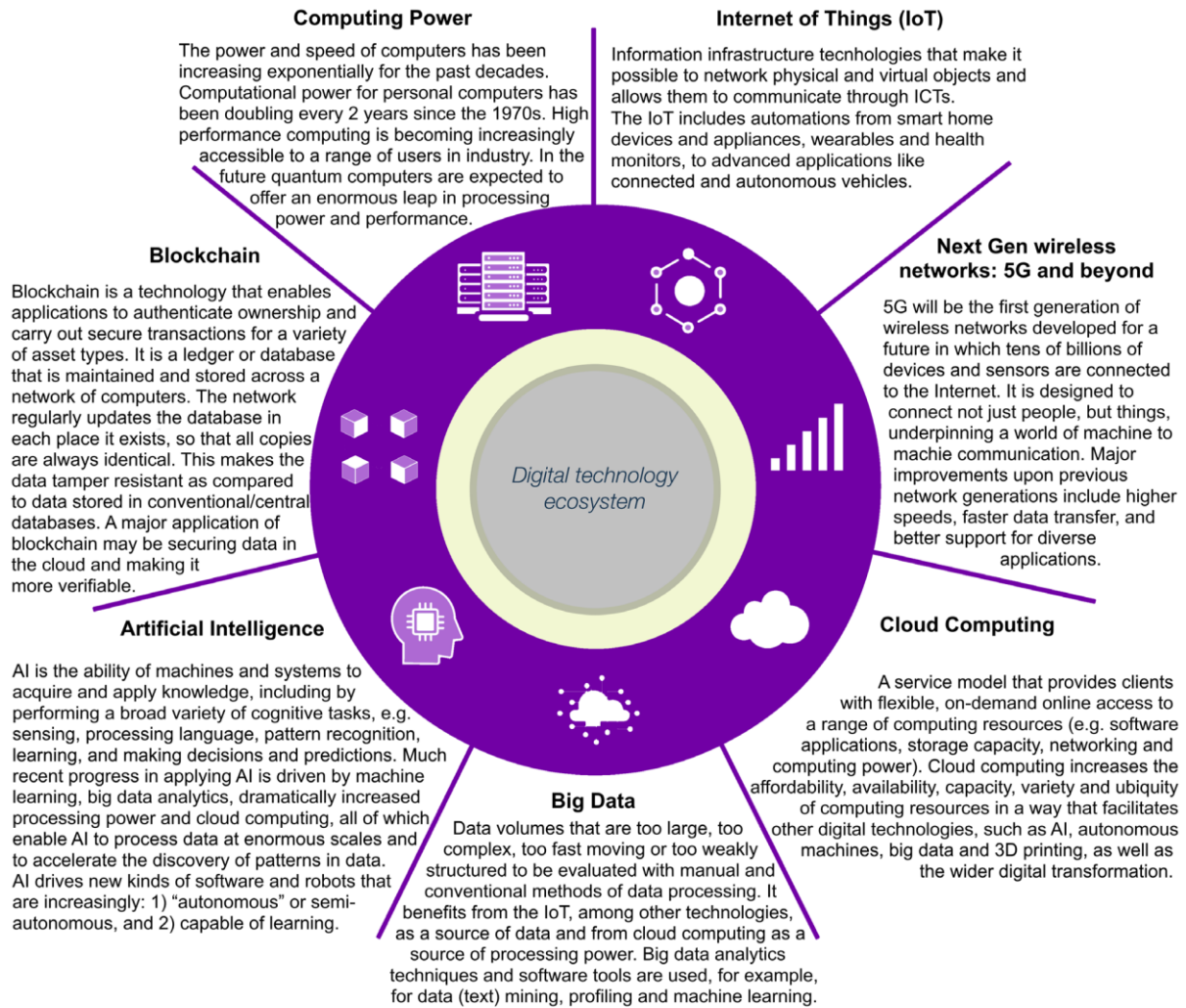


Figure 2 An ecosystem of interdependent digital technologies (Source: Adapted from OCED (2019b), and Voss, Maack, & Rego (2019)