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TRITONIC
Str. Coacăzelor nr. 5, Bucureşti
e-mail: editura@tritonic.ro
www.tritonic.ro
Tritonic Bucureşti apare la poziţia 18 în lista cu Edituri de prestigiu recunoscut în domeniul ştiinţelor sociale (lista A2) (CNATDCU): http://www.cnatdcu.ro/wp-content/uploads/2011/11/A2_Panel41.xls

ISBN 978-606-749-526-3

Colecţia Smart Books este coordonată de lect. univ. dr. Bogdan Hrib.

Coperta: Alexandra Bardan
DTP: Ioan Dorel Radu
Editor: Rebeca Cojocaru
Comanda nr. SB04/2020
Bun de tipar: decembrie 2020
Tipărit în România

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TRITONIC
Tritonic Books

București – 2020

Summary

Foreword

Never managers have been under so many sudden challenges. On the one hand, they are under the traditional pressures of shareholders, competitors, consumers, and regulators. On the other hand, they must relearn management as it is profoundly affected by the current digital transformation affecting almost all industries, markets, and economies. We have never been as connected as today, with a globalization beyond culture and business that transforms, many of the established realities, in the new digital context. New business models and new social expectations require new mindsets.

The exploratory four essays proposed in this book investigate a series of aspects of interest for any current or future manager: the current global drivers of change; the imperative of the digital transformation and its impact on management; the issues of ethics and sustainability in a global race for efficiency; the new leadership that is needed and how to educate future managers. The book should be considered an invitation to reflection and to action, as well as an introduction to future discussions.

The authors
Bucharest, 2020

Global drivers of change: impact on economy, society, and governments

Alexandra Viţelar

Today's world is extensively interconnected and defined by the continuous flows of capital, goods, services, and information. Disruptive changes impact many global industries, significantly influencing businesses, governments, and individuals (World Economic Forum, 2016). The existing national borders are challenged by the increasingly tight connections at different levels, be they economic, political, or cultural. In a nutshell, the continuous flows and interconnectivity make up the portrait of our world today. This portrait also represents our starting point in understanding the global drivers of change.

Our discussion on major global factors that impact economies, societies and governments starts by exploring a topic that has been widely popular and controversial in the last decade: globalization. What is globalization? A subject much discussed and debated among scholars or

even journalists and politicians. It is sufficient to look at this year only [2020] and see that globalization was a subject of broad and current interest and a fundamental concern for news coverage worldwide, not to mention that many individuals blame globalization for our current pandemic. Doubts about the future of globalization increased back in 2016, with the political platform of Donald Trump for the presidential elections and the vote of Great Britain that shocked both the entire European Union and the world. Nevertheless, it is essential to understand and characterize globalization and its effects on governments, economies, and society for a deeper understanding of the issue.

The study of globalization has been conducted in various fields such as sociology, anthropology, economics, political science, to name a few. Nevertheless, specialists often mentioned that one characteristic of globalization is that of higher interdependence or connectivity. "The world has become an increasingly interwoven place, and today, whether you are a company or a country, your threats and opportunities increasingly derive from who you are connected to." (Friedman 2000, p. 20). Moreover, in his book "The world is Flat," Thomas Freidman (2007) discusses different stages of globalization, the most recent one, Globalization 3.0, being driven by the power of individuals to collaborate and compete at a global level. A more complex approach is that of Ritzer & Dean (2019, p. 44). They argue that "globalization is a process or set of processes involving increasing liquidity and growing multidirectional flows of people, objects, places, and information, as well as the structures they encounter and create. Such structures can either act as barriers to or expedite those

flows." By increasing liquidity, the authors refer to the ease of movement in the global age. Both approaches have something in common: they illustrate the interdependence and linkages between individuals, companies, objects, places. The increased connectivity determined the free movement of people, goods, money, information across borders.

Furthermore, Robertson and White (2007) provide an encompassing approach by defining the phenomenon from several standpoints. They firstly characterize globalization considering two significant tendencies: global connectivity and increasing global consciousness. Secondly, the argument made by Robertson and White (2007, p. 64) states that globalization has "four points of reference: nation-states; world politics; individuals; and humankind." Thirdly, globalization comprises humanity, with its multiple facets, including cultural, social, and political issues.

Friedman's (2000) viewpoint shows that globalization is like an international system with its own power structure, dominant ideas, and features that replaced the Cold War as a defining system. Friedman (2000) draws a parallel between the two, discussing the similarities and differences, highlighting that globalization is just a modern version of an older story. Nonetheless, integration is a crucial feature of this system. As Friedman (2000) points out, one driving force of the globalization era is, first and foremost, the Web. Other defining technologies include computerization, digitization, satellite communications, fiber optics, furthering the integration process. "I define globalization this way: it is the inexorable integration of

markets, nation-states and technologies to a degree never witnessed before—in a way that is enabling individuals, corporations, and nation-states to reach around the world farther, faster, deeper, and cheaper than ever before, and in a way that is enabling the world to reach into individuals, corporations and nation-states farther, faster, deeper, cheaper than ever before." (Friedman, 2000, p. 18). Unlike Friedman's definition, Ritzer & Dean (2019) do not consider that higher integration within a system is a prerequisite of globalization. Steger (2019) follows the same line of thought, highlighting that globalization can disrupt existing relations, reducing the level of integration. A recent example being the withdrawal of the United Kingdom from the European Union – Brexit.

Other specialists (Ghemawat, 2017) point out the existing data to see how globalization is evolving in the face of such debate. Ghemawat (2017) shows that people overestimate international business flows; in other words, people think the world is more globalized than it is. "Data shows that actual international activity continues to be dampened" by factors such as geography, distance, language (Ghemawat, 2017, p. 115). Analyzing the global environment between 2018–2019, one can notice that it has been defined by tensions among two of the largest world economies, the USA and China. Due to the American leaders' restrictions, the trading between the two countries has been significantly decreasing with consequences seen in the international flows of goods.

Strictly referring to the economic context, globalization encompasses liberalization policies, free trade, exchange rates, and capital flows. Economic globalization involves

closer economic integration of the countries (Stiglitz, 2008) through long-distance flows (Keohane & Nye, 2003) of goods, services, capital, labor, and the information and perceptions that accompany the market exchange. Two vital components of economic globalization are trade and capital market liberalization (Stiglitz, 2008; Drucker 2020). In an essay from 1986 recently republished by Harvard Business Review Press, Peter Drucker (2020) makes an in-depth analysis of how the economy has profusely transformed and changed its foundation and structure. One of the significant factors that transformed the world economy, according to Drucker, is the movement of capital instead of the trade-in goods or services (Drucker, 2020). He further argues that exchange rates and credit flows have become an unpredictable driving force of the world economy that has unmistakably changed how businesses and economists approach the real economy. "From now on, the exchange rates between major currencies will have to be treated in economic theory and business policy alike as a "comparative advantage" factor" (Drucker, 2020, p. 57). This approach is opposed to what economic theory is teaching us – mainly that the comparative advantage factors such as costs of labour, raw materials, transportation determine exchange rates. The main lesson that can be drawn from this, as Ducker (2020) points out, is that any business that wants to be successful and attain financial growth needs to adapt to the global economy and global competitors that, nowadays more than ever, drive the domestic economic policies. Managers should be conscious of these facts, and they should adopt and incorporate the company's strategic and operational planning according to the global situations and trends.

Looking at the trends in worldwide trading from 2018 to 2020, one can understand globalization's complex and dynamic nature. Ghemawat & Altman (2019) point out that since Brexit and Trump's protectionist administration, there has been a slight decrease in international flows in 2018 due to the tariff increases, tightened legislation regarding businesses, free movement of people (because of fears about illegal immigration). Even in these conditions, a World Trade Organization report shows trade did expand in 2018 but at a more moderate pace than previously forecast (WTO, 2018). In 2019 the situation did not improve; merchandise trade volume declined by 0.1%, while commercial services trade grew slightly by 2% in 2019 compared to 9% in 2018. The growth slowed, and trade tensions escalated. (WTO, 2020). Even though 2018 and 2019 brought tariff increases, tightened legislation regarding businesses, and free movement of people, causing a decrease in international flows, in 2020, the world's level of global flows has declined even more due to the Covid-19 pandemic. The DHL Global Connectedness Index 2020 shows that the Covid-19 pandemic has caused a major worldwide crisis. The evidence presented in this report reveals that capital flows were affected harder than trade, while the flows of people were down to an unprecedented level in 2020 (Altman & Bastian, 2020). Nation-states closed their borders, and global lockdowns intended to slow the virus only managed to slow down their economy. If anything, the current crisis has brought forth inequalities between countries, the most evident ones being in healthcare, education, economic sectors. Many countries nowadays struggle to manage the economic slowdown's severe effects, such as

high unemployment rates and low GDP growth on top of a health crisis.

The last decade was marked by changes and revolutions in most of the governing sectors of life: economy, society, and governments. Some of these changes were pushed forward by naturally occurring factors, such as technological advancements and innovations. In contrast, others were forced by political or social issues: the impact of Covid-19, Brexit, the Trump administration's nationalistic/ populistic agenda. Either a force for good or bad, these drivers have impacted society as a whole and continue to revolutionize and disrupt the globalization agenda. The Internet, the big-tech companies, global institutions, the need for sustainability are just some of the drivers of change that bring both challenges and opportunities at the macro and micro level that individuals, communities, businesses, and governments will face in the foreseeable future.

Technological progress

First, in today's world, one significant driver that changed all aspects of our lives is technology and technological progress. Over the centuries, human societies have evolved and developed radically because of technological advancements. Our contemporary society differs substantially from that of the previous centuries because of technological innovations such as the printing press, the steam engine, the telephone, electricity, the jet engine, the microprocessor, and the Internet, to name a few. Technology is also the main driver for globalization that determined global economic exchanges, social and politi-

cal transformations; it also led to the "flattening" of the world and the increased worldwide interconnectedness. In other words, "ground-breaking changes in technology made globalization possible and turned it into a tangible reality that we live in today" (Weisblat, 2019).

Technological innovations shape all aspects of life, from industries to governments, from how we live to the way we work. The fourth industrial revolution discussed at Davos in 2016 emphasized the prevalence and the importance of the digital medium. Based on the development of IT, electronics, and automatization, the fourth industrial revolution is blurring the lines between the physical, digital and biological spheres. (Schwab, 2016). In this context, it is of no surprise that "digital disruption" has become one of the most popular buzzwords in recent times. The extent of the digital environment and the proliferation of digital technology is visible in recent data: more than half (52%) of the world's population is now online, the Internet of things (IoT) connects 22 billion devices in real-time (Schwab & Malleret, 2020). The digital revolution brought by the Internet, smart devices, social media is becoming the norm for the world today.

Looking at the numbers, half of the world's population uses the Internet, that is, almost 4 billion people connected online; however, there are also gaps between countries, brought forth by the inequalities of economic development. For instance, in developed countries, nearly all young people use the Internet (98%) but are significantly less connected to the online medium in the less developed counties. Data from 2019 shows us that 40% of young individuals in developed countries use the Internet

and just 27% of the adult population (International Telecommunication Union, 2020). Technology transforms the world, and in a business-related context, one primary transformation enabled free trade and elimination of national borders. For this reason, the use of technologies can ensure multiple opportunities for those companies capable of anticipating the changes and transformations that new technologies bring. Nevertheless, one of the hard-to-accept lessons of increased economic globalization is that the free market alone cannot maximize the advantages for all countries. The before mentioned data from the International Telecommunication Union report (2020) showcases these discrepancies, highlighting the disadvantages of an economically globalized world.

The impact of digital technologies on business has profound implications. The adoption of digital commerce, robots, artificial intelligence, blockchain technologies influences the relationship between governments, companies, and citizens. The world is more connected than ever and while there may be a slowdown in international goods trade, flows of services and data are growing faster than ever. (Lund et al., 2019; Manyika & Lund, 2019; Altman & Bastian, 2020). Some studies (Lund et al., 2019) even show that service flows are growing 60% faster than the trade in goods. Advanced economies nowadays are dominated by the services sector, and the need to further develop specific areas of this sector has become even more apparent during the Covid-19 pandemic. As pointed out in the DHL Global Connectedness report (Altman & Bastian, 2020), trade-in IT and communications services have expanded during the pandemic because of

governmental restrictions. Businesses had to adapt and enable employees to work from home.

Digital technologies change what businesses trade on international markets and how they do it from a logistics standpoint. A McKinsey Global Institute report from 2019 shows that "global value chains are being reshaped by cross-border data flows and new technologies, including digital platforms, the Internet of Things, and automation and AI. In some scenarios, these technologies could further dampen goods trade while boosting trade in services over the next decade" (Lund et al., 2019). The same report (Lund et al., 2019) also illustrates one advantage of digital technologies, i.e., they can accelerate trade by reducing transaction costs, making cross-border coordination more efficient, and enabling multinationals and smaller businesses to participate in the international marketplace. Multinationals and small businesses face new competitive challenges, and businesses are required to adopt next-generation technologies, including digital platforms and logistics applications, to reach their full potential. Those businesses that adopt digital technologies can also take advantage of the opportunities that arise. For example, technology can enable businesses to penetrate untapped markets, gain new market segments, offer more efficient services or products to consumers. In this respect, Covid-19 has also accelerated the growth of both B2B and B2C e-commerce. An analysis by McKinsey Global Institute (Lund et al., 2019) estimates that B2C e-commerce sales will reach $1.3 trillion to $2.1 trillion in total trade by 2030.

New technologies can boost the overall trade in international goods and services and influence global competition between businesses by cutting costs throughout the value chain, reducing suppliers, improving productivity, and scaling down production costs. This idea is very well illustrated by Lund et al., (2019); they mention that the IoT can improve delivery services through real-time tracking. AI can adapt the actual shipment using a series of parameters such as truck routes and road conditions. Nowadays, companies can use many other technologies to improve their activity efficiently. Besides the ones mentioned, some noteworthy technological trends are in autonomous vehicles, blockchain shipping solutions, drones, cybersecurity. Incorporating these technologies affects business decision-making. Companies have new means through which they can make an informed decision – natural language processing/AI, for instance, can enable companies to process, structure, and analyze data faster than ever. According to Accenture (2019), around 80% of business data is unstructured in the form of emails, charts, articles, social media and web content, documents. All the data being practically impossible to process manually, but with the help of AI, the data analysis becomes much more accessible. Therefore, the use of technology can help businesses uncover insights and make informed decisions and take better actions.

All the innovations and technological progress nowadays enable economic integration. All businesses and industries are under pressure to adapt and adopt digital solutions. Helen Deresky (2017) points out that managers need to identify the key global trends and incorporate them into their strategic planning. The increasing global

interconnectivity and the phenomenon of an "electronically flattened earth" give rise to increased opportunity and fast-developing competition (Derensky, 2017, p. 26). Anghel & Dinu (2014) illustrate that the economic environment is substantially transforming, simultaneously generating economic growth and a new dynamic in worldwide demand. They argue that while countries export high technology, they positively influence the GDP per capita, concluding that high-tech represents a source for economic growth. A similar line of thought is expressed by Falk (2007), whose research shows that high-tech and research and development (R&D) activities have a significant positive impact on GDP per capita growth.

Nevertheless, in economic theory, it is generally accepted that technology is a diver of economic growth for companies, countries, or entire regions. As discussed before, technological progress reduces production and logistics costs, leading to product and service innovations. In turn, the changes at the organizational level lead to prosperity and further down to economic development.

Technology is the primary driver of change nowadays, and it impacts not only economies and businesses but also governments and societies. Governments are essential for enabling change within a country at an economic and societal level. Policies for modernization and progress within countries or regions have always been on the agenda of political leaders. However, for emerging economies, such as Romania, governments are not fully equipped and adapted to the online world, failing to keep up with the digital economy. In this context, a

UN report shows that there is a broad digital gap between developed and less developed countries. The Covid-19 pandemic has exacerbated the existing digital divide, "widespread requirements to shift to remote learning and remote working options for students and employees during the COVID-19 pandemic has particularly laid bare differences in network infrastructure, safety and readiness, as well as access to connectivity in both developed and developing countries." (BroadBand Commission, 2020, p. 46).

There is a need to close the digital gap, and governments in less developed countries and developing countries to reassess how to govern, deliver and organize in the public sector. In the foreword of the Transforming Government for the 21st Century Report, Tony Blair states that decentralizing technology leads to a more interconnected and independent world, where governments should be conductors and enablers for an integrated economy and society, setting the direction and creating the opportune conditions for change. (Bennett & Yiu, 2019). In the same report (Bennett & Yiu, 2019), three principles are identified regarding government transformation: purposeful governance, enabling infrastructure and responsive institutions.

By providing a more interconnected infrastructure and decentralizing the decision-making process, governments can offer a more purpose-oriented and efficient administration, letting local governance have a deeper level of freedom in their activity. Thus, more relevant tasks can be focused on, potentially leading to a more efficient local government. Especially in the context

of the current pandemic, governments must switch as much as possible to a digital framework and platforms to better provide citizens with access to all public institutions. Sound policies and public services must back this digital infrastructure. The government of Moldova gives one such example, one of the first countries in Eastern Europe, to shift its government IT infrastructure into the cloud and launch mobile and e-services for citizens and businesses (Kvochko, 2013).

At the societal level, the technological revolution, with its myriad of advancements, has changed the way individuals interact and communicate with each other, with businesses, and governing institutions. One of these engines, the social media platforms, has provided individuals the opportunity to express themselves unprecedentedly, pushing the boundaries of freedom of speech on a grander scale. Thus, physical boundaries have been eliminated, allowing more and more people to have a place in a newly created digital public space, exchanging thoughts, ideas, and beliefs. Social media platforms have also transformed the established consumer behaviour by allowing users to generate their own content. Ritzer and Dean (2019) define this newly created consumer class as prosumers, meaning users who consume what they produce. From simple posts, tweets, blog posts to videos, Vlogs, stories and much more, users have exponentially created more and more shared content, discussed, and critiqued all over the world.

A driver of global commerce made more important now than ever, e-commerce has also reached new heights, pushed by advancements in machine learning, AI and

automation. More and more people have transitioned to an online shopping behaviour, driving e-tailers to invest more and more in providing a better user experience, a more efficient automation process both for front and back-end services. As mentioned in The Covid-19 Crisis report, the number of online shoppers has more than doubled in the first half of the year (UNCTAD, 2020). Amazon, Alibaba, Netflix, HBO, YouTube are just a few of the digital platforms that registered a spike in demand. Due to the pandemic-related restrictions, Microsoft reports that in April 2020, they registered more than 200 million Microsoft Teams meeting participants in a single day, generating more than 4.1 billion meeting minutes (Spataro, 2020). With more than 75 million daily active users, remote work has become the new normal, determining people to collaborate, share and interact online at an unprecedented level. A McKinsey Institute survey conducted among 800 respondents holding an executive position within companies shows that companies will need to reimagine how work is done and reconfigure and rethink the workplace. According to the survey (Lund et al., 2020), across all sectors, 15 % of executives agree that at least one-tenth of their employees could work remotely two or more days a week going forward, almost double the 8% of respondents who expressed that intention before COVID-19 (Lund et al., 2020).

Another technological factor that had a major significant impact on societal interactions is the proliferation of quick and affordable international travel. In today's world, the movement of people across the globe is made much easier due to an increase in cost-effective air traffic, new flying routes, more flexible route choices. Interna-

tional tourism has had a steady increase during the past decades, with the number of people traveling for business or leisure steadily increasing up to the first quarter of 2020. "The growth of international tourism continued at a slower pace in 2019, with total international arrivals expanding 3.7%, as compared to 5.7% in 2018." (Altman & Bastian, 2020, p. 41).

Big tech

Big innovative companies have nowadays more and more influence on the way individuals think and interact, how governments act, or how trade is conducted. The meteoric rise of Silicon Valley tech giants, global drivers of change, like Facebook, Google, Amazon, Apple, Twitter, Instagram (Traver, 2019), allowed them to become the default gatekeepers of information; they influence how information is spread and consumed, effectively deciding the world agenda. "Many platform technology firms operate as natural monopolies—that is, companies that can dominate a market by sheer force of their networks." (Foroohar, 2019a). In China, companies like Tik Tok, WeChat, Weibo, or Tencent have mimicked their US counterparts to similar success, further bolstered by the concentrated nature of how technology and social structures are developed and maintained there.

Many countries and governments seek foreign investments from multinationals, as foreign capital can help developing countries. Foreign capital represents a founding source for further investments at a national level (Anghel & Dinu, 2014). Research shows (Sylwester, 2001; Stokey, 1995) that economic growth is strongly depend-

ent on investments in research and development. Often, governments and their countries' economies depend on investments in R&D, and companies such as Facebook, Amazon, Google have a major role in maintaining economic development by trading innovative services and products. In Romania, Google invested 500.000 $ in a "Tech generation" program to develop digital abilities and skills in the 15–24 yo generation in 3 specific cities. A local hub provides young adults with programming skills as well as general digital competencies. In a quote by a senior Google program manager, "Google has offered grants to several non-profit organizations in Central and Eastern Europe to support the digital acceleration process." (Chicovschi, 2019). Investment by global companies worldwide means that developing economies can benefit —through the transfer of financial, technological, and managerial resources (Deresky, 2017, p. 31). In the US, Silicon Valley companies bring job growth in cities like San Francisco, Austin, Paulo Alto, contributing to the local economy by bringing wealth into the region (Foroohar, 2019a). A study conducted by the Internet Association found that the internet sector in the US alone created 6 million direct jobs, accounting for 4% of US jobs (Shepardson, 2019). In these ways, big tech companies assist in the national development with sustainable programs, responsible business practices and development opportunities that benefit everyone.

However, big tech companies have also been criticized and compared with big banks. Foroohar (2019b) points out that big tech companies try to influence governmental policies and often lobby to try to avoid regulation, trying to convince all stakeholders that they deserve to play by

different rules, just like big banks did back in 2008. Nix (2019) points out that in 2018 Amazon spent $14.2 million on lobbying, a record for the company, up from its previous high mark of $12.8 million in 2017. Big tech companies try to avoid strict governmental regulations, lobby for tax avoidance, and influence policymaking. A recent example is that of Amazon. The company wants to convince the American Congress to let them draft facial recognition laws. To this end, Amazon has already developed a software named Rekognition, selling it to the police and private companies. Privacy advocates have criticized Amazon's software, arguing that it is invasive and could be misused by government agencies. (Holmes, 2019). However, CEO Jeff Bezos maintained that the technology is viable, adding that "It's a perfect example of something that has really positive uses, so you don't want to put the brakes on it. But, at the same time, there's also potential for abuses of that kind of technology, so you do want regulations. It's a classic dual-use kind of technology." (McKay, 2019).

Amazon is not the only big tech company to exhibit such type of behaviour. Big tech companies spend vast sums of money on lobbying Washington and influencing political decision-making in their favour on issues like copyright, taxation, computer industry, consumer issues, law enforcement, telecommunication, and many more. In 2018, 77$ million was spent by nine tech companies on lobbying. (Nix, 2019). Moreover, issues such as the "unchecked power" of the big companies arise. For instance, a Bloomberg report shows that Amazon is put under scrutiny by the Federal Trade Commission over their business practices, investigating if the e-commerce

giant is using its market power to hurt competition (Soper & Brody, 2019). Facebook is another tech giant that was in the frontlines of public opinion scrutiny alongside Cambridge Analytica with the privacy issue. Facebook collected and sold 87 million Facebook profiles to Cambridge Analytica, a political consulting and strategic communication company based in the UK that was, for instance, behind the pro-Brexit campaign and allegedly used the private user data to sway election decisions (Meredith, 2018; Patterson, 2020). Foroohar (2019a) makes a compelling argument that the increased use of IoT expands the opportunities for digital resource extraction. Personal data extraction is a fast-growing industry in the digital economy, "one that will be worth $197.7 billion by 2022" (Foroohar, 2019a, p. 153). As a result, big tech companies are getting more and more powerful and influential.

Many specialists and journalists ask, "are big tech companies becoming too powerful?". Amid the world pandemic crisis, big tech companies' market value soared. "The combined market value of Amazon, Facebook, Google and Microsoft, which was 500$ billion in 2008, peaked before Covid-19 crisis erupted at more than 7.5 trillion$" (UNCTAD, 2020, p. 3), with things still looking up at the end of 2020 due to the increased demand for services like cloud computing since work and learning moved to the cloud. In this sense, Microsoft reports that "Across education, government, healthcare, and business, Teams is powering collaboration for organizations of all sizes while meeting the highest standards of security and privacy. Around the world, more than 183,000 educational institutions use Teams. In the United Arab Emirates

alone, over 350,000 students are relying on Teams for remote learning. On the business side, 20 organizations have more than 100,000 active users on Teams, including Continental AG, Ernst & Young, Pfizer, and SAP" (Spataro, 2020). However, Microsoft is not the only platform to offer solutions, Amazon with their Chime platform, Google with G Suite, Cisco with WebEx, and Facebook with Workplace being other significant players in this sector. According to Foroohar (2019a), when writing about big tech's corporate savings, he came to realize that they are the most profitable, while at the same time the least regulated industry. In this way, the conclusion was that it is big tech companies, not banks, which are the new "too big to fail" industry.

Big tech companies are subject to many controversial discussions. On the one hand, they can be seen as a force that leads to innovations, investments, and economic growth, and on the other hand, it can be argued that they have too much influence and power that they use for their self-interest to reach higher and higher profits. However, no matter how we look at big tech companies, they represent the future, being drivers of change across economies, governments, and societies.

Sustainability and the green agenda

The sustainable development concept dates to a 1987 report to the United Nations. It involves economic and environmental changes that meet the needs of the present without jeopardizing the needs of the future. (Ritzer & Dean, 2019). The global actors involved in the decision-making processes related to ecological issues are

adopting a firm stance on subjects like climate change, carbon footprint, and responsible business practices. In recent years, climate-related issues have taken a front place in the corporate agenda, becoming critical not only for businesses but also for stakeholders. Organizations such as the UN, stress the importance of sustainable governance and acting on managing climate change. The culmination of such policies is the Paris Agreement, ratified in 2016 and currently recognized and supported by 195 states worldwide. Not everyone is on board, however. USA president Donald Trump has declared opposition to the agreement, and as such, removed the USA from the accord, saying it put the US at a competitive disadvantage by burdening American companies through intensive regulations (Holden, 2019).

One interesting moment of the climate change discussions represented Greta Thunberg's speech at the UN Climate Action Summit 2019, where she urged global leaders to act on their political speech regarding climate change. Her speech was highly mediatized and sparked a heated debate on the inaction of governments and businesses regarding climate change policies. However, sound environmental policies must consider the effect they cause on both current and future generations, bringing the need for equity into play. Stiglitz (2008) emphasizes the importance of a vision for sustainable development that governments and companies incorporate in their strategic planning that goes beyond GDP growth. "(…) success means sustainable, equitable, and democratic development that focuses on increasing living standards, not just on measured GDP." (Stiglitz, 2008, p. 44).

According to the UN, sustainable development goals must focus on reducing poverty and hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible production and consumption, climate action, clean ocean/ seawater, sustainable land exploitation, peace, justice, strong institutions, sustainable partnerships (United Nations, 2020). These goals also represent a framework for the EU's commitment to sustainable development, incorporated in the European Commission's 10 priorities. The European Commission intends to include the UN's sustainable development goals in policies and initiatives across the board. In this regard, the EC has developed a 2030 agenda, identifying the most relevant sustainability concerns. The EU's priorities aim to make Europe the first climate-neutral continent by becoming a modern, resource-efficient economy (European Commission, 2020a, 2020b).

Technology plays an important role when speaking of sustainability challenges, both at the societal and economic levels. However, many companies are making decarbonization commitments that are not achievable through the current technological landscape. "In other words, they are betting technology is going to come, because it has to, if we as a society are going to have any hope of making the transition to a low carbon economy." (Herweiger, Cox, & Scott, 2020)

Sustainability can be applied through sustainable green products, re-organizing value chains, and developing new business models on a company level.

– When designing new products, companies must consider the shift in consumer behaviour towards eco-friendly options. In the development process of these products, the whole life cycle should be examined. Materials used, supply and distribution must all considered.

– Re-organizing value chains to make them more sustainable means considering national and international regulations with a pro-active environmental approach. Several aspects must be considered to develop value chains, such as supply chains, operations, workplaces and recapturing returns.

– Developing new business models involves new ways of capturing revenues and delivering services, and rethinking the customer value proposition. (Nidumolu, Prahalad & Rangaswami, 2019).

The sustainable development and green agenda should also be analyzed through multiple lenses. Ritzer & Dean (2019) raise the issue that economic development can, on the one hand, destroy the environment but also provide the ability to control the factors that are affecting it. Then, there is the technological angle: technology both degrades the environment and creates solutions for the major environmental issues. Through new technologies, such as automation and AI, businesses and governments can restructure their activity, so they reduce their carbon footprint and environmental impact and reduce energy

consumption. Third, the political nature of environmentalism, where global organizations such as WTO and UN set the agenda for sustainable economic growth.

Global governance

Global political structures have a significant role in influencing the dynamics of the international environment and the national governments. The creation of new global super-structures also determined the road to a globalized world. After the 2nd WW, the Organization of United Nations came into being, intending to maintain peace and prevent another world war. Nowadays, The UN mission, has not changed much; its aim is still to maintain international peace and security and give humanitarian assistance to those in need, protecting human rights and upholding international law (United Nations, n.d.). Among the most well-known international organizations, we can name a few of the most prominent: International Monetary Fund (IMF), World Bank (WB), World Trade Organization (WTO), Organization for Economic Cooperation and Development (OECD), World Health Organization (WHO), or European Central Bank (ECB). These organizations are setting the international agenda, facilitating cooperation among nations; therefore, they are a driving force in today's globalized world, promoting global initiatives and acting as catalysts for change.

These supranational institutions have different agendas, from promoting international financial stability, reducing poverty, promoting sustainable development, negotiating trade agreements, promoting worldwide health to setting international standards, and finding solutions to various

social, economic, and environmental issues. They form an international body that establishes how international activities should be conducted. Helen Deresky (2017, p. 30) points out that many of these "supranational institutions frequently promote rules or laws favourable to foreign firms (e.g., requiring intellectual property rights protections in China), others have been criticized for infringing on national sovereignty (e.g., challenges to certain environmental laws in the United States)".

Schwab and Malleret (2020, p. 49) define global governance as "the process of cooperation among transnational actors aimed at providing responses to global problems (...) It encompasses the totality of institutions, policies, norms, procedures and initiatives through which nation states try to bring more predictability and stability to their responses to transnational challenges." Global governance exists under three forms: governance through multistakeholder initiatives, the creation of voluntary regulations, and transnational arbitration bodies (Ritzer & Dean, 2019). The scope of these institutions is to respond to rising global challenges that single states cannot handle individually. In this sense, Schwab and Malleret (2020) mention the failed global governance response to the Covid-19 health crisis. This was evident from the onset of the growing pandemic, as international cooperation in order to come up with fast and effective solutions was virtually non-existent and was further exacerbated by the tensions between the USA and China, each with its own measure of failed communications and decision-making processes. In the EU, the situation was much the same, with most of the states choosing to tackle the problem

individually instead of coordinating a generalized strategy across the EU.

At the European level, however, we cannot ignore the role of the European Union as a supranational institution that greatly influences nation-states. With time, the EU has increasingly exerted its influence over the nation-states, restricting their ability to negotiate trade agreements at an individual level, or by influencing national fiscal measures, imposing their own directives. Then, we can talk, about a genuine shift of power, leading to nation states losing their sovereignty more and more often in the face of the EU's imposition. This phenomenon has led to a eurosceptic current, which coalesced into what ultimately became the Brexit situation. As a result, one of the more significant economic implications is the loss in revenue, forcing the more developed countries like Germany and France to bear the costs and share a more considerable responsibility (Ritzer & Dean, 2019).

Some final considerations

Through its agents of change, the globalization process impacts all aspects of society, economies, and governments. Through its essential characteristics, it influences the global economy by creating an institutional inter-dependency. It continues to shape societal interactions, either for good or bad, according to its predictions and pre-determined agenda. It guides governments towards more sustainable goals and policies, and incentivises national economies with structured data and strategic planning. By coalescing these factors under one umbrella-type form of governing, it aims to revolution-

ize the global perspective for decades to come towards a more unified global society.

Today's globalized world is characterized by intense trade in goods and services, where companies seek investment opportunities and strive to optimize their activities towards sustainability. All these are possible due to the liberalization of commerce and capital flows, but also due to the advent of the Internet and cutting-edge technological advancements. Digital technologies impact businesses at every level: from the way employees interact to the way in which the company communicates with stakeholders, how it organizes its activities from production to commercialization.

There has never been a more connected society. With the rise of social media platforms, global e-tailers and financial systems and technologies, the current level of human to human and human to business interconnectivity advances billions' lifestyle choices and well-being. Emergent markets are transitioning to stronger economies; decentralized cryptocurrencies help shape a new form of business transactions, and paid UGC helps millions adopt a more personalized professional future. Technological progress has revolutionized the global transport of people and products. New tourist routes allow more and more regions to generate income for their populace, and advancements in trade logistics allow more companies to serve the customers with faster and better deliveries.

Global organizations, now an integral part of the globalization effort, are taking a more active approach in developing and pursuing goals and policies that provide answers to global problems. These institutions can

to establish regulations that impact international commerce, health policies, and even national laws. Criticism regarding the global governance that sets the agenda for everyone comes especially under diminishing national sovereignty or fundamental human freedoms.

At the same time, these supranational entities have a significant role in establishing sustainable development agendas. For example, the UN sustainable goals have been adopted both in the EU's policies and in international agreements in which the majority of world governments have joined. Furthermore, sustainable development has been a target of corporations for some time, hastened by the change in stakeholder and customer expectations and also international legislations.

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Management in the era of global digital interconnectivity

Florina Pinzaru

Management is quite different at present than the one of previous decades, as agility and business ecosystems connected through digital technology are the new norm, and old concepts must be reconsidered. An explanation for the shift of management as we knew it to the current practice can be found in the impact of the Covid-19 pandemic on the worldwide economy, but another one is revealed by the more profound reality of the increased interconnectivity catalyzed by the digital technology. A radical reinvention of the economy and IT is happening now, as the business and social landscapes are reshaped by the prevalence of cloud and mobile fueled collaboration and communications.

The idea of interconnectivity is not new, nor its impact on managing people and activities. The general system theory (Von Bertalanffy, 1968) inquires on connections

and interactions between elements forming systems, and it was largely adopted in a variety of fields, from biology, to cybernetics, as well as to political and socio-economic studies. An interesting development of such debates is the discussion on complex adaptive systems, composed of multiple, interconnected elements that can adapt and learn from experience. Such systems are observable in nature, as well as in social and economic landscapes (i.e., organizations). However, the next step in their evolution seems to be the one of Artificial Intelligence (AI) systems, interconnected through the cloud-based technology and enabled by the signs of progress registered in the field of machine learning.

Interconnectivity appears between elements and subsystems of the same system, as well as between systems when they are open or semi-open. Formal or informal, the interconnectivity was and still is enabled simultaneously by the realities of globalization digitalization. From the business perspective, the global interconnectivity of individuals at work and of different business systems was favoured during the last four decades by the development of multinational corporations with a variety of subsidiaries, alliances, platforms and cross-border projects and activities. Simultaneously, the rise of digital technologies has accelerated individual interconnectivity, mainly through Social Media and, in organizations, more and more with the rapid changes brought by the development of cloud-based technology.

The management of interconnectivity itself supposes a clear vision, as well as the capability to align various functions, operations, and business realities in flexibly agile

systems. From a "nice to adopt" approach, managing in the context of global digital interconnect systems became during the last decennia a "must do" practice, raising new challenges to practitioners worldwide.

More than half of the worldwide population lives in a society of information, dominated by instantaneous access to information technology: 4.66 billion people from 7.8 billion (the total Earth population) are in 2020 active Internet users, 4.28 billion are active mobile users, 4.14 billion are active Social Media users (Statista 2020a), and 2.08 billion are active digital buyers (Statista, 2019). For these people, being connected, omnichannel, having access to products and services quickly from all over the world and compatible despite technological differences is the norm. Partly because of the pressure to become more efficient and cost-effective and partly because of the expectations of the digitalized individuals, organizations find themselves in an era of interconnectivity which is very concrete, passing from the reality of incremental networks and systems to the one of many-to-many connectivity.

The new cloud-enabled interconnectivity

At the base of the interconnected reality as we experience it at present is the technological development of robust and viable cloud systems. Cloud computing (CC) became increasingly popular for organizations during last years because it enables users to run software without installing it, and it proved to be both stable and secure. Eliminating the problem of buying and maintaining servers and other hardware, cloud computing gives users the possibility to

access content from everywhere and more is used, more it becomes affordable for all size organizations. Therefore, it is no surprise that the public cloud computing market worldwide (provided by companies such as Amazon Web Services, Microsoft Azure, Google Cloud, etc.) is forecast to exceed 362.3 billion U.S. dollars by 2022. It is a significant evolution from the 196.7 billion U.S. dollars registered in 2018 (Statista, 2020b), while the overall size of the global computing market, both private and public, is estimated to reach 832.1 billion USD by 2025 (Research and Markets, 2020). If in 2018 26% of EU enterprises used cloud computing mostly for hosting their e-mail systems and storing files in electronic form (Kaminska & Smihily, 2018), the percentage is expected to grow significantly, not only for business reasons as mentioned above, but also due to the institutional support: "CC is a key objective to increase Europe's sovereignty as outlined in the European Commission's Data Strategy, Digital Strategy, Industrial Strategy and the EU recovery plan", concretized in various policies and measures, as well as in the joint declaration of member states signed on the 15th of October, 2020, in order to collaborate towards the creation of European cloud (European Commission, 2020). Nearly 70% of European enterprises operate in 2020 in multicloud environments, mainly by accident (i.e., availability of technology and/or tactical decisions); therefore, a trend of development of hybrid platforms, perhaps with Artificial Intelligence (AI) integration is to be expected by 2025 (Venkatraman, 2020) – and, logically, of even more interconnectivity. Hybrid clouds combine public clouds with private ones, to allow the two systems to interact seamlessly.

One can expect that two-ways pressures are to be considered: more the interconnectivity technology becomes available, more organizations will need to reconsider managerial practices to include it; however, at the same time, new challenges could arise if business workloads exceed IT capacities to support them. IT challenges related to such a development are expected to be surpassed through elements such as network optimization, investments in hybrid multicloud computing, distributed security, distributed data, and application exchange (Equinix, 2020). Companies favour multicloud solutions in order "to increase agility, minimize vendor lock-in, take advantage of best-in-breed solutions, improve cost efficiencies, and increase flexibility through choice" (Saha & Manor, 2020), pushing further the degree of interconnectivity between the existing clouds, public and private ones. All the approaches mentioned above involve strategic decisions and, ultimately, transformations of the old way of doing business as well as of managing people and activities.

Passing from traditional management to the business administration using the cloud-based interconectivity solutions at its full potential allows enterprises to lower barriers between teams and partners and to innovate and develop while managing operations faster and more cost-effectively. Some of the most common benefits of cloud-based interconnectivity are the ones of increased rapidity in implementing hardware and software solutions, the quick returns of IT investments, the predictability of associated IT costs and the scalability gained by companies becoming more agile in expanding

or shrinking operations according to changes observed on the market.

There are many applications of the cloud-based technology, from managing spikes in demand without the need to invest in hardware, to chatbots (Siri, Alexa), messaging and calling apps (WhatsApp, Skype), shared office tools that increase productivity (Google Docs, Microsoft Office 360), CRM and ERP systems (Salesforce, Hubspot) backup and recovery (Google Drive, Dropbox), application development, test and updates (Amazon Lumbeyard, BlazeMeter), Big Data analytics (open source based such as Hadoop, HPCC or individualized on Amazon Web Services – AWS or Microsoft Azure), social networking (Facebook, Twitter, LinkedIn), education (Google Classroom), meetings (Zoom, Google Meet, Cisco Webex), etc.

Innovation and efficiency in cloud

The three types of cloud-based technologies (IaaS – Infrastructure as a Service; PaaS – Platform as a Service; SaaS – Software as a Service) allow enterprises different gains in terms of efficiency and cost control (Renner, 2019). The IaaS, for instance, is used commonly in the case of the Internet of Things (IoT) infrastructure, as well as to reduce the IT costs of companies and to create efficiencies in supply chains. The PaaS allows a better intracompany communication with no geographical constraints, as well as different efficiencies, such as improving digital advertising efficiency using cloud-based platforms to drive targeted advertisements and automate processes. The SaaS is a key element for modern data analysis and prescriptive planning, as it allows to understand complex

and multivariate data to provide and recommend multiple solutions. Costs are reduced as well through the SaaS, as investing in cloud-based software diminishes licensing expenses.

Through cloud computing, operations can be scaled to accommodate peaks in demand by using cloud platforms, for various businesses – from Netflix large surges in server load at peak times to retailers of all sorts and from different markets, acting on various platforms. From a solution to an incremental problem, the one of spikes of traffic, CC becomes a source rapidly for future growth: 87% of enterprises experience business acceleration from their use of cloud services as stated by IT professionals from more than 1000 companies based in 11 countries surveyed in a global report of McAfee on the adoption of cloud, published in 2019. Moreover, companies using CC tend "to structure themselves around the rapid transformation, growth, and agility the cloud delivers", a reality driven by the fact that 41% of the surveyed companies can directly attribute business growth to their use of cloud services (McAfee, 2019).

As cloud technology develops and improves, it becomes easier for companies to use it to create and/or model new products, services, and campaigns. The mentioned McAfee report (2019) revealed that using CC becomes a direct advantage for increasing the ability to launch new products in the case of 37% of the surveyed companies and for expanding to new markets in the case of 36% of the enterprises. The launch, expansion, and continuous upgrades of services such as Uber, the car-sharing company with an international presence, are possible

mainly to the cloud technology that enables a mix of mobile software, large-scale data analysis, mapping, and social networking (Hardy, 2018). Using CC in the design process of new products and services allows a better collaboration between departments, teams, and providers, independently to their location. Moreover, it allows business-to-business marketing to create a genuine relationship with the customer, who can be involved in all phases of the product design and therefore, speed up collecting feedback and adapting the prototypes accordingly. It was the case of Oden Technologies, a New York startup that was able to build a tablet-based system for carrying out complex calculations in real-time in ten weeks instead of six months, "thanks to accelerated testing, and direct communication with the customer about needs and specifications during design and construction" (Hardy, 2018).

Innovation at all levels is catalyzed by the availability of cloud-based technology and varies from incremental examples (cloud kitchens, logistic digital cross-platforms) to new business models raising challenges to regulators, of the collaborative economy (Uber, Airbnb, Deliveroo, crowdfunding platforms). For instance, the cloud kitchens are single kitchens that cook for more brands of different cuisines, based on solid software that allows different menus, inventories and deliveries for every brand, while automating and centralizing the entire operational management: orders, inventory management for every brand, orders tracking, optimization of the order preparation and of the packaging time, as well as complete sales analysis (detailed reports for each brand analyzed geographically). Another example is the one of logis-

tic digital cross-platforms based on CC and blockchain open architecture that allow to multiple parties to contribute, share, and co-govern their data at a single source (Choudary et al., 2019), altogether with ensuring security and confidentiality while still being transparent and being able to reduce costs. Such an example is the one TradeLens, a blockchain-based platforms launched by Maersk and IBM to manage global shipments involving multiple stakeholders: shippers, freight forwarders, intermodal operators, authorities, ports and terminals, ocean carriers, financial services providers, and software developers.

The existence of cloud-based technologies made possible an entire set of new business models such as the one of platforms. The platform business model itself is not conceptually new. It is based on the same logic as auction houses are organized – these mediate the relationship between multiple players from two different parts – the artists and the customers -, enabling short term transactions among participants. The platform business model is a business enabled by a technological platform that facilitates interactions among many participants. They become interconnected and create together value for the final consumers, and in some cases, share insights or even form long term collaborative relationships. The digitally enhanced cloud platform business model (Van Alstyne, 2016) does not emphasize the role of the production itself, but of the connections' creation. It makes possible relationships between the platform's owner (e.g. the controller of the platform IP and arbiter of who may participate and in what ways, such as Google in the case of Android) providers (e.g. interfaces for the platforms,

such as mobile devices), producers (e.g. creators of the platform's offerings, such as apps on Android) and consumers (e.g. buyers or users of the offerings). The value of the platforms constantly grows as producers and consumers exchange data and feedback on the platform and, thus, develop it further.

New cloud-based techniques for data mining, modelling, and advanced statistics make multiple efficiencies possible every day. Big enterprises employ simulation analytics to develop thousands of iterations of their products, aiming to optimize their design (Renner et al., 2019). Such an approach is possible due to the creation of the so-called data lakes, which are centralized repositories that allow companies to store all structured and unstructured data at any scale. Data lakes are fueled with data through all the sources that are at the company's disposal (including Social Media, IoT devices and mobile apps) and allow remote teams different forms of analysis using digital tools such as machine learning, predictive analytics, data discovery and profiling) for improved customer interactions, R&D choices and increases of the operational efficiency (AWS, 2020). For instance, in the case of Renault, its data lake is constantly fueled with information collected from all key areas, including from sensors and tags applied on packaging boxes – it used to register a daily average of 8000 choirs in 2018 from employees of the Group from all international subsidiaries (Benchekroun, 2018).

Not only the product and service creation are transformed in the era of the inter-connectivity, but also customer experiences, through systems that raise new challenges

such as the storage and the analytics of big data related to customers and to products' purchases and/or ranks (Galletta et al., 2017). As we have seen above, a vast amount of personal data on consumers can be stored and accessed practically from any connected device through cloud technology, allowing companies to propose individualized offers to consumers while optimizing the cost to serve metric.

Improved and developed customer experiences are the norm in the era of interconnectivity, two digital realities making it possible: the adoption of CC and the intensity of Social Media use. The rise of the IoT will probably add new nuances and opportunities, as it allows companies to fuel data lakes through sensors with new information on the everyday usage of products and services. No wonder, therefore, that the importance of cloud-based customer relationship management (CRM) solutions is constantly growing – it is expected to reach USD 114.4 billion by 2027. Cloud is predicted to maintain its dominance as the preferred way of deploying technology for CRM over the period 2020–2027, allowing an increased integration of business intelligence and analytics in CRM software through advanced technologies such as AI and machine learning (Grand View Research, 2020).

Some possible benefits of the cloud-based CRM systems explain such numbers: database, workflow automation, reporting, customer data management, customization, third-party integration – all at reasonable costs. Used correctly, cloud-based CRM systems allow tracking of customers, and connect and manage responses through Social Media to clients while simultaneously acting on

improving response time and internal customer services processes. An example in this respect is the one of Xtreme Lashes, the global business proposing women semipermanent eyelash extensions through stylists. Using a complete solution of cloud-based CRM, partly mobile-friendly (through Salesforce), Xtreme Lashes can improve its relationship with stylists using the company's products all over the world. Everything is in the system: stylists' purchase orders, training courses, and profiles, as well as aspects related to products, from manufacturing to the end-user: "who sold it, who shipped it, and who did quality control" (Salesforce, 2020).

Another example is the one of Netflix, the global provider of media streaming service: it uses a complexity of algorithms in organizing Big Data that helps Netflix decide which programs will be of interest to its users. Netflix's recommendation system influences 80% of the content watched on the platform, the company estimates the use of algorithms in the CRM to have saved 1 billion USD a year in value from customer retention (Karr, 2018). Netflix uses cloud technology to "discover and respond to issues in real time, ensuring high availability and a great customer experience" (AWS, 2020) – a development of the seven years' effort that took place between 2009 and 2016 to migrate all data and scalable computing and storage needs to cloud (Netflix, 2016) – a decision which allowed to the company an unprecedented development towards customers all over the world.

One of the most visible transformations enabled by cloud-based technology is the one of supply chain management. Globalization is intimately related to production

delocalization and to outsourcing, increasing complexity in supply chains networks. After an initial period when companies were reluctant in adopting the cloud-based technology because of security concerns and fear of losing highly sensitive and/or irreplaceable data, enterprises operating in various supply chain networks tend to reconsider it, mainly for the proven advantages of immediate on-demand access to inventory and transportation information, and of massive scalability in service. However, the 2019 McAfee report on the use of cloud found out that 52% of companies experience better security in the cloud (McAfee, 2019). Collaboration is enhanced using cloud in the case of 44% of companies (McAfee, 2019), an aspect that can lead to new and interesting organizational developments. A questionnaire-based study performed on 136 supply chain professionals from 4 US transportations companies that adopted cloud computing showed in 2017 that that information sharing via cloud computing enhances supply chain performance with a direct impact on increasing inter-organizational trust (Cao et al., 2017). Nevertheless, such a result "might not be achieved if the firms do not have the appropriate information-sharing standards" (Shao et al., 2020).

Cloud computing is only the first step in digitalizing and connecting different actors and processes around supply chains, as other elements of the Industry 4.0 become necessary to be implemented to achieve greater performance – but which are favoured for being operationalized by the CC adoption. For Shao et al., (2020), there are four stages to fully benefit from the possibilities of the current digitalization of supply chains: the first stage, the one of the "visualizations", deals relatively more with the

project of digitalizing supply chains through CC. The two stages, of the "level-1 linkage" and of the "connected supply chain", where other digital advanced tools are adopted, the existing collaboration between the supply chain partners, acts as an enabler for the stage 4 of the "smart supply chain", which should be approached, in the opinion of the authors, "with the spirit of initiation of a new journey of exploration and implementation of the ever-advancing technologies" (Shao et al., 2020).

Such an approach is illustrative not only for the case of supply chains, but also for other digital transformations involving the extensive use of the CC and the continuous upgrade with other advanced technologies: it captures the evolution from the technological adoption to the connectivity and smart stages, as well as the gradual opening towards stakeholders and, in the end, the profound changes that occur in the managerial mentalities. More connected the different actors are, more collaboration must be embraced, such as collaborative diagnostics and optimization, predictive models, common tech platforms and multi-stakeholder teams and capabilities and, therefore, a shift of managerial paradigm is triggered.

The rise of the artificial intelligence

AI, the widely used abbreviation for "artificial intelligence", is the new topic of interest in the world of management, mainly for its recent advancements that offer great promise in supporting business operations through benefits such as "the quick unveiling of patterns in big data, speedy visualization and analytics, improved product design, and delivering meticulous insights" (Soni et al.,

2020). The new technical possibilities of AI are expected to create innovative frameworks for new products, services, customer experiences, and labour connections, at a level without precedent and on a truly global scale.

The current advances in AI have been possible thanks to a mix of technological factors, one of them being the already mentioned cloud computing. For instance, a breakthrough in AI is the 2016 historical moment when DeepMind's AlphaGo AI software was victorious in front of Lee Sedol, one of the planet's best Go players. Such a success was possible not only thanks to the hard work of more than 50 coders of the DeepMind's team, but also thanks to the access to Google's servers, that have allowed AlphaGo to play billions of matches against itself (Walsh, 2018) – exposure, observation, and learning is a prerequisite for any advance in AI. Beyond gaming, AI's development is a source of both enthusiasm and disappointment, with real progress in some key areas and setbacks in other domains. A much-expected outcome, the one of automated trucks, seems still far from reality, with the failure of the highly anticipated investment of Starsky Robotics at the beginning of 2020, as a direct result of the fact that "the development of automated driving systems (ADS) is moving slower than was originally expected a few years ago" (Bishop, 2020). When technology does not progress as quickly as expected, investors become disillusioned – however, letting go to one project is not synonymous with the fall of an entire sector, as proved by the continuous development of other players investing in similar technologies (Embark, TuSimple). 50% of the respondents to an international McKinsey survey from 2020 (conducted on 2,395 participants

representing the full range of regions, industries, company sizes, functional specialities, and tenures) stated that their organizations have already adopted AI in at least one business function, especially in service operations, product or service development, and marketing and sales (McKinsey, 2020). Among the benefits cited when considering AI adoption in organizations are "revenue increases for inventory and parts optimization, pricing and promotion, customer-service analytics, and sales and demand forecasting" (McKinsey, 2020).

The adoption of AI has a profound impact on the organization of work itself, making the difference between digital leaders and the rest of the companies even more visible. For instance, many organizations spend a lot of time selecting, cleaning and interpreting data in the old way, instead of investing even more into AI protocols that could lead to more business value. Similarly, even if companies invest in AI, there are situations when a discrepancy between the investment amount and the alignment of senior executives in scaling the adoption of AI to the overall organization (McKinsey, 2020).

Interconnectivity today develops dramatically with the rise of AI. While the first generations of robots were destined to replace heavy repetitive physical work, mainly in the production facilities, today's AI is generalized through solutions of RPA (robotic process automation) specific back-office operations, such as filling in forms, generating reports, producing, and sending documentation, etc. RPA becomes more affordable every day and replaces humans in many positions, especially in banking and finance sectors. It directly results in a necessary

redesign of organizational structures and processes, as it enables continuous and faster work with constant corrections of possible failures, eliminates the non-value-adding aspects, and reduces the number of repetitions of the activities.

Another advance in AI happening now is the one of the technologies allowing more real-time personalization. This trend is advanced by the ability to deliver personalized experiences and recommendations of giants such as Amazon, Alibaba and Google (Marr, 2020) and by the expectations of more than 70% of consumers who expect that brands take their personal preferences into account (Morgan, 2019). Among the brands that already use AI for a personalized marketing approach, one can list Hilton (with a robot that greets guests), Under Armour (with personalized health recommendations replacing partially the service of personal trainers) or Levi's (with a n AI-enabled chatbot, called Virtual Styler, to help customers find the perfect fit). The importance of AI is expected to continue to increase exponentially as it can provide effective solutions for social listening of customers and content marketing recommendations, as well as for direct interactions through chatbots, for predictive analytics, dynamic pricing, image and voice recognition, etc.

Beyond business, AI redefines sectors such as the one of health: applied to enormous sets of data, AI already allows the identification of new drug solutions and enables the selection and monitoring of patients with specific conditions (Colback, 2020). AI and wearables are used more and more for detecting the early stages of diseases, while public opinion shifts to a generally positive

perception of the usage of AI in healthcare (PwC, 2017). Among the benefits expected from the adoption of AI in healthcare are: an easier and quicker access to it, a faster and more accurate diagnosis, better treatment recommendations, and continuous availability to specific personalized insights (PwC, 2017).

AI is here to stay and transforms not only business, but society as a whole – and this, in an unprecedented, interconnected reality. However, if not properly programmed and regulated, AI can become a source of concerns, from ethical aspects (such as a propensity to adopt existing human stereotypes in the learning process), to aspects as the spread of fake news or to security concerns and discussions on scenarios of co-existence of humans with intelligent machines (Tegmark, 2017). For the moment, the AI that we experience is not self-aware and does not understand context, even if it recognizes language and, therefore, cannot be considered a viable replacement for humans in the short term. Nevertheless, we saw previously that AI is not only discussed, but implemented more and more in organizations, with insidious consequences on management and work in general.

Management changes and the redesign of leadership skills

Technology always influences the systems that use it, as observed in 1967 by John Culkin when he wrote the famous "we shape our tools and then our tools shape us" in an article he wrote on McLuhan's theories (Culkin, 1967). It is the same in the era of global interconnectivity enabled by cloud computing and artificial intelligence:

nowadays individuals expect to always be connected to get an immediate response, but companies are reshaped as never before, and managerial practices change, too. More collaboration, more transparency, faster decisions, more communication, more efficiency: all these aspects are realities that develop at an unprecedented scale due to interconnectivity.

One of the most noticeable changes in management due to the rise of digital solutions and their adoption at a large scale by organizations is the one of flexible work. Without the availability of cloud computing, for instance, work from home would not have been possible at the scale after the sudden impact of the Covid-19 pandemic. Even if during the peak of the pandemic, almost 50% of Americans and Canadians worked remotely, the permanent number of people working remotely is about 16% in the US, UK, Canada, and Australia, but 33% of individuals already work frequently in such a manner (Statista, 2020c). 25% of US, UK, Canadian and Australian companies encourage hybrid work (partly at office, partly remote), 12% have the policy of complete remote work, while 25% allow remote work, even if is not the norm (Statista, 2020d). With the impact of the Covid-19 pandemic, it is expected that these numbers will increase with a greater flexibility in implementing remote work, at least as part of hybrid work policies.

However, some challenges must be considered when passing from traditional work to partly or entirely remote work, thank to the availability of cloud-based technology enabling communication and office-like activities. Paradoxically, even if remote work is currently possible due to the digital communication opportunities, com-

munication itself is one of the most critical challenges when managing interconnected, yet physically disparate teams. Misunderstandings, delays, difficulties in scheduling online meetings because of different time zones, lack of informal communication creating a sense of belonging – all these aspects can create harmful effects for teams, becoming new sources of concern for managers. Another managerial challenge is the one of tracking work and productivity, primarily in companies when such control used to be made especially through physical observation. In such cases, establishing objectives and metrics is the solution, and a variety of cloud-based programs allow managers to fix and monitor milestones and progress, no matter where employees are.

Despite the existing solutions to address the challenges raised by the remote work of interconnected employees, managers do not feel comfortable with the situation: 40% of 215 supervisors and managers from 24 different countries declared in 2020 low self-confidence in their ability to manage workers remotely and expressed negative views about remote workers' performance (Parker et al., 2020). Paradoxically, the interconnectivity brings more transparency, but also a lack of trust between managers and employees, when it is not adopted clearly by organizations and the top management does not show its open support for its integration: the managers from companies "genuinely committed to flexible working, providing practical support (e.g., training) and conveying positive messages of openness about this work practice (e.g., a willingness to be flexible about the specific arrangements)" proved to have higher confidence in themselves and their teams while working from distance (Parker et al., 2020).

Interconnectivity facilitates collaboration, but it also allows more autonomy which can be managed only by trained managers in this sense. The reality is that managers need to learn how to pass from checking up to checking in and to managing by results to fully benefit from the digitally enhanced interconnectivity of remote workers – a change of mentality that can and must be learned and conveyed into a new leadership skill, especially as another challenge that arises from this passage towards physically disparate teams is the one of the organizational cultures.

Many companies adopt cloud-based technologies to benefit from its opportunities in innovating, gaining efficiency and reducing costs, without being totally aware of the changes it can bring to the organization itself, both to the structure and to the culture. Abdula et al., (2018) highlight a series of essential cultural elements that can differentiate between successful and modest adoption and integration of cloud-based technologies for companies: the willingness to embrace change, the decision-making style, the attitude towards risk, the talents, and the flexibility. Opening the organization to interconnectivity is, at first, a top management decision and must be assumed with all its consequences. One of those that it enables and encourages autonomy, therefore, teams working in the cloud should be told what the concrete levels of autonomy in decision-making are, and its responsibility. The cloud implementation could be particularly challenging for enterprises with high adversity towards risk, as some are especially in heavily regulated industries, therefore an important step when adopting cloud could be, according to Abdula et al., (2018), to implement gradual, controlled experimentation, from technology adoption to autonomy

development. Investing in talents able to push forward the transition towards cloud interconnectivity is not just a measure, but a strategic decision that sometimes impacts the human resources dimension of a company: more generalists with a flexible mindset could be necessary, instead of specialists. Moreover, hierarchies can be challenged: in the cloud-enabled workspaces, when speed is mandatory for innovative projects, collaboration can happen at all levels: "I saw junior developers working directly with senior managers, asking what they were looking for. (…) The feedback is much more rapid." (Michael Francis, Blackrock, project manager for the launch of the investor research application Kubernetes, cited in Hardy, 2018).

As the digital enables very large-scale activities, with many processes that can be transparently managed collaboratively, one can say that interconnectivity goes hand in hand at present with less fear in addressing big projects. Of course, it depends on the organizational attitude towards risk, but the more the technology is used at its potential, the more it enables agility and innovation – a shift that insidiously disseminates into the organization. This is how managers are redirected to focus more on skills "such as collaboration, empathy, learning, and novel rewards to create an organization hopefully even more adaptive than the cloud computing IT tool it beholds" (Hardy, 2018). Concretely, such an orientation towards interconnectivity and new business models based on it requires managers with 360-degree perspectives, understanding both technology and business. Open and innovative, the wanted new type of managers from interconnected companies form the frontline of the new "cloud leadership", essentially better equipped to be part

of the VUCA world, which is volatile, uncertain, complex, and ambiguous (Rodriguez & Rodriguez, 2015).

From the insidious transformations of the organizational culture, changes in the structure are expected. The cross-hierarchical interconnectivity, "a social process of transmission and alignment of previously separated pieces of knowledge from idiosyncratic contexts of individuals at different hierarchical levels in an organization" (Fliaster, 2004), is developed by the new cloud-enhanced interconnectivity, where talent and roles in projects are key determinants. With the rapid spread of interconnectivity, new concepts arise, such as the one the data sharing 2.0. If data sharing 1.0 was about companies sharing data "to enable or preserve an existing value proposition — to solve a problem, complete a transaction, or comply with a regulation", data sharing 2.0 encourages companies to curate their data and make it widely available to encourage collaboration and innovation" (Brown, 2020).

In the era of digitally enhanced interconnectivity, access to data is more democratic inside organizations or business alliances, intending to boost innovation. However, it could come with a price: if not properly managed, the initiative could be slow, costly, and risky. Some measures to prevent such undesired effects could be taken, as shown by good examples from companies like PepsiCo, Schneider Electric, and IBM (Brown, 2020): curated content, designated channels, and repeatable controls. Curated content refers to the necessity to organize data by removing all personally identifiable information and a pre-organization of data, especially by pre-vetting the information and the company's ownership of data. Designated channels refer to organizing access to data, in the

platform that hosts the data lake, by secure data transfer using the blockchain technology or by various techniques of data-at-rest (inactive data stored in cloud) that can be accessed on inquiry in a transparent way to all stakeholders. Standard operating procedures could become the norm by repeatable controls shared and transformed from lessons learned to standards. Such an organization of processes related to data governance in interconnected companies could improve the unsatisfactory level of an estimated 20% of analytics to deliver business outcomes between 2019 and 2022 (Gartner, 2019).

Some final considerations

The economy itself becomes all-digital and, therefore, business leaders should be able to put together digital teams relevant for all functions of management and organizations, to design and continuously manage the digital transformation (IBM, 2020). This is a complex task, and a fast and collaborative process, requiring a new type of managerial mindset, characterized by agility, resilience and reimagination skills – and it happens simultaneously in many sectors and markets. As Tabrizi et al., (2019) argue, digital transformation is not a matter of technology but rather of changing the organizational mindset and culture, in a context interconnected globally without precedent. There are no easy solutions to adapt to such rapid changes affecting instruments, people, business logics, society and leadership as we know it, but stimulating the development and valorization of inside knowledge could lead to more effective transformation.

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Responsibility in an interconnected world: ethics and sustainability

Victor Ciuciuc

In recent decades, there has probably not been a concept as ubiquitous and universal as sustainability or "sustainable development," which has vertiginously invaded political and social agendas and business strategies, everywhere in the world. And it could not be otherwise, because we are facing one of the most relevant and necessary ideas of contemporary thought: the need to find a model of development that does not conflict with the finite character of the Planet and that guarantees the well-being of current and future generations.

Societies go through times of change that mark the emergence of new societies. According to Castells (1998), a new society arises when its relations of production, power, and experience undergo profound structural transformations. Similarly, these transformations entail modifications in the social forms that generate new cultures. Undoubtedly,

the multidimensional changes that have been taking place since the end of the twentieth century and the beginning of the new millennium are substantial enough to recognize the advent of a new society. Some have called it the *information society*; others consider that the most appropriate term is the *knowledge society*.

In the academic field, the term *information society* has been superseded by that of the *knowledge society* because the second describes —perhaps more precisely than the first— the advent of a society based on knowledge mediated by new information technologies and communication. In these societies, knowledge has become the productive force that organizes it and gives it direction. The debate over which of the two terms best fits the new social reality arises because the distinction between the two concepts has not been clear-cut established.

According to Boscherini et al., (2003), after the technological revolution and the introduction of information technologies and communication, what is constituted is the *knowledge society*. To better understand the approach of Boscherini et al., (2003), it is compulsory to distinguish between the concepts of *information* and *knowledge*. According to the authors, *knowledge* is basically a cognitive capacity that allows us to carry out an intellectual and manual activity. Instead, *information* is data that can be structured and encoded, that is inert or inactive until trained people can interpret and manipulate it. That is, *information* can be transformed into valuable *knowledge* for those who know how to use it (Boscherini et al., 2003:147). Broadly, information is quickly reproducible and transferable (e.g. via the Internet), but knowledge, as

a capability, is more difficult to transfer from one individual to another.

Since the concept of the *knowledge society* is a broad one and entails the ethical dimension, we consider it the most appropriate to describe today's advanced societies in the present paper. Throughout this paper, we will refer to societies, in the plural, since there are multiple forms of knowledge and very diverse cultural modes that affect the formation of a society; so, we cannot limit ourselves to just one type of social model.

Knowledge societies and economic activity: a catalytic, globalized relationship

According to Finquelevich (2004), the incorporation of knowledge into economic activity is being seen mostly in developed countries —Finland serving as a paradigmatic model— and in some developing countries such as Brazil, India, Romania, and China, among others. Everything seems to indicate that most of the industrialized countries of the globe are heading towards knowledge societies. The new social reality that we hereby address presents new challenges for ethics and sustainable development in all its dimensions, but in a particular way, for human development. Within the same transitional scenario that has been experienced since the end of the 20th century, many of these societies have adopted – or are in the process of adopting – sustainable guidelines within their development plans (Espinosa et al., 2013). This action is carried out with the hope of improving the quality of life of its citizens and collaborating with international efforts to stop the global ecological crisis.

Despite these efforts, the ecological crisis continues and worsens with a growing increase in pollution, the accelerating loss of biodiversity and the effects of climate change. The social scenario where we find ourselves is heading towards profound structural changes, where the generation of knowledge constitutes new productive forms that impact and shape these societies' social and cultural scaffolding. Therefore, it is imperative to reflect on the new challenges that these societies present and what they mean for ethics and sustainable development.

According to UNESCO, the social transformation we are experiencing is not due so much to the rise of information technologies, but to the increasing use of these instruments by providers of informational, educational, and cultural content, in which the media platforms have a growing role. The influence that these transformations have on the countries' social systems has sparked a series of debates about the direction that new societies should take, especially in terms of the excessive appropriation or commercialization of knowledge. Concerns are raised about whether knowledge societies will be constituted by open networks where knowledge will be shared and accessible to all, or on the contrary, they will be closed clubs for a privileged few where the exclusion of the majority reigns. Other concerns have to do with the disparate valuation of some types of knowledge with respect to others, representing a danger for the diversity of cognitive cultures. Also, the growing emphasis on science and technology has been central to intense ethical and political debates, especially in areas related to poverty, biotechnology, and the environment.

Thanks to the advances in ICT, international markets have become globally interconnected, which has given way to the phenomenon of globalization. The concept of globalization has multiple dimensions, but we address only its economic dimension in this paper. Castells (1999) points out that a global economy is one whose main activities work as a unit in real-time and on a planetary scale. The globalization of the present moment has consisted of integrating international markets under a single world capitalist system. One of the consequences of this new economy is that countries are increasingly interdependent. Even countries like China, with a communist central government system, have developed links with capitalist global markets. As Castells says: "for the first time in history the entire planet is capitalist" (1999:2). Thanks to globalization, countries that were once considered Third World countries, such as India and other Asian Pacific nations, have become world-dominant industrial centres. Singapore is an excellent example of a prosperous knowledge society. In 1965 this small island in the Pacific Ocean began as an independent developing nation and after forty-five years, aggressively promoting education and technological innovation, it has achieved current economic growth rates that surpass most other countries.

For Castells (1999), the integration of international markets under a single capitalist market has led to the evolution of capitalism itself. According to the author, traditional capitalism has become an "informational" one because its system is based on the new information and communication technologies. Since the 1990s, international organizations, especially UNESCO, have been studying the evolution of the concept of knowledge as

the framework for new societies. According to UNESCO, the term knowledge society was used for the first time by Peter Drucker (1969), and in the 1990s, the concept was studied by Nico Stehr and Robin Mansell. A series of activities and summits have supported the reflection of the international community in this area to define research, education and innovation policies. Examples of these initiatives are the World Conference on Higher Education (1998), the Budapest World Conference on Science in the 21st Century (1992), the World Summit on Sustainable Development (2002) and the World Summits on Society. Information Center (WSIS) in Geneva (2003) and Tunis (2005).

Civil society, as well as the intellectual and scientific communities, have been carrying out work on the new modes of production of scientific knowledge, innovation, learning societies and their links with the knowledge society. The results of most of the research works in the fields of education, science and technology demonstrate the continuity of a tremendous technological determinism and a fragmented vision of existing interactions (UNESCO, 2005). In this sense, Willard and Halder propose that a difficulty confronting the implementation of sustainable development in the knowledge society is the lack of a unifying vision that integrates technological development and sustainability guidelines, in all its dimensions (Willard & Halder, 2003). The situation is primarily due to the fact that those in charge of designing development plans and those that establish national public policies do not always agree with the vision and interpretation of the sustainable concept of development. Consequently, the working groups representing the economic and tech-

nological development sector function separately from the sector that represents natural resources and social development. The gap between these work communities prevents the realization of coherent strategic plans that are consistent with the integrative nature of the sustainable model.

Renowned knowledge theorists such as Peter Drucker (1993) and Nico Stehr (2001), agree that today's capitalist societies are undergoing a transition where the productive forces of capital, labour and industry are being replaced by new modes of production based on knowledge. According to Drucker, land, labour, and capital are limiting factors necessary for the production of knowledge, but he emphasizes that the wise application of knowledge is what is essential for obtaining and maintaining these resources. Since ancient times, knowledge has been applied to work to increase productivity, but the change observed in this transitional period, according to Drucker, is the application of knowledge to knowledge. Drucker points out: "traditionally knowledge has been applied to being and now it must be applied to doing" (1993: 210). Therefore, knowledge becomes a resource and activity, at the same time, under the same conditions.

Since 1973, the sociologist Daniel Bell had warned that knowledge-based services were to become the new economy's central structure and an information-based society. Bell believed that, theoretical knowledge and advances in scientific rationality would be fundamental in the new post-industrial society, and ideologies would take a back seat. Later, Toffler (1995) raised the emergence of a new civilization thanks to the impact of information

and communication technologies and spoke about the consolidation of the model of what was then called the *information society*. It is evident that advances in new digital technologies, together with the advent of the Internet, have created the necessary conditions for the emergence of a society where the generation and application of knowledge are new productive forces.

For Stehr (2001), knowledge is the ability to act, or the potential to start something. Both scientific and technological knowledge constantly create new opportunities for action that are to be taken advantage of either by individuals, corporations or by the government; but this appropriation is temporary because it can lose its practical relevance at a certain moment. Thus, knowledge is a constant evolution of ideas where knowledge workers – those who are proficient in technology (especially ICT) – interpret ideas and bring them to completion for practical purposes. In other words, knowledge becomes a practically infinite resource where human beings can create knowledge by developing technologies, which in turn, promote the generation and application of new knowledge.

The engine of the new approach that we have been describing so far is called the *knowledge economy*. Vilaseca, Torrent and Díaz (2002) define the new economy as one that incorporates knowledge into new forms of production, work, interaction between companies, product offering and innovation in organizational designs, etc. In this economy, the products and services resulting from the production of knowledge, mediated by ICT, are used as productive factors by the rest of the branches of economic

activity. According to Vilaseca, et al., (2002), knowledge is presented as a new production model in the new economy. The authors point out that change is observed when knowledge acts on a technology that, applied to the production process, generates new knowledge that is translated into structural changes in economic activity. Furthermore, as Stein and Berbera (2001) would say: "the classical means of production of capitalism are now in the heads and at the tips of the fingers of the knowledge workers" (Stein & Berbera, 2001:395). For Vilaseca et al., what is new is that the incidence of this knowledge is not limited to technology, since ICT, in addition to being a utility for the economic application of knowledge, is also considered "amplifying and prolonging the human mind" (Vilaseca, et. al., 2002:5).

Nevertheless, approaching the question of sustainability, even in the framework of the knowledge economy, is somehow equivalent to address complexity, lack of certainty, resistance, and difficulty of implementation. But then, history has shown that crises are forgers of change. Proof of this has been the way in which environmentalism, born out of the ecological crisis, has managed to promote changes in the social and political spheres of the world. Throughout the last two decades of the 20th century and the beginning of the 21st century, we have seen how the environmentalist message of justice and solidarity in favour of nature has permeated the minds of many and it is for this reason that the movement enjoys world sympathy.

Undoubtedly, the various ideological currents that address ecological ethics, represented in the different

environmental movements of the world, have been agents of change in our societies. Never before has the colour green (a symbol of nature) been so fashionable as it is now, nor has it been used as an epithet for a revolution. For the writer of the New York Times, Thomas Friedman (2008), the so-called green revolution does not really exist in the United States and what there is a "green party" for the big North American companies that, hypocritically taking refuge in a pro-nature ideology, market "friendly products with the environment" with the sole purpose of increasing their own sales. According to the author, core changes had not occurred in the US back then, nor will they occur for another two decades, although he admits that conservation ethics and proposals for clean energy and improved resource productivity are more popular and are no longer a matter for certain avant-garde elites.

The green ideology, arising mainly from the postulates of the Deep Ecology Movement, has been part of the political platform of numerous green parties that advocate for changes in public policy on issues of environmental inherence. Private companies have adopted green codes where they promote recycling, clean energy and the use of information technologies to save and eliminate paper. The same is happening in government agencies, where the economic crisis has forced them to implement measures to reduce energy consumption.

Nonetheless, it is worth mentioning that the most significant contribution of ecological ethics in the world today has been to support the promotion of the development of an ecological conscience in the human being. It is about a

change in attitude, a new culture that leads us to integrate the economic, social and human elements into a relationship of respect and solidarity with nature. Although we are still somewhat far from reaching this transformative goal, the environmental movements, inspired by the different visions of ecological ethics, have promoted attitudinal changes in groups and individuals who are willing to build a better world. From this change in attitude, the concept of sustainability and its ethical foundation are born.

Sustainable development and ethical-ecological moves

As we have pointed out, the concept of sustainable development arises, first of all, from the conviction that there is an urgency to solve a global ecological crisis for which human beings are the main responsible. Second, from concern for the future of future generations. The fact that the United Nations World Commission on Environment and Development accepted, back in 1984, that we live in the midst of such a crisis, and that we have to act to make amends, is precisely the same concern that led the proponents of the different ethical-ecological moves to denounce the seriousness of the crisis and its consequences. We see that, finally, the voice of the environmental movement of the 1970s has not only been heard internationally but has also triggered a pragmatic response through the construction of a new model of so-called sustainable development. Thereby, the influence of ethical-ecological thinking on the sustainable concept is evident. It seems that, to a greater or lesser degree, the arguments of ecological ethics about the origin

of the crisis and its relationship with human behaviour have had an influence on the conceptualization of the sustainable model.

From its origins, the North American conservation movement has defended the conservationist vision of nature. Moreover, in the last decades of the last century to the present, conservation has gained more international relevance. The conservation principle is reflected in objective five of the Brundtland Report (1987), which proposes to conserve and improve the resource base. The objective refers to the conservation and improvement of the Earth's natural resources to achieve sustainability. The history of conservationism dates back to the nineteenth century, when the first environmental movements in the United States, such as the Sierra Club, founded in 1892 by John Muir, the Wilderness Society and the Audubon Society, were born as organizations defending the conservation of nature. Throughout its history, the causes of the conservation movement have had great repercussions on the institutional system, not only at the local level, but also at the international level. During the decade of the 1980s, American conservation organizations had an extraordinary flourishing with the so-called Group of Ten, an alliance that included ten national organizations in favour of the defence of natural resources and wildlife.

According to Passmore (1978), to conserve is to safeguard. This concept is based on the need to protect valuable natural resources that are subject to economic pressures that can endanger their subsistence. For large economic interests, the traditional conservationist concept has focused more on preserving areas in their natural state (forests,

endangered species, etc.) and not so much on protecting economically important natural resources such as minerals and oil, among others. Gradually, the conservation approach has had to evolve towards a more comprehensive foundation. New conservation perspectives maintain their desire to protect ecologically important areas in perpetuity, but also include the protection and wise use of economically important natural resources.

Saterson (1990), analyzes of how to integrate biological conservation strategies in developing public policies in countries' development plans. The author notes that governments and other institutions recognise that the conservation of biological diversity is closely related to economic development and human well-being. On the other hand, in the publication on sustainable development of the Economic Commission for Latin America and the Caribbean and the United Nations and the Environment Program (2002), the new sustainable strategies for conservation of important ecological areas are mentioned. Consequently, the growth that ecotourism has experienced as one of the most important economic lines of the gross income of the countries of the Central American Region is underpinned.

It is our firm belief that the sustainable development model poses conservation as an ethical principle of responsibility. By definition, the concept of sustainability indicates that current generations have a responsibility to meet their own needs without compromising the ability of future generations to meet theirs. The principle of responsibility appeals to our actions, whether in the short, medium or long term, impacting our environment.

As the human being is part of that environment, the effect of the impact is reciprocal. Therefore, causing irreversible damage to an ecosystem threatens, not only against our well-being, but against the well-being of the new generations that have to inhabit it.

Broadly, most people recognize the value of conservation. In spite of this, when deciding what, how much and how to keep, discrepancies arise. On the one hand, we have the scientific community (especially biologists and naturalists), together with environmental groups, who defend the protection of areas for their ecological and research value. Mainly, these groups propose areas of greater territorial extension and of limited or prohibited use for human activity. On the other hand, groups and associations that are not opposed to conservation *per se*, favour the fair and moderate use of natural resources as a means to satisfy human needs. Both conservation perspectives are important and can coexist with sustainable development purposes. The important thing is to maintain the necessary flexibility to find consensus in the different proposals and to seek a balance between natural resources and human activities.

Accordingly, every country oriented towards sustainability needs to include conservation in its development plans. This effort requires evaluation, scientific analysis, long-term planning and good management of the resource that we want to conserve. Another important aspect of conservation is the protection of biodiversity. The loss of natural habitat is one of the main problems facing the planet's biodiversity. Accelerated developmentalism causes the fragmentation of forests and habitats,

therefore, the task of species conservation becomes increasingly difficult. A complementary strategy to conservation, which is generally accepted, is the establishment of ecological corridors.

Ecological corridors are areas that intertwine protected natural ecosystems or also unite fragmented areas with the purpose of restoring and protecting the flora and fauna of a place. The concept of the ecological corridor is considered within sustainable development and requires an efficient management plan. An example worth noting is the Mesoamerican Biological Corridor that extends throughout the southern region of Mexico and Central America to Panama (ECLAC & UNEP, 2002). Thanks to the strategy signed by eight Latin American countries, the natural resources found throughout that region are sustainably protected. It is a sign of concern that initiatives like these were not actively replicated around the world, up to this point.

Linked to the problem of irreversible damage to ecosystems is the depletion of natural resources. The current generation of professionals has a moral responsibility to limit the consumption of natural resources since their depletion would affect the possibilities of future generations to meet their own needs. The depletion of natural resources is a real fact that is currently having negative consequences. Many places in the world have already experienced these consequences with the disappearance of ecosystems, the extinction of species, increases in the prices of materials, the manufacture of which depends on natural minerals, the rise in the prices of fossil fuels and the reduction of their deposits, the food crises that many

countries have already suffered and the real possibility that certain foods will be in short supply, as happened in recent years with rice, among many others. From a sustainable development point of view, a situation like this is, by all appearances, unsustainable.

Within the various approaches proposed by ecological ethics about our relationship with nature, the one most directly contained in the eco-development model and its successor, sustainable development, has been proposed some humanist currents. This perspective, which is known as *integrative-humanist*, states that the human being is an integral part of nature. Therefore, everything that is human work, such as technology, must be used in consideration of the ecosystem and for the benefit of life. The technical and economic have to be integrated into life in such a way that the ecological balance is not affected. Within this vision, some of the authors of the decades of the 1960s and 1970s represent humanist tendencies within ecological ethics where the human being is considered an integral part of nature and their criticism responds to the negative impact of man's actions towards our environment.

According to Vázquez (2006), Marsh proposes to redefine the relationship between man and natureto reduce its negative impact on the environment. Mumford criticizes the existing technological model in industrialized society and proposes a balance between technique and life. As he has already pointed out, Schumacher's most significant contribution has been in the field of economics, where he has proposed a responsible use of technology in harmony with the environment. According to Schu-

macher, technology must be used wisely to meet the basic needs of society, so that it is self-sufficient and balanced with the environment. Capra and Illich are students of Schumacher and follow the same postulates of eco-development, in line with Vázquez´s presentation (2006).

The vision of these authors reveals the society-nature interconnection and, as we have already seen, they all share the criticism of the techno-scientific hegemony of advanced societies. Sotolongo and Delgado, apud. Mumford (Sotolongo & Delgado, 2006), state that Mumford is one of the first to relate the environmental problem to the development of capitalism, energy sources, materials and social objectives. Capra shares with Mumford and others, the vision of the world as a continuum of continuums, where life (nature) and society integrate a unique process. Both refer to a systemic continuity of the biological, cognitive and social dimension of life. In other words, human beings cannot be separated from nature as this entails the destruction of their own continuum of life (Sotolongo & Delgado, 2006). Many of these ideas served as inspiration for the proponents of the eco-development model, proposed at the Stockholm Conference of 1972.

Eco-development, a concept proposed by Maurice Strong, defended by Schumacher and later elaborated by I. Sachs, as a model of economic development, was the model adopted by many of the Conference participants who were committed to the development of the Third World. Influenced by the rise of ecological thinking, eco-developmentalists, mostly economists and sociologists, proposed concrete solutions to less-developed countries' economic and social problems, from a social justice perspective,

economically viable and in harmony with nature. Sachs, for example, proposed that each eco-region seek its own solutions to the socio-economic-environmental problem within its cultural framework and ecological condition. The idea of respecting the autonomy of regions or countries will be incorporated later in sustainable development. The eco-development objective was to lead each country or region towards self-sufficiency.

It should be noted that the foundation of the proposed eco-developmental model consisted in satisfying the basic needs of human beings, both materially and immaterially. Among the material needs, there are indicated: health, education, security, well-being, etc. Among the intangible needs there are highlighted: freedom of expression and printing, satisfactory work and non-alienation to production processes, among others (Ojeda, 1999).

The eco-development model had implicit social objectives that suggest an ethical foundation of distributive justice by promoting a more equitable distribution of wealth among human beings. There is also an ethical consideration of justice towards future generations who are not responsible for the current ecological damage, however, they have to suffer the negative consequences thereof. In addition, it can be said that this model also contains the ethical aspect of the principle of responsibility proposed by Jonas, since it emphasizes the responsible management of natural resources and recognizes that there must be environmental limits to growth, to ensure the well-being of future generations (Leal, 2008). Although, for some, the term eco-development was very radical and controversial, there is no doubt that it was the forerunner

of the sustainable development model. Ojeda, J. (1999) points out that according to statements by Sachs (1994), Henry Kissinger, US ambassador at the United Nations, sent a telegram to the President of the United Nations Environment Program disapproving of Coyococ's text and suggesting to tweak the vocabulary: specifically, the term *eco-development*, which was vetoed by these forums and later replaced by *sustainable development*.

On the sustainable-market approach for businesses

In any case, any company that embraces a sustainable strategy, which is self-qualified as "responsible", cannot have another goal that, as Michael Porter defined, generate "shared value". In this intertwining between social, economic, and environmental progress, sustainable management strategies play a crucial role that should not be limited to the accountability of sustainability memories, nor underestimated by past excesses of "eco-friendliness".

In addition, sustainability is not equivalent to communication, because we do not take sustainable-oriented decisions just to tell people we are doing it. Communicating is not the goal, but it is one of the most powerful ways to build that "shared value", when it is a subjacent part of a sustainable market approach.

Not for nothing in recent years, professionals in this sector have repeatedly reiterated the need to build authentic, transparent and credible messages. Consistent messages that demonstrate real, business-integrated engagement. Ergo, they proved to be the real drivers of human

connections, inside and outside organizations, in a world where the internet is not optional.

From a consumeri st point of view, consumers will increasingly ten d to reward companies that actually act sustainably, not those that create brands, because consumption is one of the ways to express opinions and values. And this behaviour, thanks to digital platforms, will not be static at all, because messages are being created and shared and subsequently show that interconnection between people, the planet and economic benefits is essential.

If, as we have seen, the global economy must be inescapably based on sustainable criteria to generate value and communication is a strategic asset in that objective, large companies must necessarily lead that change and ensure that sustainability is not just a matter of perception for the consumer.

As the company is an essential player for the economic development of society, the traditional relationship approach, in which the responsibility of the former sticks to its duties to shareholders and revenue generation (Friedman, 1970), is not efficient in order to promote a sustainable model. The currents of thought associated with the integration of the interests and needs of other groups related to the company, based on the Theory of Stakeholders (Freeman, 1984), developed the CSR model, a mechanism by which companies adopt their commitment to sustainable development (Freeman, 1984). Business organizations maintain their profit-seeking goals, while reducing their ecological footprint and contributing to social improvement (Cherry, 2011).

The three dimensions of sustainable development: economic, social, and environmental, are manifested in the company through the Triple Balance Sheet or Triple Bottom Line (Elkington, 1997), by which the company measures and analyses its performance in all three fields. The information obtained with this analysis allows the company to reorient its strategies and objectivesto meet its stakeholders' needs and improve its long-term competitive position (Porter et al., 2011).

Balanced and rational, which is sustainable in the short and long term, this new paradigm must ensure the preservation of the planet's natural resources. To the works done by authors such as Preston et al., (1975), Freeman (1984) or Gray et al., (1986), among others, proposing business approaches more integrated with society, the 1987 United Nations report "Our Common Future" was added as a cornerstone for what we, nowadays, define and approach the concept of "sustainability". The United Nation's report is better known as the "Brundtland Report", which defined sustainable development as "the one that guarantees the needs of the present without compromising the possibilities of future generations to meet their own needs". The consequent increase in environmental and social awareness, and the growing demand for sustainable economic development, have led companies to redirect their attention to environmental sensitivity (Dincer, 2011) and to the management model known as Corporate Social Responsibility (CSR). The balance between the needs of society and economic progress entails that companies adopt those initiatives that allow a distribution of economic, social and political

returns among the groups from which their power and legitimacy derives (Shiva, 2006).

The economic and financial crises in 2008 and 2011, on the other flipside, have highlighted the importance of developing responsible models of action for businesses, the need to strike a balance between wilfulness and regulation, and the growing role that transparency, social pressure and responsible or green consumer groups must play (Van der Ploeg et al., 2013; Geels, 2013; Rodriguez, 2015). Sustainable development responds to a present and future global need, with substantial implications for society's lifestyle and current values. Companies, as well as society as a whole, face new dilemmas that contrast the immediate satisfaction of their needs and objectives, with assuming a degree of renunciation or adaptation that fits more sustainable behaviour.

The voluntary and heterogeneous nature of CSR's performance by companies is an obvious difficulty in their assessment by society, as information which the company does not necessarily disclose does not include aspects related to social or environmental performance (Moneva & Ortas, 2009). On the other hand, the recognition of the company's efforts and its commitment to sustainable development, requires specific communication mechanisms, which inform its stakeholders about such achievements.

From this need arises the concept of accountability, a process through which companies openly communicate their performance in the three dimensions of sustainability. Accountability, also called Corporate Social Disclosure, is an essential element of the CSR model, since it is the

main conduit through which the company communicates its achievements and commitments, in the areas in which society demands it (Gray et al., 1996).

Although companies are increasingly incorporating information into their sustainability reports to justify their activities as society demands it (Daub, 2007; Blowfield et al., 2011), the instrumentalization of CSR and accountability as marketing mechanisms has become apparent in many cases. Accountability has often been associated with a "face wash" of companies, or as a mechanism to compensate for activities with negative consequences (Cherry & Sneirson, 2011).

Ultimately, accountability is the mechanism by which the company assumes its commitment to transparency and, therefore, to the relationship with its stakeholders. To this end, the information provided by the company must be accessible, exhaustive, relevant, material and reliable. The Uncertainty caused by the voluntary and arbitrariness of information transmitted by companies has given rise to international initiatives and standards aimed at determining what information is needed and in what form. Thus, the Global Reporting Initiative (GRI) or the Account Ability AA1000 are tools that have reached a lot of impact and that have been widely adopted by the business world. Other forms of accountability may include third-party certification of some processes within the company, such as management systems (quality, environmental, ethical, etc.), seals and standards, or even awards and public recognitions. In all cases, these are forms of communication by which the company chooses to transmit information about its performance to its stakeholders.

The factors that directly affect the degree of communication, as well as the mechanism chosen by the company, have been extensively studied (Rodriguez Bolivar, 2015; García-Meca, 2005), highlighting factors such as the size of the company, its profitability, presence in stock indices, type of activity, etc. In any case, the factors that determine the degree of commitment of the company to accountability remain undefined, being subject to multiple different casuistic.

When talking about sustainable management, knowing its drivers, both internal (top management-related, or organizational culture-related) and external (green consumers and law), is of the essence, especially for our pursuit of defining our market-oriented approach towards a sustainable business model. As we know, both management and marketing are intertwining at this point, complementing one another. Thereby, when we talk about the definition of green marketing, we can divide it into two approaches (Chamorro, 2001): on the one hand, we have the social approach and, on the other, the business approach. In the social approach, green marketing is a part of social marketing; in this sense, ecological marketing could be defined as: "A set of actions carried out by non-profit institutions (administrations, environmental groups, consumer associations, etc.) to disseminate environmentally desirable ideas and behaviours between citizens and different actors".

And in the business approach, green marketing is applied by those companies that take a social marketing approach to marketing organic products. Thus, the interpretation would be "The process of planning, implementing and

controlling a product, price, communication and distribution policy that allows to achieve the following three objectives: (1) that the needs of customers be met, (2) that the goals of the organization are as desired and (3) that the process generates the minimum negative impact on the ecosystem" (Chamorro, 2001).

Some final considerations

Like eco-development, the sustainable model arises from a deep reflection and a weighted analysis of the planet's precarious situation. Against all odds, the sustainable model implies a transformation of our man-nature vision since the existing vision has led us to the current crisis, and it is necessary to present immediate solutions. The statement of sustainability recognizes that inadequate management of the environment endangers the future of other human beings, thus recognizing the existence of an interconnection between society and nature.

Therefore, this position agrees with the humanistic perspective of ecological ethics that visualizes the human being as an integral being that cannot be separated from nature. As human actions are part of what Capra and others consider a systemic continuum, the consequences of those actions will be suffered by all the system members in a temporal extension that compromises not only current generations, but also future generations. In this sense, the ethical value of justice for present and future generations comes to the surface again.

Regarding the integrative nature of the new sustainable model, it seems that this approach rests on the notion that there is an interconnection between all human aspects and the natural environment. Therefore, if we want to solve the ecological crisis, we must propose integrative solutions for all human aspects under the same vision of sustainability. This integrative approach to sustainable development agrees with the proposal of critical theorists of ecological ethics to integrate the technical and the economic with life, without affecting the ecological balance. Thus, sustainable development will integrate all aspects that affect human life to seek solutions to the problem of technology-ecology reconciliation and to the problems of distortion of population growth and the global distribution of wealth.

All considered, we must acknowledge that the sustainable concept has ethical foundations based on moral principles such as responsibility, equity, justice, and human and ecological solidarity, among others. These ethical principles, postulated from different perspectives within the ethical-ecological thought, are the bases of the objectives of the new model of sustainable development. Although it is true that there is still a long way to go, especially at a global level, to achieve the profound transformations that we need, with the adoption and implementation of sustainable development models we have a valuable opportunity to change the direction of growth and redirect it along the path of moderation, distributive justice, savings, conservation of natural resources, rescue of values, defense of human rights and sustainable management. With this hope in mind, we can work towards the goal of an ecologically sustainable world, portrayed as a whole.

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Education for future leaders in an interconnected world

Alexandra Zbuchea

We all know what a leader is. The most common definition places a leader in command of a group or an organization. But the most specific association we make when we think of a leader is *charisma*. A "true" leader is a charismatic person. Leader and manager are not always synonyms. A true leader is not always in charge *de iure,* in a formal way, but rather s/he is a person with a vision, the willingness and the ability to influence the others, and coordinate them so that goals would be easily and even pleasantly achieved. In most cases, probably, leaders also become formal coordinators of groups, managers within organizations. We also mention that academic research on leadership investigates managers and formal leaders.

Leaders have important roles in organizations and society, both at the micro-level, as well as macro-level. Personalities such as Augustus, Hitler, Stalin, or Margaret Thatcher,

to name only a few political figures from the past, strongly influenced not only their circles but societies and even the world. Some of them had a positive impact, some others a negative one. Education, both at the individual level – of (future) leaders – or at mass-level – of communities and societies-, is a way to enhance the positive aspects and reduce the risks associated with negative ones. This is valid both on a macro- and micro-level. Leaders of small groups and organizations could have a crucial impact on the structures they lead, therefore, managing risks is relevant for those structures.

Effective leaders contribute to organizational development in many ways, leading to better management and increased performance, as well as the satisfaction of employees and group cohesion (House,1971; Maas, 1950). The impact of leaders depends on the context, as well as on particular leadership styles (Gandolfi & Stone, 2017). Having in mind only this last aspect, leaders need to decide on many approaches and strategies. For instance, empowering leadership has mixed effects in terms of effectiveness, even if the theory is straightforward and predicts a positive impact (Cheong, Yammarino, Dionne, Spain, & Tsai, 2019).

With this fluid framework in mind, ensuring strategic management and effective leadership, as well as education and training of future and present leaders are vital. Also, selecting the best managers from the pool of potential leaders is very important. The relationship between leaders and the team must be carefully taken into consideration.

Organizations would be more effectively coordinated if their managers are also perceived as "true" leaders, not only persons in charge. Therefore, a series of challenges arise for organizations, such as attracting and cooperating with effective leaders or how the globalized world modifies the leadership environment. In order to better understand the universe of effective leadership and to educate and train them, some basic questions should be asked: Who is a leader? What knowledge should a leader posess? How to educate a leader? What is the future of leadership education?

However, before trying to answer these questions, let'us broaden the discussion by analyzing the concept of human capital and its relevance for organizational development. Leaders are part of the human capital of an organization, but they also influence this human capital.

Setting a wider framework. The human capital

As already specified, leaders have a complex influence on individuals, teams, organizations, communities, and even societies. Some might argue that organizations can function despite leaders. That might be valid for a limited period, for stable and powerful organizations, with strong, independent, and functional bureaucracy. Nonetheless, even in such situations, toxic leaders can have a significant negative impact. We have some historical examples, quite dramatic, or even some contemporary ones which highlight the complexity of such situations – we think mostly at Adolf Hitler and Donald Trump, but some other examples less notorious could be found. The opposite situation might also occur, of leaders trying to

reform rotten organizations/systems, such as Michael Gorbachev, but who could not succeed.

Keeping in mind the above ideas, adequate education and training of present and future leaders are of broad interest for the contemporary world, not only for specific organizations. At the same time, individuals seem to be increasingly more interested in their personal and professional development. The personal development market in 2019 was almost 40 billion USD, registering an average/constant annual growth of around 5% (GVR, 2020). This market consists of a wide variety of segments – books & e-books, e-platforms, personal coaching/training, as well as workshops. The COVID-19 pandemic did not stop the development of this market, quite the contrary, it stimulated both demand and opportunity. This positive trend has been supported both by large corporations and governments, which facilitated access to various online platforms. The market of learning and development at the workplace is even larger, of more than 370 billion USD (Mazareanu, 2020).

The interest in professional development, human resources, and leadership is also enhanced by the increasingly ampler discussions in academia on the concepts of human capital (Goldin & Katz, 2020), intellectual capital (Bellucci, Marzi, Orlando, & Ciampi, 2020; Pedro, Leitão, & Alves, 2018) and emotional intelligence & knowledge (Dulewicz, & Higgs, 2000; Fernández-Berrocal, & Extremera, 2006).

Human capital is not a new concept, dating from the end of the 19th century, but it evolved together with the economic theory and practice (Goldin, 2014). Its actual

definition refers to human capital as "the economy's stock of intangibles embedded in individuals" (Goldin & Katz, 2020). The intangibles refer to knowledge, skills, habits, and attributes that contribute to effective work, thus producing economic value. Several studies emphasize the contribution of human capital to economic growth (Goldin & Katz, 2020; Jones, 2003). Therefore, education would be equivalent to an investment in economic development, nevertheless, the return on investment (ROI) is not easy to evaluate, depending on many factors, such as who pays, where it takes place, is it formal or on the job, etc. (Goldin, 2014). We also underline that the demand for new skills/ education/ training is stimulated by new technologies and shifts in the economic and social landscape. Therefore, there are shifts both in mentalities and in the socio-economic landscape which drive the development of continued and encompassing education in the economic field in general, and especially in leadership and management.

Rindermann (2008) shows that knowledge and cognitive skills are influencing the social and economic success of individuals, organizations, and societies. There is a correlation between intelligence/education and the economic welfare of nations, with the former influencing the latter. It has also been argued that economic development has an impact on the knowledge level of nations. The study of Rindermann (2008) identifies additional socio-economic factors correlated with the cognitive abilities of a nation, such as the rule of law, quality of bureaucracy, or economic freedom. Interesting results are obtained by analyzing data around the world. For instance, economic growth is more strongly linked to school-related cognitive abilities

than to economic freedom. Also, studies suggest that the more intelligent the members of a group, the more they cooperate – therefore, a more educated society might be more cohesive and cooperate better (Jones, 2008). Human capital also contributes to the innovation and adoption of new ideas. The quality of education influences this capacity. Especially in the case of developing countries, the quality of education could help them close the performance gap compared to more developed countries (Hanushek, 2013). Higher education institutions (and research organizations) support innovative new ideas and technologies, while secondary education is credited with generating imitative behaviours. Therefore, nations investing in education, and encouraging organizations and people investing in training and life-long learning would benefit from an economic competitive advantage, high economic level, advanced technology, and, thus, the developed standard of living.

Considering this relationship, measuring the intellectual capital of a nation and its evolution is useful in designing development strategies, as well as educational ones. The importance of this factor has determined various organizations to measure Intellectual Capital indexes, but the methodologies could be questioned because these diagnoses interpret data and do not encompass the complexity of intellectual capital (Januškaitė & Užienė, 2018). For instance, the global intellectual capital index of Solability takes into account education, innovation capabilities, and entrepreneurship (Solability, n.y). The World Bank measures a human capital index to support increased investments in people, for greater equity and economic growth (World Bank, 2020). This index is developed

since 2018, based on the evaluation of the formal schooling system. World Bank considers that the human capital, consisting of the knowledge, skills, and health that people invest in and accumulate throughout their lives, enables them to realize their potential as productive members of society, therefore directly influencing the level of development, and the economic growth.

The phenomena also occur at the organizational level. Since 2015, an Intellectual Capital Index measures how talent strategies impact overall organizational performance. It shows that 88% of the value of a company might be related to its people (TGA). The intellectual capital consists of structural capital, relational capital, and human capital of an organization (Bontis, 1996). All these components, especially the first two, depend on the people's knowledge, skills, and attitudes. Therefore, together with organizational culture and procedures, education and training are vital in shaping the intellectual capital.

The capacities of human capital are enhanced by emotional intelligence. This is considered in the past decades as one of the most important factors leading to professional and personal success (Goleman, 1995), therefore, to organizational performance. Goleman (1995) defined emotional intelligence as the ability of an individual to manage her/his feelings so that those feelings are expressed appropriately and effectively. The question that arises is if emotional intelligence is (only) native or if it can be educated (Zeidner, Roberts, & Matthews, 2002). Emotional intelligence depends on diverse factors, such as genetic aspects, temperament, environmental and social interactions, but also educational. Emotional education

seems to be of increased concern especially in the case of children. But young adults, as well as adults might benefit from such learning. As societies and organizations would be direct beneficiaries, they should also invest in developing the emotional intelligence of the people.

Therefore, the educational system should aim at the complex (continuous) development of human capital. Leaders are at the centre of the human capital, due to their potential influence and a key role for further development. Therefore, companies benefit from leader education not only in leaders' performative characteristics but also in human capital improvement.

Who is a leader?

There is a changing perception of leaders, a shift from personal characteristics and behavioural style towards the leader's perception among the group members (Livi, Kenny, Albright, & Pierro, 2008; Zaccaro, Dubrow, & Kolze, 2018). Therefore, relationships and the way leaders interact with the group are also part of a successful leader portrait. We observe that leadership is a complex composite of the image, soft and hard skills, of actual knowledge and abilities, as well as perceptions.

From Antiquity until today, leaders have been seen as intelligent, brave, wise, able to understand others, strategic in thinking, practical in behaviour, virtuous, possessing a solid set of values, etc. For an extended period, it was thought that such qualities were rather born, not developed/educated. After the Second World War, native characteristics have not been seen as enough

for effective leaders. Contextual factors would strongly impact the effectiveness of a leader. Nevertheless, more recent studies showed several traits of recognized charismatic leaders: cognitive ability, self-confidence, socialized power motives, risk propensity, social skills, and nurturance (Zaccaro, Dubrow, & Kolze, 2018). More precisely, a synthesis of Zaccaro, Dubrow, and Kolze (2018) grouped the leaders' characteristics into five categories: cognitive abilities (general cognitive ability and problem-solving skills), personality (emotional stability, extroversion, openness to experience, agreeableness, and conscientiousness), motivation, social appraisal and interpersonal skills, and leader expertise and tacit knowledge.

Perceptions of leaders vary inside an organization. For instance, older employees seem to get more attached to their leaders and believe that veteran leaders are better managers. Therefore, they are also more negative towards leadership changes compared to younger employees (Chong & Wolf, 2010). This is in line with older studies, showing the relevance of expertise for effective leaders (Foti & Luch, 1992). Expertise is a concept related to work experience, with information, knowledge, and abilities gain over time. Despite the tight link to actual activity, expertise also has a strong educational feature. It also has an objective dimension, as well as a social one. People react best to persons who, in their view, have the expertise. The situation is even more complex. Generally, people see themselves as competent and with expertise, therefore, they trust their judgment. At the same time, what they perceive as a leader with expertise is highly subjective. Most of the time, it depends on the general view of a person – are they likeable, etc. Therefore, leaders'

perception depends on their perception as experts and personality, more than their actual expertise.

The dimension of the group might also influence perception. Larger groups tend to agree more on who is a leader (Livi, Kenny, Albright, & Pierro, 2008). Therefore, leaders of smaller groups might struggle more with getting consensus and implementing the desired lines of actions; they face different challenges and maybe need additional education/training and expertise as leaders. Another aspect to consider is that task-oriented leaders seem to be recognized to a more considerable degree than socio-emotional leaders (Livi, Kenny, Albright, & Pierro, 2008).

Generally, leadership styles impact the reaction of the group, as well as its effectiveness. Transformational leaders tend to be more effective than leaders adopting other styles (Yahaya, & Ebrahim, 2016), but the relationship is not so straight, also depending on the organizational context. Nevertheless, studies document various effects of transformational leadership on teams and thus on organizational performance, being increasingly more recommended as a leadership style, especially in dynamic economic environments like the present ones (Laohavichien, Fredendall, & Cantrell, 2009). Studies show that there is a positive correlation between transformational leadership and innovative work behaviour, and psychological empowerment (Stanescu, Zbuchea, & Pinzaru, 2020).

The roles of leaders vary within specific organizations. Nevertheless, Kouzes and Posner (2007) identified the following main tasks: to model the way, to inspire a

shared vision, to challenge the process, to enable others to act, and to encourage the heart. A series of soft skills facilitate all these aspects. These are needed even more in the work environment, which is not repetitive, and work-relationships are intense. Younger generations also seem to be influenced more by managers presenting a wide range of soft skills.

There is a wide range of soft skills valuable to leaders: communication skills, empathy, teamwork abilities, compassion, confidence, creativity, integrity, listening skills, adaptability, analytical skills, and many-many more. Brungardt (2011) observed that all these are grouped into three main categories: the ability to collaborate effectively in teams, critical thinking skills, and the ability to communicate effectively with various entities. Some people have natural inclinations in these lines but developing them purposefully is vital for leaders.

Emotional intelligence is a complex concept, connected both with the emotional abilities of a person/leader and her/his relationships with others, both to feeling and thinking. Since studies show it influences leaders' effectiveness (Kerr, Garvin, Heaton, & Boyle, 2006) as well as organizational performance (McCleskey, 2014), the concept is increasingly more explored in the academic field. Emotional intelligence is connected to emotional knowledge and is part of the intellectual capital of an organization. It is, therefore, even more important since emotional knowledge could be transformed into rational knowledge or spiritual knowledge (Bratianu, 2018). Emotional knowledge is credited with increasingly more influence decision-making processes in organizations as

well as human resources management; thereby, leaders have to be able to manage it properly.

What knowledge should a leader pose?

It is generally thought that leaders must be smart and know many things. Cognitive abilities and intelligence have been documented as relevant for leaders' effectiveness (Zaccaro, Dubrow, & Kolze, 2018). Studies show that even if the characteristics of team members are relevant, the decision-making abilities of managers are essential for successful activities. A recent addition to the cognitive landscape is creative and divergent thinking.

Creative thinking is considered to significantly impact on organizational competitive advantage (Reiter-Palmon & Illies, 2004). Leaders have a crucial position ensuring creative problem-solving and design creative processes determining organizational success. The team is also relevant, but leaders must understand the big picture, have the necessary cognitive requirements, and guide and select effective creative approaches and results.

Agile thinking is even a more recent element that can be related to intellectual development, but also a specific mindset. Agile thinking permits the establishment of relevant requirements, their prioritization, and effective validation. It relies on tacit knowledge within a team that could be effectively and creatively channelled by its leader (Abbas, Gravell, & Wills, 2008). Agile thinking is adaptive, iterative, and incremental, as well as people-oriented – all these characteristics need leadership design and backing.

Decision making, creative, and agile thinking are effective when they are based on a solid body of knowledge and skills. No doubt, leaders must know the specific domain in which they are operating. They do not have to be experts, but they should know the specific processes. Having this in mind, it is recommended to start from lower positions and go through different jobs in the field to gain both valuable specific knowledge and skills.

The aspects mentioned above aspects point to specific knowledge and skills associated with managerial positions. These would help a leader be effective in many domains. These are the ones taught during management and leadership programs. A manager should have sound economic, financial, and even legal knowledge. A wide range of knowledge and skills in the field of people/team management is also needed.

The tendency for an extended period of time was to design curricula increasingly more specialized, focused on particular aspects. In past decades, there has been an interest in more systemic approaches (Plate, 2012). System thinking would help managers be more agile in coping with the increased complexity and dynamism of the environment and in switching smoothly the domain in which they operate.

A professional is, by default, someone specialized and even hyper-specialized in his/her field. Nevertheless, we would argue there is a need for encyclopedic knowledge. This approach would allow a better framing and thus understanding of the specific domain in which a leader operates. A broader perspective and understanding of the systems, society, and people, especially if supported by

a cultural dimension, helps a leader better evaluate and connect in a complex environment. Such an approach might also enhance social interaction and skills.

A combination of encyclopedic and specialized education/knowledge seems to be appropriate for effective professionals/ managers. Still, deciding the curriculum is a very complex process. It is a matter of vision and educational principles, but also a matter of time and effort. Perkins (2014) debates how children should be guided to learn "for tomorrow", having in mind a few principles: lifeworthy learning, the balance of achievement-information-expertise, and critical thinking. In schools and universities, students learn many aspects, but even more, they learn outside the formal educational system.

How to educate a leader?

As mentioned previously, leaders can profoundly influence the groups and organizations they lead, as well as larger communities or even societies and global processes. Examples could be given from many sectors. We already specified several political leaders, but many others could be mentioned: Queen Victoria, Mahatma Gandhi, Napoleon, Barack Obama, or Mohammed bin Salman Al Saud. Artists and writers such as Leonardo da Vinci, Jane Austin, Frida Kahlo, Marcel Duchamp, John Lennon, Jay Z, or J.K. Rowling have changed society. On the list of the most influential professionals of all times, we could enclose Florence Nightingale, Amelia Earhart, Jacques-Yves Cousteau, or Noam Chomsky. Leading scientists have influenced the world through their discoveries and social impact – as easily observed in the case of Galileo Galilei,

Marie Curie, Albert Einstein, or Carl Sagan. Many business leaders may be credited with an influence over-extending vastly beyond their organizations, developed at global levels: Estée Lauder, Muhammad Yunus, Bill Gates, Mark Zuckerberg, Jeff Bezos, or Sheryl Sandberg. Even "common people", with no official positions or specializations, could be considered for this list: Rosa Parks, Anne Frank, or Malala Yousafzai. We feel that this list is narrowed and unfair for many other personalities who deserve a place on it. Still, we wanted to give some examples, to have them in mind, and observe the great variety of leaders.

All these people share courage and a vision, and an interest that goes beyond their personal situation. One might argue that they are unique and born leaders. Nevertheless, the role-models and standards they offer, as well as proper education and personal strategic development are paths towards leadership for other people around the world.

There seems to be ever increased consensus that leaders are made, not born (Andersen, 2012). Even soft skills are now part of the training programs and academic curricula in leadership. Nevertheless, a study by Brungardt (2011) shows that graduates in leadership or with certificates in the field, do not seem to possess more soft skills than those with no formal training in the field. Some differences exist for all dimensions investigated, with better results for graduates of leadership programs, especially in the case of decision-making abilities.

A brief analysis of the curricula of the Leadership MA programs offered by top universities would offer valuable

reference points for ensuring a framework for effective education in the field. We selected the MA Leadership programs considering several ranking systems. Moed (2017) shows that the top 100 universities in terms of excellence depend largely on the criteria and methodologies used. Therefore, we considered the first 5 universities entered in several world university rankings: ARWU (Shanghai) Leiden, THE, and QS. To have a more specific selection, we narrowed the criteria to specific subjects. For the Leiden Ranking, the selection considered the domain of social sciences and humanities, as well as the scientific impact. In the case of THE, we selected Business and economics, for QS World University Ranking – Business and management studies, for the Shanghai Ranking – management. A list of 14 universities emerged, from the United States (Stanford University, Harvard University, Arizona State University, University of Pennsylvania, Massachusetts Institute of Technology – MIT, University of Michigan), the United Kingdom (University of Oxford, University of Cambridge, London Business School, University College London), Singapore (National University of Singapore), the Netherlands (Erasmus University Rotterdam), France (INSEAD) and Canada (University of Toronto). The next step was to look for graduate and (executive) MBA programs offered by those universities in Management and Leadership.

All these universities offer MBA programs in Management, as well as various types of graduate programs in Management. The approaches and ways to present the offer to (prospective) students vary. Nevertheless, in most cases, the accent is placed on one central program, sometimes offered in various forms – full-time or part-time

being the most frequent options. In some cases, various specializations are offered. Nonetheless, the tendency seems to be to present a main program, with several lines of development/specialization. For instance, the MIT MBA presents three tracks – Finance Track, Entrepreneurship & Innovation Track, Enterprise Management Track. The University of Toronto MBA includes 15 MBA Majors and Areas of Interest. The Stanford University MSx (a one-year master's program) presents three "popular" curriculum paths: Career Advancement, Entrepreneurship & Career Change. The number of graduate programs in leadership is much smaller. We identify only a few, such as the LBS Sloan Masters in Leadership and Strategy or the PGDip in Organizational Leadership from Oxford University. It seems to be a tendency to develop short-term (online) courses in leadership, as well as other topics – according to the requirements of the present-day work market. For instance, Harvard University offers around 20 certificates for short-term (online) classes, such as *Becoming a Leader: Developing Your Style and Making Sound Decisions,* Behavioural Decision Making, Building Organizational Cultures: A Framework for Leaders, Collaborative Leadership: Developing an Empowered and Agile Organization, Developing Cultural Intelligence, and many others. Oxford University also has some short-term courses in leadership, such as the *Executive Leadership Program* – offered for 8 weeks online.

We also aimed to analyze the content of these programs, despite the difficulty to compare the curricula. Some universities structure the curriculum on several main modules, while others present the core courses to which

several elective courses are added. In some cases, the elective classes are just a few and more comprehensive, while in other cases, they are numerous and very specialized. Considering this wide variety, we will investigate the structure of classes, having in mind the following typology: economics (including the macro-systemic framing of the organization), business fundamentals (finance, accounting, supply management, etc.), strategy (corporate governance, corporate strategy), leadership (including both organizational dimension, such as human resources management, and the personal one, such as career development for instance), critical and responsible dimension (decision-making, ethics or societal framework), and applied items (data analytics, applied microeconomics, labs). As also revealed by the specified examples, the borders between those categories are not always so clear cut. Therefore, the structure we designed should be considered a general reference. Comparing the structure of MA programs to the one of MBAs, we identify a few differences. The MA programs stress a little more on the general economic framework (10% of the courses are in this area compared to 7% in the case of MBAs). The strategy-related courses and those on business fundamentals are more numerous in the case of master-level degrees (10% strategy and 59% business core, compared to 7%, respectively 53% in the case of MBAs). The MBAs stress more various aspects of leadership (19% compared to 10% in the case of MAs) and applied classes (10% compared to 6%).

The sample considered is not so large, and we experienced several challenges in defining the specificity of classes. Therefore, it is challenging to pinpoint some defi-

nite conclusions referring to the curricula strategies in the case of graduate and MBA programs. Still, we observe that the core of the programs consists of business fundamentals, encompassing a wide variety of topics, such as accounting, marketing, or supply chain management. We mention here that some differences are observable inside this course segment – for instance, in MBA curricula, classes on financial accounting are more frequent than in the case of MA programs, while in the latter are more often classes on marketing. Leadership-related courses are more frequent in the case of MBA programs. A very few of the identified MBA programs also have an international dimension. For instance, at the Oxford University MBA, there are three elective international courses: Growth prospects and opportunities for business in Africa, Fintech: Present and Future: London, and Digital Transformation of Marketing, Media, and Advertising. Considering that many of the programs present a wide international diversity of students, some of them even given numbers as high as 90%, we would have expected a more explicit orientation towards global business and international markets.

Even if soft skills are of increasing concern among professionals, as well as for academic research, they seem to be of low importance for graduate programs curricula if we consider the names of the courses of the investigated programs. Only part of the courses related to leadership seems to concentrate in a more systematic way on them. This does not mean that the educational processes, the assignments, and other aspects related to each course are not designed to include soft skills development. The same observation is related to other aspects: the applicative

approach, digital transformation/new technologies, sustainability, international and intercultural dimensions. For instance, references to technological advancements are rarely present in an explicit way in the topic of courses. A bit more attention is given to data analysis, connected most times with decision-making processes. Overall, we observe a relatively conservative approach in the formal design of the curricula of both master-degree and MBA programs. More variation is observed in the names of the elective courses, especially if many such classes are proposed. Considering the characteristics of the investigated universities and the validation in times of the performance of their graduates, we are convinced that the academic contents and processes are updated constantly, are practical, and constantly connected to the characteristics and needs of the work market.

We also observed that the term 'leadership' is quite frequent in the description of the examined programs. This might be related both to the appeal of the term and to the aspirations of students to become leaders/managers or to be better leaders. For instance, the London Business School promises to "build the knowledge essential for senior leadership roles" during a joint master program developed with MIT Sloan. This is one of the few MA programs offered in Leadership and Strategy. Some other universities include in their graduate programs in management some mechanisms to enhance the leadership dimension of their students. For instance, the MBA of the Rotterdam University, and INSEAD offer their students a "Personal Leadership Development Program". Stanford MSx also explicitly includes some "Leadership Activities".

Management education is a concern of the past decades, justified not only by academic curiosity but also by its practical value. The effectiveness of his process would directly impact organizational effectiveness, especially in the economic sector. Reynolds and Vince (2004) argue for a critical perspective on management theory and practice combined with action-based learning. In this way, organizational structures and practices could be investigated, learning would be closer to the workplace. Collective learning and reflection would be emphasized and an effective combination of theory and practice would be achieved.

Another aspect to consider is the development of executive MBA programs, meaning development programs addressing (experienced) managers. They seem to be increasingly more popular, despite some of the highest fees in the educational system. Jarošováet et al., (2017) stress the need to design the,m keeping in mind the curriculum and teaching methods. Their study reveals that those enrolled in MBA programs prefer interaction with professors, trainers, and peers, and also to obtain feedback. Adjusting content and teaching to cultural specificity might also be welcomed (Currie, 2003; Mellahi, 2000). This might be relevant not only considering students having a non-western background and operating in other markets, but also having in mind the increasingly more interconnected world and the increased mobility of managers. Currie and Knights (2003) also promote the idea of a critical evaluation of the educational processes of MBA programs rather than the assimilation of the curricula.

Another recent requirement for business schools is to adopt a more interdisciplinary approach (Currie, Davies, & Ferlie, 2016). Currie, Davies, and Ferlie (2016) identify an evolution of business education approachfrom professionalization to support economic growth (of large corporations and having in mind a national framework) and to achieving academic legitimacy and focusing on research. The authors observe a third stage for academic business education, shaped by concerns about the dynamics of the contemporary world, the complex global challenges, emerging markets, steep technological innovation, as well as globalized flows of trade, capital, and people. One must add the social and natural environment and issues such as ageing populations or climate change to this landscape. A more complex framework emerges, ensuring a sustainable vision on the role of leaders in their organizations, as well as on society at large. These leaders would be more competent to ensure sustainable development both for their organizations, as well as for societies.

Businesses that want to develop their leadership face various challenges. For instance, programs sponsored by companies are designed to fit the organizations' needs, while the people trained evaluate them from a personal & professional perspective. Companies expect trained employees to become loyal and stay with them for a longer time, while people valorize the gained knowledge and skills for their own benefit and move to other companies for better positions. Companies spend more money increasingly on building hard and soft skills to enhance their leadership, while people seem to be increasingly more dissatisfied with the outcome of the training programs. Traditional

training programs for executives are often seen as outdated and inadequate to contemporary needs. Another aspect observed is that the skills and knowledge gained are not necessarily implemented in a short-term perspective for theorganisation's benefit. The gaps registered in traditional executive training businesses could be solved using more tailored and democratic approaches (Moldoveanu & Narayandas, 2019).

Nevertheless, not only higher education is relevant to our discussion. Thus, the quality of the members of the group/ organization, and also of leaders, depends on the general school system a country possesses. There are some global evaluations of the performance of students, such as PISA tests. The analysis of these rankings shows that family background, school resources, and institutions influence more than four-fifths of the student performance (Woessmann, 2016). The most influential factors are the length of education, measures of teacher quality, external exit exams, market competition, and school autonomy.

Increasingly more discussions are around Bloom's taxonomy of educational objectives. A revised version proposes a pyramid of learning processes with the following steps: recall facts and basic concepts (remember), explain ideas and concepts (understand), use information in new situations (apply), draw connections among ideas (analyze), justify a standard or decision (evaluate), and produce new or original work (create). (Armstrong, n.y.) Another aspect to consider is developing new knowledge and connectig what is known with new knowledge. Interdisciplinary, systemic, and even encyclopedic approaches would facilitate this process.

What is the future of leaders' education?

Several buzz words are frequently met in the academic milieu, as well as in educational sciences – interdisciplinarity, multidisciplinarity, and transdisciplinarity. These concepts might seem similar and even (wrongly) used as synonyms in some instances. At the same time, other concepts are also mentioned in similar contexts – pluridisciplinarity or cross-disciplinarity. The actual boundaries between the above-specified concepts are sometimes blurred, especially when considering their evolution in time.

Interdisciplinarity refers to using together distinctive components of several disciplines (Nissani, 1995). Nissani (1997) sums the benefits of interdisciplinarity and divides them into three categories: the growth of knowledge, other social benefits, and personal rewards. The list of rewards he specifies comprises the following: creative breakthroughs, outsider's perspective, crossdisciplinary oversights, disciplinary cracks, solving complex or practical problems, unity of knowledge, the flexibility of research, the law of diminishing returns, social change, and academic freedom. At the same time, some shortcomings are also considered when elements from one discipline are applied indiscriminately for another one.

Multidisciplinarity also uses knowledge from several domains, but, unlike interdisciplinarity, it remains in between the borders of a specific discipline. Interdisciplinarity tends to lead to new fields of knowledge, creating a coherent whole, transferring methods and concepts from one discipline to another. Transdisciplinarity refers to research strategies that cross borders between disci-

plines. Basarab Nicolescu, who also draws a manifesto of transdisciplinarity, specifies that" transdisciplinarity concerns that which is at once between the disciplines, across the different disciplines, and beyond all disciplines. Its goal is the understanding of the present world, of which one of the imperatives is the unity of knowledge" (Nicolescu, 2014).

Crossing the boundaries between disciplines is subject to various barriers, but the results are beneficial for society (Alvargonzález, 2011). The educational systems thus must adapt by providing effective frames for dialogue and cooperation between disciplines. We also mention that both interdisciplinarity and transdisciplinarity are part of the foundations of sustainability in higher education (Viegas et al., 2016).

Another aspect to be considered by educational and training programs is the profile of the persons enrolled. Millennials form an increasingly larger proportion of the workforce. Broadly speaking, the Millennials are 30–45 years old. Therefore, many mid-level and even high-level managers are part of this cohort. Leadership and training programs should be adapted to this age group, both considering them as managers, as well as employees. Studies on Millennials show that compared to the older generations, they need more a work-life balance, are stimulated by intercultural interactions, prefer nonconformist environments, seek freedom but also guidance, have lower resistance to stress (Pînzaru et al., 2016). Millennials also have a different leadership style compared to their predecessors (Fore, 2013; Churchill, 2018). They describe themselves as valuing more family and friends, being

more conscious and confident, honest, and open, autonomous, delegating more but also more motivating, using technological skills more. They are goal-oriented but base their success on trial and error. They rely more than previous cohorts on mentors.

We also mention that Generation Z is entering the work market, therefore, present leaders should understand their specific needs and characteristics to be able to coordinate and cooperate with them (Singh & Dangmei, 2016). The most evident characteristic is their ability to use new technologies. They are also credited with being more tolerant, informal, and straightforward than previous generations. Considering the economic dimensions, they are credited with being more entrepreneurial, and less motivated by money. At the same time, they are considered to have fewer ambitions than previous cohorts. Companies would attract the representatives of Generation Z by focusing on diversity, being more responsible, creating multiple work formats, or set up internal marketplaces (Deloitte, n.y.). Present and future leaders must understand and cooperate with this Generation for many decades to come. Therefore, leadership programs should be tailored accordingly.

Another point of reference for educational and training programs is the interconnectedness of present-day society and organizations. This connectedness has two dimensions. One is human/social, the other one is technological. The first dimension ensures cooperation and a friendly work environment, smooth knowledge transfer, stimulating corporate culture. All these lead to more engagement and effectiveness. The second dimension

refers to digital technologies and how the internet is transforming organizations. This is a dynamic dimension, considering the technological development and the changing environment. For instance, the COVID-19 pandemic has overnight enhanced the importance of remote working.

The education of future leaders and the workforce should prepare them for this changing technological environment, as well as the specific needs of knowledge and skills. Technological development has a mixed and complex impact on people at work, therefore both individuals and companies should be prepared (Manyika, 2017). The study shows that, on the one hand, talents are underutilized, while on the other hand new knowledge and skills are necessary. Thus, managers face new complex and strategic challenges in terms of coordinating the workforce. Digitalization and embedding technology into work processes are among these challenges. Increased mobility and flexibility are also on the shortlist. The COVID-19 pandemic has pushed forward these aspects. Therefore, the educational and training processes have to form leaders and workforce for agile organizations and people.

Some final considerations

The complex nature of leadership is only in recent years starting to be understood. What was once thought to be native talent is now seen to be largely taught and absorbed by leaders in their lives, especially in their training. Leadership depends on expertise, psychology, the ability to understand others and their situations, the ability

to grasp and assimilate the complexity of problems and so on. No less important are contextual factors, such as the level of education of the team members, the generation to which they belong and the size and structure of an organization. Only by understanding all these factors can leadership education programs achieve better results and present future leaders with more challenging and engaging programs. Last but not least, it must be stressed that given the varied nature of factors that affect leaders, no universal recipes exist and that any leadership approach works only in a combination of factors.

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