Department of Business and Management

Master's Degree in Corporate Finance

Chair of Corporate Strategy

Digital Transformation is the way out! COVID-19 challenges and Fitprime Case Study

SUPERVISOR

Prof. Arturo Capasso

CO-SUPERVISOR

Prof. Luigi Ferraris

CANDIDATE

Francesco Piro

Student ID: 718841

ACADEMIC YEAR 2020 / 2021

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

INTRODUCTION

March 9 and May 18 of the 2020 are the two dates that we will find in history books as the dates of the "Italian lockdown", dates that will remain a lasting memory in our mind in the same way as that period has been marked by the "Coronavirus Pandemic". The use of the term “lockdown” identified for all of us indistinctively a trailblazing period that contributed to the acceleration of the economic-social crisis, the transformation of work, and every type of work activity. The measures adopted by the Government, in the form of 20 Decrees known as "DPCM", constituted emergency protocols that imposed harsh restrictions for 69 days, a prolonged closure time that each of us, young or not, lived through different values.

I myself have become aware of how fleeting and provisional everything that we were so anxiously chasing every day is, but above all of human fragility, of our dearest affections, work, friends, hobbies, and busy schedules, which we were forced to abandon in an instant. I experienced the weight of this dramatic moment, having officially submitted my university thesis, while living like a prisoner waiting for the Judgement Day: my bachelor’s declaration, that had been set to take place in that April 2020.

The days went by, and I was still there: glued to the news and the shocking images coming from hospitals, cemeteries, and deserted cities; not allowed to take part in festivities and celebrations, soon ended as cancelled; starting to perceive friends and people of my life further than ever, likewise my declaration day. Nothing was normal anymore and the light at the end of the tunnel never seemed to get closer. But "*Spes Ultima Dea*[1]" they say, and so I was nurturing the hope that humanity, after this ordeal, could become "more human", along with the possibility of surviving the pandemic and returning to the so-called normality.

I have realized in my heart that it was so urgent as vital to adopt new strategies, to recover the sense and security of everyday life: I put on the armor of hope, and I catapulted myself into the world of work and study. I managed to reach the first goal of the bachelor’s and currently I am working hard, together with the job position I conquered with my efforts, to achieve my master’s degree as well. At this point, important questions arise about the evolutionary direction of this recent paradigm shift, not only in the work context but also regarding the valid points of reference for individuals, forced now more than ever to rethink and rebuild every bit of certainty that was left in each of their lives. Actualizing the terms "discomfort and fragility", I think it is time for every action and every innovation to be thought out and shared, since it is necessary to

[1] “Hope is the last to die” (Translation from Latin)

act with competence, professionalism, honesty, and respect for others, making it clear that what before the "times of the Coronavirus" was normal not to do, now must be extraordinarily normal to do. We are experiencing a change that along its lines involves, indeed requires, "the us" to design new forms of coexistence, collaboration, sharing.

Recent economic studies show that the first part of the year 2021 reached back the same levels of economic activity as the beginning of 2019, basically with a COVID-19 recession that burned three years of growth. In this distressing scenario, however, a positive factor stands out, particularly for those who work in the world of digital, which is considered a tool and a very strong driver for revival and change. The new technology sector represents the source and engine of new growth and development, especially if supported by adequate resources, funding, new ideas and projects. If it is true that "Nothing is impossible", the "how to do it" remains fundamental. Not by chance, the concept of "impossible" itself has always coexisted with the vanguard of scientific research. In fact, when at the end of 1915 Albert Einstein announced to the world the theory of general relativity, concepts such as curved space-time and phenomena like the slowing down of clocks in a gravitational field seemed to the common man of the time little more than ramblings, theories good at most for some novels. But instead, they were based on centuries and centuries of questions discovered, as well as decades of personal study and an unprecedented scientific mind, such as that of Einstein was. This initial mistrust towards innovation was already present in Socrates, who considered the writing activity as an impersonal, distorted, and anonymous version of oral speech; the same embodied by Newton, who feared self-taught people as he considered the university guide as the only valid way for learning. This skepticism extended up to the technological innovation of printing, between 15th and 16th centuries, when the first books were considered by many men of culture "insignificant, stupid and defamatory": conversely, in 1700 the effects of printing technology became evident in the new book market and in the democracy of culture.

Today we speak of digital and think of a world of high technology linked to the marvels of information technology and the web, within which an immaterial flow of information takes shape in objects with essential and refined design and surprising potential. However, it is good to know what digitalization is, to know its advantages and the facilities available to companies, so that an effective change can be made on a daily basis. In this regard, I am convinced, also by the studies carried out on the topic, that business digitalization is one of the main challenges imposed by the current historical period.

The core of the reflections proposed in this thesis is based on the thematization of the historical-social and economic context we are witnessing in this period of the second half of 2021, still involved in the SARS-CO2 pandemic, not yet eradicated. The transformations occurred in this historical framework defined "Digital Age" are characterized by the enabling technologies (4.0), or according to the definition of the European Commission[2], are the technologies with "high intensity of knowledge" and associated with high intensity of Research & Development to cycles of rapid innovation, substantial investment expenditures, and highly skilled jobs, together with the construction of new working identities that have experienced continuous and permanent evolution of this new organizational paradigms.

The first chapter will provide a broad overview of digitalization and the main effects it produced on markets, corporations, and strategic approaches. A preliminary historical and theoretical dissertation will try to define a general timeline of the phenomenon together with some relevant milestones; at the same time, some of the main theories and theoretical definitions about the main concepts of digitalization, innovation, and business cycles will be introduced and explain over the chapter. It will also conjugate the previous concepts to corporate environment, deeply analyzing economic and strategic implications of turning to digital, its actual process, from underlying reasons to required investments up to ex-post management of technological innovation, providing in parallel some practical examples.

The second part of this work will move the attention on the COVID-19 era, highlighting the value of technologies and innovative strategies in dealing with the current crisis. After picturing the phenomenon in a broad economic sense and providing data witnessing its main effects on business and financial indicators at a global level, the central section of the chapter will focus on pandemic implications on digital transformation trends and strategic approaches to overcome the crisis. The contents of the first two paragraphs will find a real application in the last section of the second chapter, offering an integrated analysis based on countries, sectors, and business sizes, positioning the role of the firm as a protagonist to be studied and understood, also using some virtuous examples which have succeed in putting their names on the winners' list during the epidemic.

Continuity between the second and the last chapter is guaranteed by the focus on a single company case study: Fitprime, a young startup / SME operating in the fitness and wellbeing industry that managed to emerge victorious from the COVID-19 difficulties thanks a wise and

[2] European Commission. A European strategy for KETs - A bridge to growth and jobs. *COM/2012/0341 final*

innovative mindset and a series of laudable strategic moves since the beginning of the pandemic. The company profile of Fitprime will be depicted both in terms of its history and its business model, together with a coherent industry and external environment analysis, in order to get the full picture of the firm at the moment of the epidemic breakthrough. Strategies deployed by Fitprime to tackle the challenges it had to face, first among all the long sport centers closure, involved its product offering, its communication channels' structure, its workforce composition and operativity, investments on technological solution, and a series of resilient financial choices: every mentioned factor has had a key role in renewing business structure and activities and delivering a high degree of innovation to the pre-pandemic profile of the company. The value of the case study will eventually be supported by some of the most representative numbers achieved over the last two years, together with a coherent comparison between forecasted indicators and actual found values, in order to highlight how the recurring concepts of this paper can lead to successful stories even in such a hard period as the current pandemic is.

The aspect we will try to grasp is the revolutionary paradigmatic nature that continues to impose itself in this historical phase, relating not so much to contingent and implemented aspects, but rather to the frameworks, to the underlying cognitive schemes, to the recent organizational conceptions of the transformation underway. It is something that goes beyond the boundaries of work activity in the strict sense and produces a process of reconfiguration of the social architecture as a whole. Rather than changing fundamental institutions of work and everyday life activities at their roots, the transformation will invest them as they are, with the reading key of transformation-revolution as a common trait. This process includes of course social, cultural, economic, and political dimensions, whose change could be found both on the scale of macro-social dynamics - acceleration of the process of space-time compression, intensification of the planetary character of production chains, restructuring of territories in the form of space of flows rather than space of places - and on those everyday life practices in which these dynamics interact with the subjective experience of each of us.

Looking at the past, starting from a broader path of analysis related to the characteristics of the institutional and socio-economic contexts of reference, as well as the revolution we are experiencing in the workplace, I would like to highlight a personal reflection matured from a sentence uttered by Maximilien de Robespierre before the French Revolution: "Citizens, do you want a revolution without the revolution?"[3]. Just as that July 14 of 1789 has become the

[3] de Robespierre Maximilien. Discours contre les Girondins. *(November 5, 1972)*

symbolic image of the French Revolution, as well as the watershed between the Modern and Contemporary Ages, the last twenty years of our history have marked the transition from Modern Society to a Post-Modern Society, in which digital technologies are assuming dominant characteristics of culture. The key to make “the new normal” ours would be then that of not regretting our pre-pandemic ways of living, that are now disrupted, but rather embracing novelties delivered by the crisis and transforming them in strengths able to guide us towards our future in the post-COVID world and society.

CHAPTER 1 – DIGITAL TRANSFORMATION: PHENOMENON ANALYSIS AND OPPORTUNITIES FOR BUSINESS

PAR. 1.1 – Historical and theoretical background of digitalization

The digital transformation represents the main cultural challenge of the 21st century, a deep change in the economic and social paradigm of the global population in the new everyday life. Globalization had already marked the beginning of a new season, characterized by more and more frequent contacts with the outside: more travels abroad, more commercial partnerships and agreement with other countries, more communication and interactions among different cultures. What has followed the wave of globalization was the incredible advancement of technology and the general shift from physical/analogue to digital: the need to simplify interactions imposed by globalization in terms of communication but also physical movements undoubtedly played an important role in that sense, incentivizing innovation and technological progress as a form of problem solving. Nowadays activities are delivered more and more remotely, digital platforms articulate the new digital society, new opportunities and new ways of performing daily activities are progressively leading to deep changes in people's lifestyle, jobs, and relationships. Digitalization has given birth to a new universe in which we are already immersed, and considering how quickly the phenomenon is evolving, it would be necessary for the new generations to be ready to fully embrace this profound transformation of economic and social paradigms, customs, and traditions.

The iconic expression "digital transformation" came out after it was so clear that the pervasive spread of technological progress over the last decades has led to a real, deep transformation of products, processes, competences, businesses, and almost every element in nowadays culture and society. The size of the phenomenon has unavoidably brought hype around itself and across the global community, but at the same time it has fed confusion around two important concepts of modern era, making "digitization" and "digitalization" look like synonyms despite the important gap between them. We will rely on Gartner's IT Glossary[4] to disambiguate the real meaning of these concepts, starting by attributing a definition to the concept of "Digital": underlying this word stays the concept of shifting from mechanical and analogue electronic technology to digital electronics, able to represent whatever kind of information through numbers.

[4] https://www.gartner.com/en/information-technology

Built this conceptual basis, we can then refer to "digitization" simply as the process of changing from analog to digital form, a general definition that few would disagree with, and its practical application is quite easy to be imagined: try to think of a handwritten text converted in a digital form, or maybe the scanning process of a photograph. Less easy is the task of assigning a clear, well-defined meaning to "digitalization" in one single statement: the gap with the digitization meaning is mainly linked to the fact that the former is a concept often used with reference to social life as a whole, so "the way in which many domains of social life are restructured around digital communication and media infrastructures".

Moreover, according to Gartner's Glossary, digitalization applied to the business context can be weighted as "the use of digital technologies to change a business model and provide new revenue and value-producing opportunities"[5]. Indeed, from the perspective of a more economic phenomenon, digitalization waves of the last decades are expected to revolution many business environments and market processes, delivering a series of benefits such as a productivity boost across sectors and industries, while continually evolving and augmenting endowments of digital skills and assets among industries, enterprises, and individual entrepreneurs.

By analyzing the effects of digital transformation, it is possible to observe that through history only few technological trends have brought so big alterations of the global environment: the most recognized had been the steam engine, the electricity, and the printing press, considered the leading actors of the first two "Industrial Revolution" (Between 1760 and 1840, and between 1850 and the first decade of 1900, respectively)[6]. Digital transformation in that sense is often defined as the Third Industrial Revolution, whose starting point can be identified in the second half of the 20th century; its peculiarity is that of being an "information-centric" revolution, and considering the unavoidable link between information and digitization, it is not casual that the 2nd half of the 20th century has experienced the first real breakthrough of digital through society.

The gates of 21st century have been opened by the advent of Internet and WWW (World Wide Web): Cern's IT scientist Tim Berners-Lee was willing to create a new way to transfer and visualize data through hypertext and in 1991 HTTP protocol and World Wide Web finally saw the light. This incredible novelty put the basis for an incredible boost in terms of digitization: the diffusion of social media, which boom can be identified in 2004 with Facebook's creation;

[5] Jason Bloomberg. Digitization, Digitalization, And Digital Transformation: Confuse Them At Your Peril.
[6] Martin Mühleisen. The Long and Short of The Digital Revolution. IMF, Finance & Development, June 2018, Vol. 55, No. 2.

progresses in medicine, like the introduction of artificial organs; the introduction of new devices that have become of common use, such as computers and smartphones (2007 saw the birth of iPhone, Apple's market leader product); incomparable improvements in the communication fields, thanks to inventions such as Bluetooth and optic fiber.

Technology advancements through years have brought us in the recent years, where new trends are progressively being developed and implemented, producing a complete reshaping of the traditional ways of living and making business. Artificial Intelligence, defined as this group of technologies able to interact in order to work similarly to human intelligence, makes it possible to consistently reduce the need for human capital in some daily routine operations and bring a higher degree of efficiency through processes. The best example of this technological conquer is machine learning, a kind of AI capable of learning data models and improve its performance on its own by repeating sets of actions[7]. Mobile technologies are becoming far more sophisticated, and this upgrade can be found in 5G introduction, a new digital technology whose distribution has started in 2019 to replace old 4G networks and to deliver efficiency and versatility to mobile networks as well as the internet itself, potentially establishing as a new internet service provider competing with already existing ISPs. Cloud computing allows to provide various services using the internet to preserve online resources and perform its functions remotely and at any moment. These and many of the others digital features of the modern era can be localized in the concept of Internet of Things (IoT): nowadays everything could be influenced by digital transformation and this consciousness places modern technologies and their disruptive potential as the main trend to follow for businesses and the modern society as a whole.

Although it is possible to identify some key drivers and features of digital transformation wave, a theoretical framework capable of explaining the reasons behind the revolutionary power behind such a period is not an easy task. Carlota Perez's theory about technological revolutions and techno-economic paradigms represented a virtuous way of dealing with such a task and trying to explain the major factor at the basis of this revolutionary period. This theory is fundamentally a re-elaboration of some previous theories on economic cycles, especially those of Schumpeter: in his view, economic timeline is punctuated by waves of different time lengths that flow circularly until they reach a stationary equilibrium point. The model highlights the value of entrepreneurship and innovation as breaking points in such a framework: innovation in particular is seen as the main critical dimension of economic change, capable of creating

[7] https://www.accenture.com/it-it/insights/artificial-intelligence-summary-index

temporary monopolies and abnormal profits that attract competition, and at the same time it could represent an incentive for new products and processes development[8].

The main weakness of Schumpeter's model compared to neo-Schumpeterian approach is represented by the contrast between "long waves" and "great surge". Instead of focusing on long-term effects on macroeconomic aggregates such as world GDP, the re-orientation to great surges shifts the attention on technological innovation and what gives to it the power to create revolutions and radically transform economic and social patterns.

Basically, a Technological Revolution (TR) can be defined as a set of interrelated radical breakthroughs, forming a major constellation of interdependent technologies; in Perez's timeline, the current age positions itself as the fifth technological revolution, since the first one commonly identified in the First Industrial Revolution. Taking the current information technology revolution as an example, the microprocessors' system constitutes a starting point for an overlapping series of radical innovations such as computers, software, and the Internet. In that sense, the road opened by these inventions represents what Perez defines "Technical paradigm", a tacit agreement involving all the system's agents and driving them to a common direction aimed at achieving superior products, services and/or technologies. Such a paradigm occurs considering three main points:

- The relative cost structure of inputs, being cheap microprocessors and telecom equipment seen as key inputs in terms of costs and future duration and use potentials;
- The perception of opportunity spaces, considering the major role of Internet in reshaping structures and behaviors in nearly every socio-economic aspect of life;
- New organizational models, considering the power of Internet and consequent digitization process to deeply modify the standard work and consumption patterns.[9]

The notions of "long run equilibrium" and "continuous progress" are rejected and abandoned in Perez's theoretical framework, moving towards more complex processes of overcoming multiple disequilibria originated in massive innovation, in internal differentiation within and between sectors, of creative destruction, assimilation, learning and unlearning successive technological spaces and best practice models and of reaching and overcoming maturity through successive surges of change. All these factors taken together, it is possible to develop a complete view of the technological contribution to economy and society: in particular,

[8] Joseph A. Schumpeter, Business Cycles (1939)
[9] Carlota Perez – *Technological revolutions and techno-economic paradigms*, Cambridge Journal of Economics 2010, 34, 185–202, pages 3-4

according to TR's framework the changing rhythms of growth and the processes of structural change and increasing productivity in the economy can be understood as driven by identifiable technical change and as shaped by the diffusion of successive technological revolutions[10].

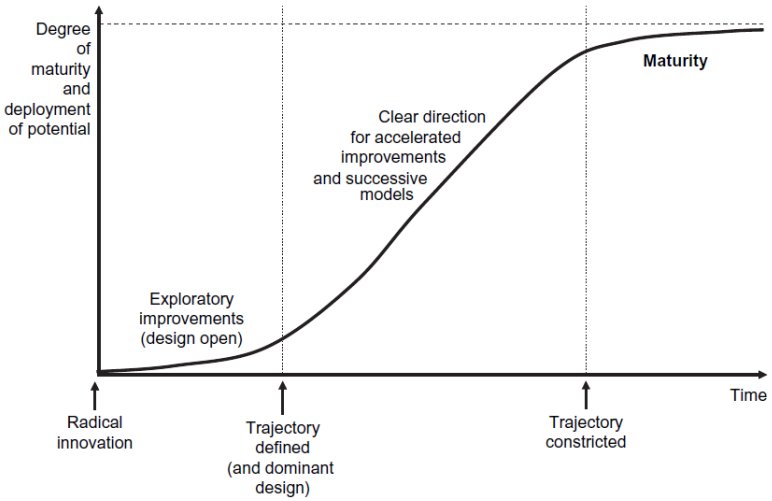

Figure 1: Trajectory of an individual technology according to Perez's framework.

It is necessary to specify that the value of IT spread and technological revolutions did not agree with everyone: beyond those recognizing the real value-adding profile of digitization beginnings, many others have questioned positive effects on productivity and other economic indicators, even when relying on real statistics data. "You can see the computer age everywhere but in the productivity statistics"[11]: in this brief aphorism pronounced by the economist and Nobel's prize Robert Solow we can summarize what has been defined as the "IT productivity paradox". It has been defined as a "discrepancy between measures of investment in information technology and measures of output at the national level"[12]: findings aligned with this paradox's concept have been the reason why the real contribution of IT to economy-level productivity and growth has been questioned so heavily.

First evidence of the phenomenon broke out in 1970s-1980s: it has been shown that US productivity growth experienced an evident slowdown despite the large amounts of investments in the rapidly developing IT field, raising uncertainty about the real value of information technology revolutionary path. Starting from evidence in large US corporations, analysis has been extended also across different countries, as performed in 1998 by Dwan and Kraemer[13] with respect to the counter position of "developed vs developing economies". Results from their

[10] Carlota Perez – *Technological revolutions and techno-economic paradigms*, Cambridge Journal of Economics 2010, 34, 185–202, page 16
[11] Robert Solow, 1987
[12] Wetherbe, James C.; Turban, Efraim; Leidner, Dorothy E.; McLean, Ephraim R. (2007). *Information Technology for Management: Transforming Organizations in the Digital Economy* (6th ed.). New York: Wiley
[13] Sanjeev Dewan, Kenneth L. Kraemer: Information Technology and Productivity: Evidence from Country-Level Data, Management Science - Apr. 2000, Vol. 46, No. 4, Information Technology Industry (Apr. 2000), pp. 548-562

studies seem to underline a positive trend of returns from IT capital investment just in developed countries, that have already built up a mature stock of infrastructures and ordinary capital to support economic activity and capture IT potential benefits; on the other hand, developing countries still experience not-significant effects by IT contribution, maintaining uncertainty around the topic.

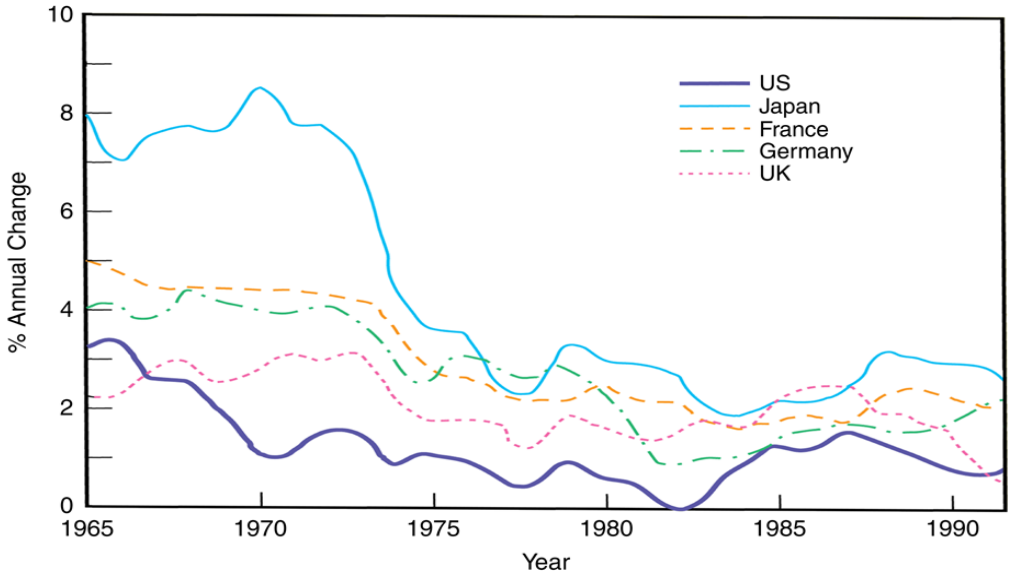

Figure 2: Annual change in real output per worker for G-5 countries (Adapted from Dewan and Kraemer, 1998, p.57)

1990s' decade sanctioned the fakeness of the paradox and data from this period unarguably confirmed the hoped jump in productivity due to IT boost. Many solutions to the paradox have been proposed: mismeasurements in calculating the real output indices, the requirement of complementary capital investments, and above all the missing consideration of potential learning curves engendered by IT investments. Actually, early data about IT effects and the beginning of its diffusion lack of a long-term perspective, as productivity gains induced by IT's contribution are generally expected to be observed some years after investments are made, so that an overall improvement on organizations and markets could not have been noticed concretely through 70s-80s time-spot.

This paradox has not been an isolated case and come as reccurring in the most important digitization periods, last but not least the wave experienced in this last millennium, uncomparable to the others in terms of breadth and diversity of innovation. Even this time, the solution must be find in the that digitazion carries a huge potential in terms of productivity-boosting opportunities, but these benefits have not yet materialized and they will need time to be captured completely and become noticeable in markets and businesses[14].

[14] Mekala Krishnan, Jan Mischke, and Jaana Remes– Is the Solow Paradox Back? – McKinsey Quarterly, article 06/04/2018

To find a solution to Solow's questions, many reserchers have moved to seek a link between productivity and ICT use and on of the main finding has been the not negligible role of innovation. To recall again the work of Schumpeter, whichever technological change start from an invention, so conceiving a new idea or a new process, that constitutes the basis for innovation which, instead, represents the market introduction af a technical or organizational novelty[15].

Innovation can move in two definite directions:

- **Product innovation**: involves new or significantly improved characteristics of the product/service offered to customers: examples can be easily found in products such as mobile phones and cars sectors, where new and improved version of the products are continually released. A product innovation can also be identified in a completely new product, as the flexible screen that LG presented and launched on the market in 2016, or the launch of the E-reader in the guise af a device able to innovate a digitalize the traditional way of leafing through a book .
- **Process innovation**: involves new or significantly improved methods, equipment and/or skills used to perform the service[16]. Henry Ford's invention of the moving assembly line can be recognized as one of the most iconic case of process innovation, making car assembly simplier but also shortening vehicle production's time.

These two roads represents the simplest starting point to perform an analysis on innovation type and through years this dichotomy has been expanded in new and more detailed frameworks. One of the most interesting is the *Ten Types Framework* designed by Doblin[17]: categorizing innovation in three distinct areas of application (Configuration, Offering and Experience), this framework represents a useful tool to analyze and perform innovation strategies based on different perspectives and application fields.

Figure 3: Overview of the Ten Types Framework designed by Doblin

Each area in concerned on different element that must be trated differently one from the other, and as you move toward the right side you find as the type of innovation become less internally

[15] Schumpeter, Joseph A., 1883–1950 (1983) - The theory of economic development: an inquiry into profits, capital, credit, interest, and the business cycle.
[16] OECD – Oslo Manual: guidelines for collecting and interpreting innovation data
[17] Larry Keeley, Helen Walters, Ryan Pikkel, Brian Quinn - Ten Types of Innovation: The Discipline of Building Breakthroughs

focused and more apparent for customers: not by chance the Profit Model positions itself as the first type on the left side and the Customer Engagement at the opposite extreme. Such a framework is useful to understand that often it is necessary to combine more of these innovation's type to go beyond market growth and its arising business complexity: more than a simple innovation it is a sophisticated innovation that is demanded. Unfortunately, such a challenge requires elements such as multi-disciplinary teams, great amounts of skills and knowledge and proper internal systems to proper vehicle "solutions" to challenges: that is why nowadays many firms are still uncapable of approaching fully and properly to innovation.

The above-mentioned model have few intentions of mathematically explaining the relationship between technological innovation and performances and in general it has not been an easy task to formulate anything in that sense. The most common mathematical expression for the relationship between production and ICT can be found again in Solow's literature and more specifically in its definition of Aggregate production function:

$$Q = F(K, L, t),$$

where the output Q is expressed as the function of capital (K) and labour (L), but also of the variable t representing the technical change ("any kind of shift in the production function – slowdowns, speedups, improvements in the education of the labor force, and all sorts of things will appear as "technical change".").[18]

If we focus on the conceptual relation rather than the mathematical one between productivity and technology, we can notice how ICT is crucial in the innovation process as its use can positively affect the introduction of innovation (H1a and H1b). Innovation in turn has effects on productivity: process innovation may positively impact productivity in the short term (H2), while product innovation could produce opposite effects (H3) considering higher defect rates and its need for a longer period of time for new products to completely establish in the market and eventually offset initial negative effects on productivity[19].

[18] Robert M. Solow - Technical Change and the Aggregate Production Function - The Review of Economics and Statistics, 1957, Vol. 39, No. 3

[19] Tomasz Kijek, Arkadiusz Kijek - Is innovation the key to solving the productivity paradox?

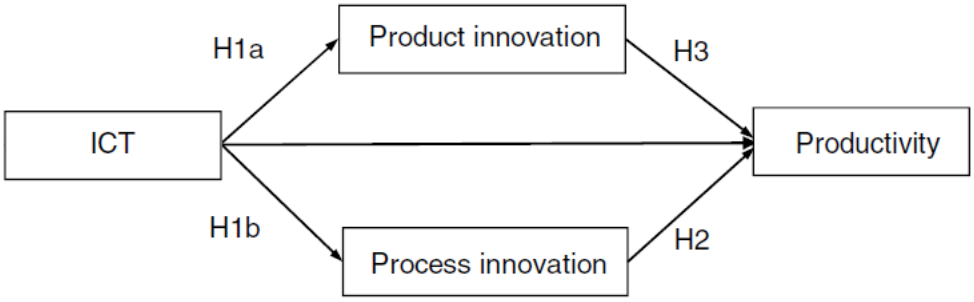

Figure 4: The role ICT in innovation process and its link with productivity

Despite these findings, there is still ambiguity around the real relationship between innovation and productivity. Studies and papers on the topics use to differ a lot in terms of the definition of which variables better represent innovation (product or process, number of patents/licenses, etc.) and productivity (revenues, performance KPIs, etc.), and also resent by different dataset used (ex. different geographical location of the analyzed information). Results that follows are clearly not aligned, but each of them proves an existing link between these two variables, so then puts officially innovation in a position of interest around business issues.

As mentioned before, innovation diffusion is a long and complex process that depends on many interconnected factors: the type of innovation itself, adopters' diversity, communication channels, social systems influence. When combined, all these factors create different time patterns for innovation diffusion to occur and, at the same time, shows as different situations are characterized by different adoption rates that can consistently modify the diffusion's speed of an innovation. This process has been represented by Rogers in its book *Diffusion of innovation*[20], where innovation's diffusion is described by a bell curve following the types of adopters the innovation goes to reach over time. In parallel, as the innovation spreads, it increases the captured market share till a point of market saturation where it reaches a critical mass.

[20] ROGERS, E. M., Diffusion of Innovations, New York: The Free Press, 1962.

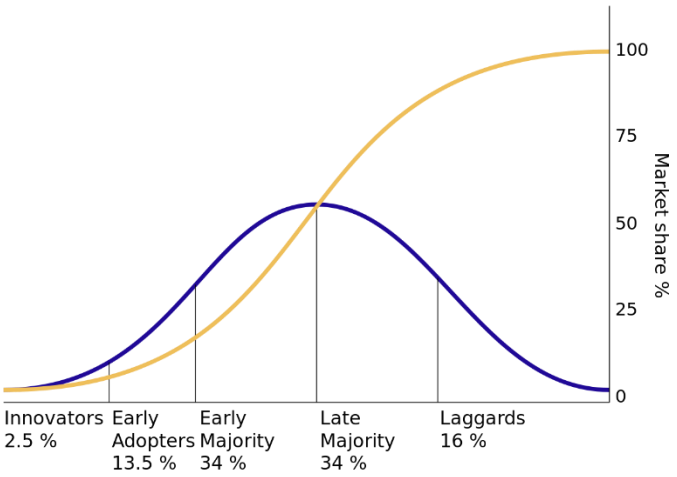

Figure 5: Rogers's adoption curve, describing innovation diffusion process

Of course, such a model has received many different feedbacks, both positive and negative, and has experienced interesting re-elaboration also according to emerging technological trends over the 20th century. One of the most attractive is that of Frank Bass, an American academic professor that started from previous theories on the topic to elaborate a growth model for consumer durables[21]. In particular, the model distinguish between two macro-classes of technology adopetrs: on the one hand we have innovators, individuals that use to adopt innovations without suffering social system's influence; on the other hand we have imitators, who simply behave in the exactly opposite way. This premise allows to make assumptions on the initial purchase's timing for different classes of adopters, engendering a matchematical eqution model able to predict the time-trend for purchasing and also the moment of maximum sales level.

[21] FRANK M. BASS, A NEW PRODUCT GROWTH FOR MODEL CONSUMER DURABLES

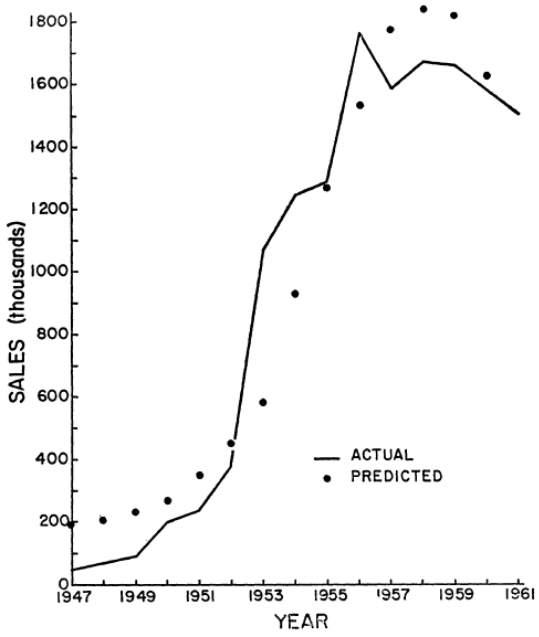

Figure 6: Actual sales and sales predicted by Bass's regression equation.

At that time the model was applied to emerging durables such as home freezers and black & white televisions in order to make some reliable forecastings: backtesting the predicted trend of sales, the results have showed to be very similar to the actual sales level. The main conclusion we can obtain from this analysis is that innovation is difficult to be evaluated ex-ante because of a large amount of factors that influence innovation and technology trends. This finding represents just another critical issue about digitalization and technological process, together with many others such as the recalled controversies about the definition of what it really is and which are its borders.

Despite the complexity of the phenomenon, digitalization power can be clearly observed by and numbers could help in understanding the massive influence it has on a global basis. A comprehensive estimate of different perspective on the topic described the size of digital economy with a range going from 4.5% to 15.5% of world GDP in 2019 and it is expected for this percentage to reach 25% by 2025, exceeding the value of $23 trilions[22]. . Historically recognized as data-driven, modern digital economy highlights the crucial role retained by the ability to collect, use and analyse digital information in the modern era. The consciousness about it is evidenced by numbers on data traffic, having the Global Internet Protocol (IP) grown from 100 GB/day in 1992 to 45000 GB/s in 2017, expecting to rise until it reaches more 150000 GB/s by 2022. Digitalization influence can also be understood by looking at the amount of money commitment for digital technologies and services: we are speaking of around 1 trilion

[22] Inter-American Development Bank. "EXPONENTIAL DISRUPTION IN THE DIGITAL ECONOMY", 2018.

of U.S. dollars in 2017, increasing to 1,31 trilions in 2020 and expecting to reach over 2 trilions by 2023[23].

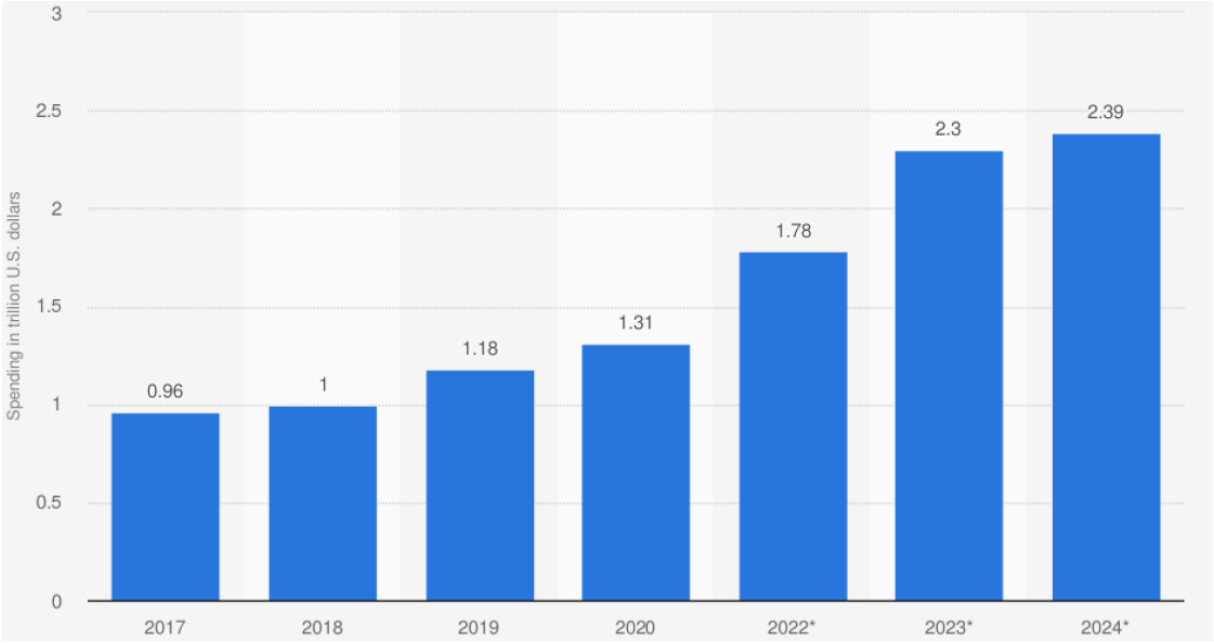

Figure 7: Spending on digital transformation technologies and services worldwide from 2017 to 2024

But numbers and influence of digital transformation must not mislead from the relevant degree of uncertainty that it brings with it: digitalisation promises create hype among society and the risk of ending in failure is real and higher than it could be imagined. This is the reason why digital transformation have been the source of big system collapses, with the dot.com bubble experienced between 1995 and 2000 identified as the most representative example. We describe it as a stock market bubble arised because of the great speculation around the fast-growing internet-based business during those years: not by chance the bubble takes its name from the ".com" domain characteristic of the majority of those businesses. Acceleration in widespread adoption of internet and the hype generated around tech-businesses produced consequences such as irrealistics rose of share prices and indexes linked to these kind of businesses, overestimated valuation of such companies and focus on wrong performance metrics such as traffic growth or click-rate. The end of the millennium marked the bubble burst, producing the collapse of the dotcom market leading several tech companies and startups to unsustainable difficulties or even bankruptcy[24].

Cons of digitalization cannot be identified just in terms of damages of economic nature, but rather it has to be considered the enormous impact on every field of society to properly

[23] IDC, Statista estimates; Salesforce.com.
[24] https://corporatefinanceinstitute.com/resources/knowledge/trading-investing/dotcom-bubble/

understand how it can produce negative effects on many aspects. One of the main considerations is about the so-called "digital divide": it happens that some less developed countries come out as excluded by the possibility to adopt new technologies to embrace digital transformation and this limitations contributes to those countries' gaps with bigger and well-developed countries. While Asia, Europe and North America maintains over the 90% of the digital economy share of the world in their hand, Africa and Latin America remain backwards with less than 5% in total, as evidence of the fact that digital divide gap is increasing and, as a consequence, as well inequalities among countries are.

Social networks are probably the most representative feature of digital era and as that it is often taken as an example for many of the disadvantages attributed to digital transformation. Among these disadvantages we find many risks linked to privacy protection: routinely use of social networks and online services often involve a wide sharing of personal information that could be easily accessed by external individuals, so then exposure to frauds, identity thefts, and other similar risks. It is not by chance that, along with the expansion of the digitalization wave, countries and nations have put their focus on topics such as cybersecurity, and contextually many laws and regulations have been issued, especially with 2016's GDPR regulation[25]. On the other hand, the continuous use of social networks and the role assumed in our lives offer food for thought on topics such as digital addiction to technology, online defamation often flowing into serious cases of cyberbullying, and physical and psycological damages attributable to social networks abuse.

The relevance of the digital transformation phenomenon has unavoidably catalyzed society's attention and the debate about its true value and effects is still far from being closed. It is certain that last decades' wave of technology advancements and innovation has arisen a lot of opportunities in every field of human lives, and as that it is fundamental to understand how it is possible to properly exploit them. This task is particularly important in business contexts, where it becomes crucial when related with the strategic planning process of firms: so it is fundamental to understand what does it mean and how technology and digitalization contributes to a company's strategic process.

[25] EU Regulations 2016/679, General Data Protection Regulation – Regulation on people's protection with regards to processing and free circulation of personal data.

PAR. 1.2 – Strategy & Digitalization combo: how to exploit innovative technologies

After the previous chapter's discussion about technology and digitization it is easy to understand how they potentially represent a relevant growth opportunity for firms and society, and so keeping up with modern era progresses and evolving towards today's trends in innovation could reveal itself as a key success factor for whichever player. What instead seems more difficult to understand is how technology and innovation can be effectively implemented and exploited by players, avoiding the risk of disastrously failing by only relying on the innovation as it is. This is the reason why each player should define and apply a strategy.

Literally, the word "Strategy" derives from the Greek word "stratēgia" linked to the concept of war, "art of troop leader, generalship": it is not a coincidence that strategy has represented a critical feature in almost evey conflict among armies and has also lead to real manuals about it (Think about Sun Tzu's "Art of War"). Moving away from war's context, strategy is generally defined as "a general plan or set of plans intended to achieve something, especially over a long period"[26]; behind such a definition we can find the main points that hide behind a strategic plan:

- First of all, it needs to be defined what to achieve, so it is necessary to define goals that have to be clear, consistent and preferably on a long-term basis;
- In order to be define properly strategy's goals, a player must perform an "internal analysis", in order to define the skills and resources it is in possess of and eventually also what is missing and needs to be acquired to achieve the objectives that have been set;
- Internal analysis is not sufficient as each player lives and moves in a specific environment, so then a deep analysis and a profound understanding of the external context is unavoidable;
- Having defined the previous three point, the strategy has to be executed, so it must be defined a plan for an effective implementation of strategy, in order to reduce risks linked to strategy's failures.

[26] Collins Dictionary, https://www.collinsdictionary.com

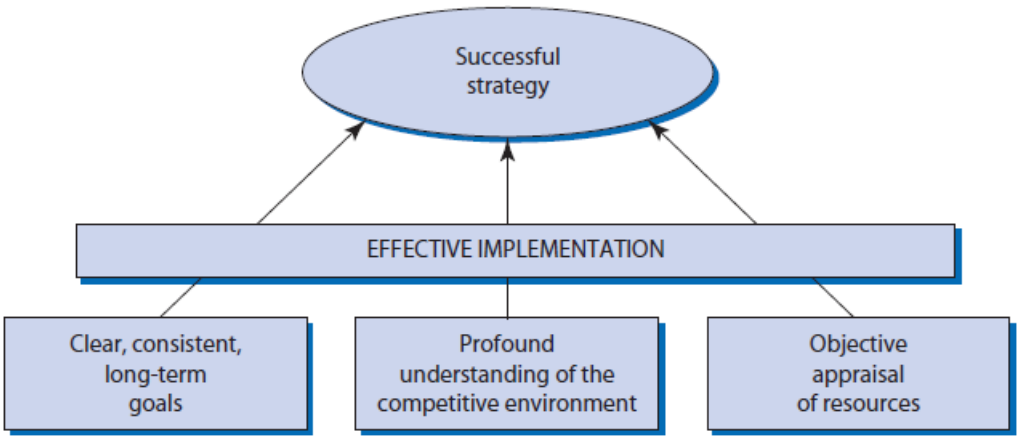

Figure 8: Common elements in a successful strategy (Robert M. Grant, "Contemporary Strategy Analysis", 9th edition)

Preliminary analysis can then be distinguished in two main categories: internal analysis and external analysis. Internal analysis concerns all the available resources and capabilities for a player and also those missing assets' needed to be acquired, while the external environment includes features such as competitors, social and political context and even technology.

External analysis presents two main tools to comprehensively understand the context in which to act:

- **PESTEL Analysis**: macro external factors have a big influence on individuals and firms' decision-making process and the PESTEL framework is an important tool to enhance the knowledge on the most relevant of these factors. The acronym "PESTEL" identifies the 6 interest areas of the analysis:
    1. **P – Political**: the first letter focuses on government policies and the influence of politics on the environment; common factors are the degree of political intervention in the economy, corruption level and political stability, and the taxation policy;
    2. **E – Economic**: economic factors undoubtedly have a direct impact on player's profitability, so the analysis must take into account measures such as interest rates, national income and employability;
    3. **S – Social**: the social system has a heavy influence on its members, so information like income distribution, level of education and population's ageing can be useful to better understand the context of reference;
    4. **T – Technological**: as explained in the previous paragraph, it is not possible to neglect the role of technological factors in defining a strategy, so decision making must consider current situation about innovation, level of R&D investments, product development etc.;

5. **E – Environmental**: sustainability and CSR are topics that are gaining a growing importance in today's global environment and so it is unavoidable to consider "green factors" as renewables energies and recycling activities;
6. **L – Legal**: regulation and legal framework are constantly evolving and they can put serious limitations to plans and activities, so a knowledge in this sense is required to be aligned with rules and prescription[27].

- **Porter framework**: Micheal E. Porter's work on competitive forces' analysis[28] began a real revolution in the strategy field and brought a new and different focus to keep into account while performing an industry analysis. "In essence, the job of the strategist is to understand and cope with competition": this Porter's statement condenses into a few words the importance of industry's structure and competitors in defining opportunities and profitability levels in the medium-long-run. Porter identify five main competitive forces that need to be considered:
    1. **Rivalry among existing competitors**: competitive environment is firstly made by players already detaining a position in the market, and so the possible actions they can undertake to prevail on competitors (price strategies, advertisement, products improvement etc.) must be taken into account. Factors such as the number of competitors, industry's growth rate and commitment to the business can be critical in deeply understanding current competitive landscape and elaborating strategies to remain in the game;
    2. **Threat of new entrants**: competition can be shaked up as a consequence of new players entering in the industry, bringing different and innovative features capable of being disruptive in current structure. To avoid being displaced it is necessary to analyze entry barriers of the industry, which entity can give information on the likelihood of new entrants and in which way;
    3. **Bargaining power of suppliers**: every player can count on a certain quantity of suppliers, but they must be careful about the bargaining power they can hold in terms of higher imposed prices or shifted costs to participants. As a consequence, features such as suppliers concentration, differentiation of the

[27] Zaid Bin Mat Yusop – PESTEL Analysis – COMRAP 2018, 1st National Conference on Multidisciplinary Research and Practice 2018
[28] M. E. Porter, "The Five Competitive Forces that Shape Strategy," Harvard Business Review 57 (January 2008)

offer and the capability of integrating forward into the industry has to be evaluated to develop an awareness about suppliers' power in the environment;

4. **Bargaining power of buyers**: the other side of the coin is represented by buyers, with customers able to influence industry through opposite actions compared to suppliers (forcing down prices for example). Customer groups then have to analyzed in terms of negotiation leverage and price sensitivity, in order to understand how to reduce risks linked to their possible power expansion on the market;
5. **Threat of substitutes**: the micro-economic concept of substitute as a product that is easily replaceable with another by a customer represents a big risk for industry's profits and also for established players, who could suffer lower prices or better designs and consequently lose credibility and share on the market.

In mid-1990s an extension of the model has been proposed, adding a sixth force to the previous model:

6. **Threat of complementors**: players supplying products or services that complement others already existing can create value for the industry and the primary consequence is of course the possibility that complementors start exercising a sort of bargaining power on complemented players.

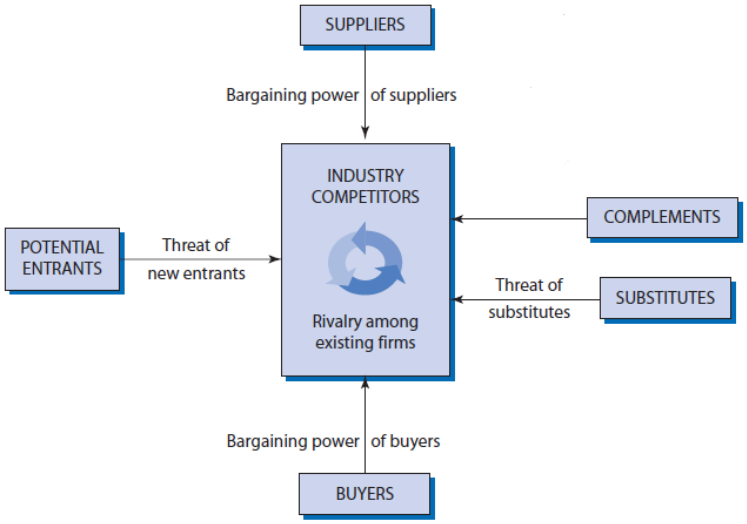

Figure 9: The six competitive forces of the extended Porter's model.

Internal analysis on the other hand focuses on player's endowment of resources and capabilities, the two main components on which it is possible to build a competitive advantage and, as a consequence, to make real hypotheses onto base a strategic plan.

- **Resources**: one of the most relavant work on this topic has been produced by Jay B. Barney, who in 1991 theorized the Resource-Based-View (RBV)[29] identifying a player's resources endowment as the main source of competitive advantage. He distinguished between three typologies of resources: physical capital (ex. plant, equipments and physical technology owned), human capital (staff's characteristics such as training and experience) and organizational capital (linked to player's internal systems, such as the reporting structure and the planning process).

  Of course Barney's framework is not the only that can be adopted: a more basic framework, for example, distinguish between tangible (Physical or Financial) and intangible resources (Technology and Reputation), maintaining also the human resources' category as Barney did;
- **Capabilities**: they can be defined as the condition of having the capacity to perform a certain task and in literature we can find thousands of classes of competences: managerial, strategic, technological etc. An interesting framework about capabilities is that formulated by Reece, Pisano and Shaun who, alongside Barney's theory, counterpose a Dynamic Capabilities View (DCV)[30] to highlight the role of capabilities in extablishing a certain competitive advantage. Differently from ordinary capabilities, that focus mostly on operations, administration and governance, dynamic capabilities are defined as "*the firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments*"[31].

Resources and capabilities value for a player can be evaluated combining these two elements in a single framework: the resources-capabilities matrix. This simple model is able to highlight their strategic importance for the firm and, as a consequence, to identify improvements area in terms of assets appraising.

[29] J. Barney - Firm Resources and Sustained Competitive Advantage - Journal of Management 1991
[30] Teece, David; Pisano, Gary; Shuen, Amy (1990). "Firm Capabilities, Resources, and the Concept of Strategy"
[31] Teece, D.J., Pisano, G. and Shuen, A. (1997). "Dynamic capabilities and strategic management". Strategic Management Journal, 18, pp. 509–533.

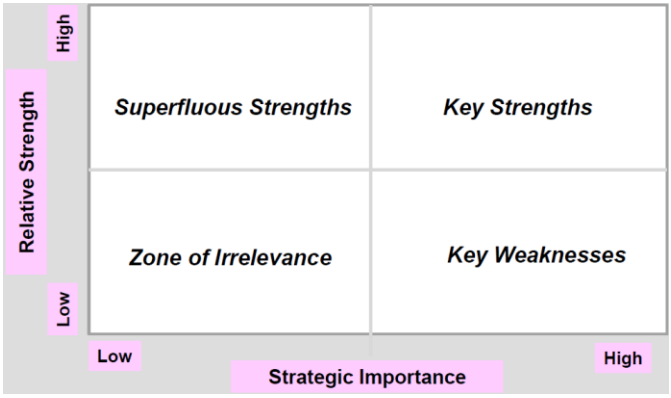

Figure 10: The resources and capabilities matrix

The ultimate goal to be set for a strategy is that of making it a Competitive Strategy, so then to lead to the achievement of a Competitive Advantage, a general but key expression referring to all those factors that allow a player to outperform its competitors. Strategic planning in that sense is unavoidably supported by a two-sided analysis: on the one hand, industry analysis assesses profit's potential deriving from environment main features, competitive forces and barriers that exert their influence externally; on the other hand, resources and capabilities view highlights imperfections in market factors and the consequential diversity among firms, whose internal assets give rise to opportunities for gaining economic rents and expanding in terms of market's share detained[32].

An integrated analysis of that kind could be performed through a simple but sound strategic tools, the SWOT matrix, where the word "SWOT" stands for "Strenght, Weaknesses, Opportunities, and Threats". In particular Strenghts and Weaknesses represent the internal side of the analysis, and so internal factors that may positively (S) or negatively (W) affect players' performance and goals' achievement; Opportunities and Threats on the other hand are environmental factors whose positive (O) or negative (T) effects are linked with industry and outside organizations[33].

[32] Raphael Amit and Paul J. H. Schoemaker. "Strategic Assets and Organizational Rent", Strategic Management Journal, 1993, Vol. 14, No. 1

[33] Christine Namugenyia, Shastri L Nimmagaddaba and Torsten Reinersc - Design of a SWOT Analysis Model and its Evaluation in Diverse Digital Business Ecosystem Contexts

Figure 11: SWOT analysis framework (productfolio.com)

All these preliminary analyses create the ground for performing the strategic planning process, aimed at defining business direction in terms of vision, mission, goals to be reached and action-plans to be followed. In parallel, such a process is connected to the proper definition of the player business model, so its core strategy for doing business: it is then necessary to formalize a sort of "Business model language" and choose which are the most critical dimension on which it is possible to properly define a business model. On of the typical tool used to perform this task is the Abell model, a framework that allows to identify a business model by looking at three main dimension: 1) the WHO centered on the customer basis, the WHAT focused on the business functions that are provided, and lastly 3) the HOW that is concentrated on the way through which deliver the what and it is mainly a technology-based dimension (so the technological availability in terms of products and processes to perform its business activities).

Abell framework is just one of the possible approaches to a business model definition, but in this paper specifically we can notice as the role the technology plays in each theoretical framework is fundamental, and furthermore it exerts a great influence also on other organizational features such as it structure as well. Porter's value chain theory[34] argues that a business model has to be defined by its suppliers, buyers and value chain activities and this last element is representative of the previous consideration about technology's roleo. Value chain is plotted as a system of interconnected activities, where primary activities including operations, marketing and logistics are permeated by some supporting activities that unavoidably include the combination of technological inputs and IT skills the organization is in possess of. Information technology has then the power to transform value activities and their linkages both between them and with the overall value system the organization is operating in: IT can the

[34] Michael E. Porter and Victor E. Millar. "How information gives you competitive advantage

bring innovation in these fields and, as a consequence, allows for competitive advantage opportunities to arise and be exploited.

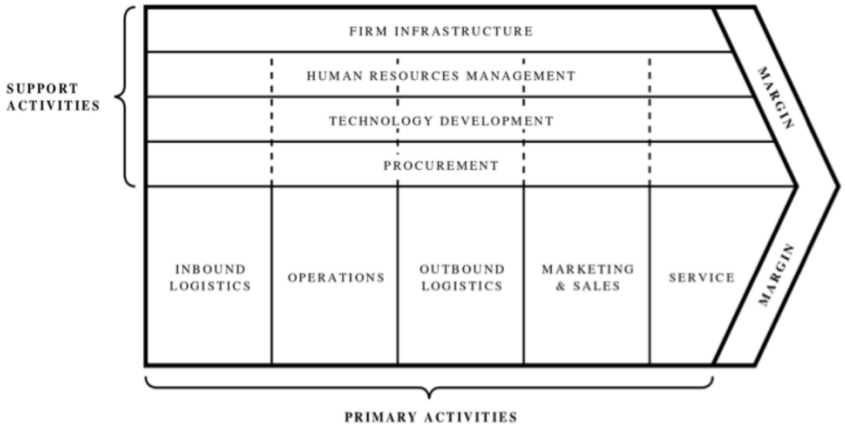

Figure 12: Porter's value chain representation.

The binomy technology-innovation is invested of an undeniable importance in business contexts and it is when those two critical factors meet and combine with strategy that their admixture can lead to success. Innovation is often associated to the concept of "disruption", that feature capable of revolution the current environment by bringing new and unexpected trends able to inflict damages to incumbent realities, making their assets and organizations obsolete and eroding their profitability and market share. Competitive advantage as well usually bring with itself a great amount of disruption, so the link between all these concepts appears as immediate. The main mistake to escape from is that of considering "disruptive" whichever situation in which an industry is shaken up and sees previous incumbents put in troubles; in that sense, Clayton M. Christenes in its book "The Innovator's Dilemma"[35] provides a useful distinction between the concepts of "Disruptive Innovation" and "Sustaining Innovation". The latter refers mainly to improvements of current products and services already aimed at the existing customer segment served; the former, on the other hand, is defined as an innovation initially undervalued by incumbents, especially in terms of customer segment. Disruptive innovators are those usually small companies that start by serving a segment not currently in the eyes of incumbents and this is used as a starting point to upscale the market until it is possible to enter in mainstream and high end areas of the market. We mostly detect sustaining innovation in the business environment, but when disruptive ones occasionally emerge they represent a very different value proposition that is likely to revolution industries and lead big companies to failure.

[35] Clayton M. Christensen. The Innovator Dilemma: When New Technologies Cause Great Firms to Fail. Harvard Business School Press, Boston Massachusetts.

Innovation then must not be considered in terms of disruptive value, but rather in a strategic sense. Concepts such as technology and innovation bring with them a great amount of uncertainty that, if not controlled and implemented properly, can easily lead to money-squandering and failures. A reasoned strategic framework could in that sense represent a shield against uncertainty, competitors' actions, and any counter force to potential benefits of technological progress and implementation[36]. So it is important to understand the strategic value of internal resources in order to exploit related benefits in the outlined environment and positively impact on performance.

Strategic innovation specifically occurs when a company identifies gaps in the indtistry positioning map, decides to fill them, and the gaps grow to become the new mass market[37]. Strategic value's accountability is not an easy task and must be performed in a tailor-made model able to identify the key characteristics of the considered product, service or organization so that it is possible to evaluate its strategic important. Grant and Barney are the pioneers of the resource-centered view in that sense, suggesting two different frameworks:

- Strategic Importance Criteria: the main characteristics that have to be observed are: 1) Relevance, 2) Scarcity, 3) Durability, 4) Transferability, and 5) Replicability;
- VRIO Criteria: quite similar to Grant's framework, Barney's criteria are essentially four, so then an asset has to be: 1) Valuable; 2) Rare; 3) Inimitable; and 4) supported by a proper Organization.

When possessed, each of those characteristics attributes a certain amount of strategic value, but them four must cohabit in order to lead to a sustained competitive advantage: technology and innovation in that sense have played a central role in many success stories over recent years. Apple is probably the best example to be provided in that sense, ascertaining that its top products (Smartphones, Ipads and Macbook above all) were: 1) valuable in terms of product quality and development level, especially if we consider the digital era through which they came out; 2) hardly and costly to be imitated by competitors, not able to keep up with Apple since the beginning of its ascent; and 3) Apple has proved to be a colossus in its field and its organization and structure made it possible to support products diffusion and development management.

Resource-centered perspective typically evaluates IT endowment as a strategic resource per se, capable of producing positive effects on performance especially when combined with other

[36] Richard Arthur Goodman: Technology and Strategy: Conceptual Models and Diagnostics.
[37] Constantinos Markides. "Strategic Innovation".

strategic resources. Despite this conclusion, it must be highlighted that this is not the only contemplated method to evaluate an asset in such a sense. Tha main linear models counterposed to resource-centered perspective are those associated to the contingency-based perspective, asserting instead that IT resources on a standalone basis often cannot produce positive effects on performance. Improvements are instead observed when this kind of resources are planned and used to support firm's goal and so they are aligned with the overall company's strategy: this assumption, supported by some empirical studies, has shown a tendential positive and linear relationship between such an alignment a firm's organizational performance.

Theoretical studies have not stopped to the assumption of a linear relationship. As previously higlighted, IT strategy brings with it an intrinsic dynamism and degree of uncertainty that makes it difficult to explain its relationship with strategy in a linear way; that is why many studies have instead focused on non-linear model to fully capture such a relationship. An interesting study in this field have been performed in 2007 by Oh and Pinsonneault: they have developed an analytical framework aimed at capturing the Strategic Alignment of IT (SAIT) and its real relationship with firm performance. The study have been performed evaluating performance with respect to three main variables taken from Miller and Chen around strategic impact: cost reduction, quality improvement and revenues growth. These variables are typical of manufacturing industry, but they are declined with respect to some common core IT system employed around different industries: management systems aimed at functions such as sales, orders and deliveries may increase the revenues growth rate; computer-aids and robotics automation can have a positive impact on organizational quality; operational efficiency could experience benefits thanks to the implementation of systems oriented to manage HR, production and inventory. It must not be undervalued the influence that other variables can have: the study includes also elements such as financial-supporting systems, considering the undeniable contribution that a proper budgeting process and financial strategy can delivery in terms of overall performance. In the end the study's main findings offer mixed results, showing agreement on non-linear models' better explanatory power about SAIT when focusing on expenses as performance indicators but showing a weak support in such an anaysis when revenues are considered[38].

What finally links all these measurements approaches is the concept that the main variables to be considered to establish a form of competitive advantage are the strategic value of the

[38] Wonseok Oh and Alain Pinsonneault. "On the Assessment of the Strategic Value of Information Technologies: Conceptual and Analytical Approaches". MIS Quarterly, Jun. 2007, Vol. 31, No. 2 (Jun. 2007), pp. 239-265

considered asset and its alignment with the overall organization's strategy. Technology in that sense become so a critical dimension for busines model definition and strategy ideation, to the point of becoming a parallel strategic analysis. Having a proper technology strategy, consisting of policies, plans and procedures for acquiring knowledge and ability, managing and exploiting them for profit[39], represents a fundamental analysis to perform.

What digital transformation is bringing in nowadays business environments is a increasingly rapid shift to the formulation and implementing of a digital strategy as a key to keep up with modern technological trends and not to be overwhelmed by emergent digital mavericks. Everyone is making progress towards this direction: while maturing digital businesses are focused on integrating digital technologies, such as social, mobile, analytics and cloud, in the service of transforming how their businesses work, less-mature digital businesses are on the other hand focused on solving discrete business problems with individual digital technologies[40]. What is sure is that digital transformation can still be defined as a new and emerging phenomenon which is continuosly remodelling business models and environments: we can appreciate its progresses until today by analyzing the main trends and features of the last years, also in terms of implemented technologies and obtained results.

[39] David Ford. Develop Your Technology Strategy. Long Range Planning, Vol. 11, No. 5, pp. 85 to 95, 1988
[40] G. C. Kane, D. Palmer, A. N. Phillips, D. Kiron, and N. Buckley, "Strategy, Not Technology, Drives Digital Transformation" MIT Sloan Management Review and Deloitte University Press, July 2015.

PAR. 1.3 – Embracing digital transformation: industries' renewal and companies' approaches

Digitalization as we have defined it along this chapter is definitely considered as a component of the "Industry 4.0", a concepts developed in 2010 by the German government in order to describe a vision of the future of the IoT. It is based on features such as digitalization of supply chain, smart manufacturing and a key focus on data analytics; currently, the main observed results have been the high degree of customization of products and services, shorter times in design, development and selling processes, upgraded post-sales support service, and deeper use of information even drawing them from previosuly unused areas. Digitalization wave over the Industry 4.0 expected time span should lead to a real Digital Ecosystem by 2030, period where the spread of digital technologies could be considered at its full-level stage and it will have managed to implement virtualization in processes and customer interfaces, to realize flexible and integrated value chain networks, and to put industry collaboration as the main key value driver[41]. Industry 4.0 has then become a standard that almost every country try to follow in order to achieve technological goals and fully embrace digital transformation's benefits.

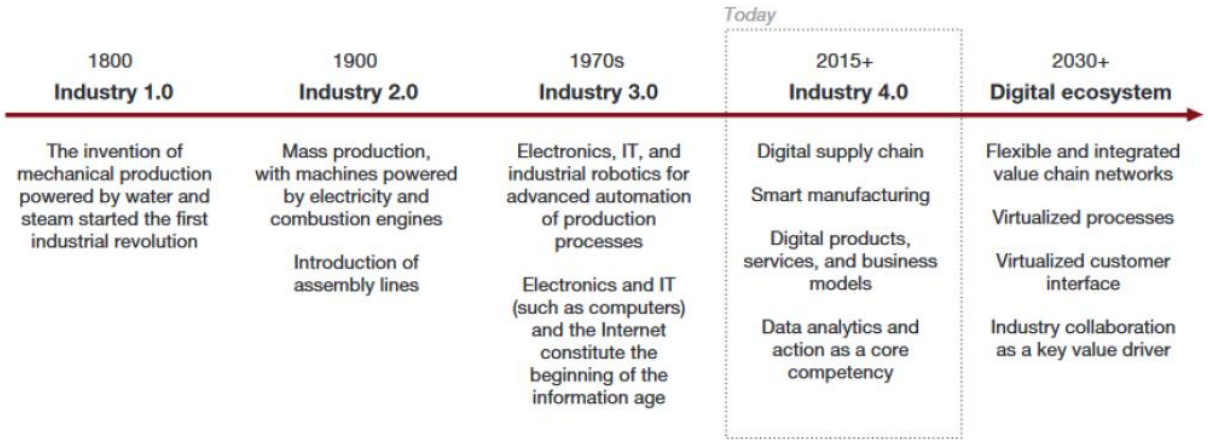

Figure 13: The road to Industry 4.0

Drivers of digital transformation in business environment have been many in numbers and kinds, and they can be summed up in three main areas:

- Customers' needs and expectations: the quick diffusion of technological innovation has developed a significant growth of customers' needs and expectations: companies need to be constantly reacheable, often on a 24/7 basis, and capable of providing an increasingly customized service to each client. A small fault or lack of effort is easily detected by clientele, producing negative impact on customers' loyalty and leading them

[41] V C Vartolomei and S Avasilcai. "Challenges of digitalization process in different industries. Before and after". 2019 IOP Conf. Ser.: Mater. Sci. Eng. 568

towards other shores. Fast development of industries has produced a shortening of products and services lifecycles, making it easier and quickier for people to shift from a trend to another: companies are then required to face this problem by constantly improving products' and services' characteristics, but also forecasting new arising trends requiring to be caught earlier than competitors, task that can be achieved through a deep and recurring insight of the customer basis;

- Changes in competitive landscape: traditional industries and sectors have been overwhelmed by digitalization wave and ordinary products and processes have been through epocal changes that cannot be neglected in order to survive on the market. Thinking about the relvant phenomenon of E-commerce, it has created a large gap between offline and online selling activities, creating a potential new commercial channel for shops but also the risk to undervalue the instore experience offered to customers: sekking for balance between opposite trends in that sense can be crucial to achieve business growth and enforcing the detained market position. These digitalization's effects have also deeply modified the competitive landscape, increasing opportunities for small digital-based competitors who can nowadays act as market mavericks more easily and upset the leadership of traditional industry giants with disruptive initiative and new ways of making business;
- Digital shifts in organization's industry: as a consequence of the previous point it is not enough for organizations to embrace new technologies and implement them to fully exploit digital transformation's value. Modern digital trends often require a complete reinvention of businesses' portions in terms of processes, operations and systems, even attacking the whole business model and forcing it to be transfomed in order to remain performing in the nowadays business environment. Flexibility and speed become then two key success factors to remain in the winner's circle and fully benefit by modern era's opportunities.

Modern era of digitization has upgraded the role of technology and innovation at such a level that digital mastery has become more important than ever. Digital transformation has brought outstanding advances in technolgies, creating many new appetizing avenues for value creation and this wave of opportunities is continuously developing and landing into the market far before than being able of mastering the previous, so the risk of falling behind has largely increased in

today's global environment[42]. So it necessary to capture these new opportunities in a strategic way, in order of developing digital capabilities as well as adopting a proper innovative approach to innovation in a strategic way.

Considering the current level of technology advancement and the variety in terms of innovative opportunities offered by the market, it is difficult to deploy a standard process to follow in order to correctly embrace digital transformation and capture its advantages in a firm environment. It is possible to use as a point of reference the TLC Curve: it describes the common life-cycle of a technology or a technological asset and it is plotted in a similar way as the curve describing the life-cycle of a product or an industry. TLC's distinctive feature lays in the fact that it recalls the concepts of technological paradigm and so a single generation of technology could represent the source for a number of related products and/or services, each following its own product life-cycle[43]. TLC curve is typically s-shaped, similarly to the Roger's innovation diffusion curve seen in the first paragraph, and its trend pictures four distinct phases that technology goes through over its lifetime: Introduction, Ascent, Maturity and Decline. TLC logic is mainly iterative, meaning that each time a technology reaches market saturation there will probably be a new disruptive technological wave emerging to replace the previous one, so a new s-curve ready to restart the cycle.

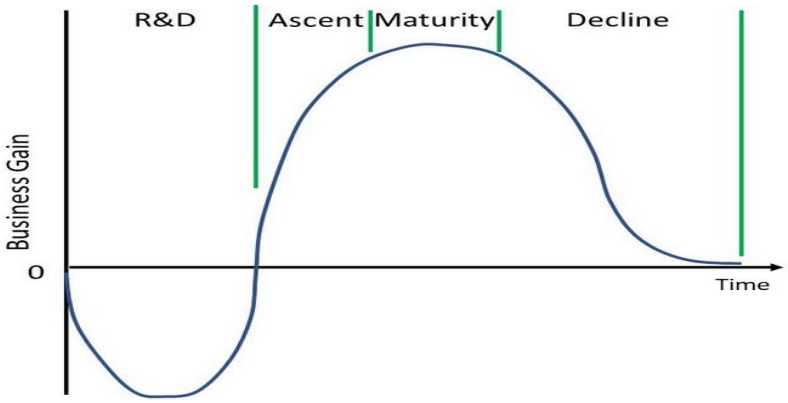

Figure 14: The traditional TLC (Technology Lifecycle) Curve

The 1st universally recognized phase is the introduction phase: in this preliminary period the firm has to focus on the right investments to make, so there is consciousness about the need to incurr in expenses (even big in amount) that will allow for technology to grow and be implemented properly. Commonly, R&D investments are distinguished between current costs and capital costs: in the 1st category we mainly find labour costs related to the internal R&D personnel, including figures such as developers and programmers, and other current costs like

[42] Didier Bonnet, George Westerman. The New Elements of Digital Transformation, page 1
[43] B. Kim. Managing the transition of technology life cycle. Technovation, Volume 23, Issue 5, 2003

external R&D personnel (e.g. consultants) and costs conncted to the purchase of services and materials. Capital costs are instead those linked to fixed assets needs: buildings, machineries, equipment, computer softwares and other intellectual property products[44]. A particularly relevant feature in terms of R&D expense to be achieved in order to embrace properly digital transformation has to be found into the foundation of clean and well-structured digital platform, integrating company's applications, technology and data that power the various business processes. A digital platform in that sense can be identified in three interconnected elements: 1) a core platform bearing key organizational precesses; 2) an externally facing platform able to create and maintain connection with customers and partners through the usage of apps, websites and other linking features; and 3) a data platform able to collect, elaborating and analyzing company's data and information in order to manage and improvecustomer experience and internal operations[45].

It is interesting to highlight as instituions use to encourage companies to make these kind of investments, often by offering fiscal incentives that can be used for further R&D investments, new staff hirings, and consequently business sustainable growth. One of the main government incentives in that sense is R&D Tax Credit, designed to reward firms of whichever sector that have invested in innovation, both new investments and enhancing of existing ones: they can claim to receive a percentage of these incurred expenses as a cash payment (in case of profit-making), corporate tax reduction (in case of loss-making) or a combination of the two[46]. These incentives resulted in a progressive growth of the amount of money spent on R&D year by year, testifying its growing relevance for organizations and business environments.

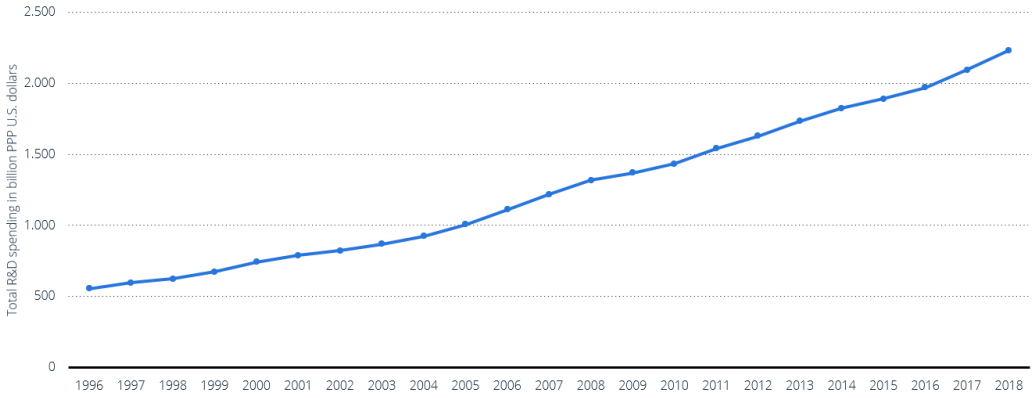

Figure 15: Total global R&D spending 1996-2018 (UNESCO Institute for Statistics)

[44] OECD (2015), Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development.
[45] Didier Bonnet, George Westerman. The New Elements of Digital Transformation, page 6
[46] https://forrestbrown.co.uk/rd-tax-credits-explained/

It is easy to deduct that this first phase is particularly hard to go through, considering that it only produces negative inputs in terms of income and it is characterized by a great degree of uncertainty linked to market launch; looking at experts' feedbacks and industry stantards could facilitate this process, but clearly there is no guarantee about outcomes. Surviving this introductive phase is the key to start seeing the first fruits of technology investments: initial investments are recovered and a certain break-even point has been reach, bringing with it a stronger value that the developed technology has gained over time. This is the ascent phase, in which a process of support and promotion of technological process is required to catch players' and markets' attention and keep spreading the tech novelty.

Technology can then be employed to upgrade existing business areas and approach, starting from processes and operations in a broad sense. Managers are understanding the great value contained into operational excellence and it looks worth to shift to modern digital technologies to achieve such a goal and obtaining the basis for building a solid customer engagement and advanced business models. Today's practices have seen a big interest by companies in processes automation and shifts towards this direction were initially achieved thanks tools such as ERP (Enterprise Rosurce Planning), a management software integrating all the main business functions, from sales and purchases to accounting and finance, and whose implementation consistently improves traditional monitoring processes, teams coordination and enterprise's efficiency. Modern trends are moving to automation through AI and machine-learning models: the possibility to delegate to machines some of the tasks that have been traditionally performed by humans allows to improve operational quality and efficiency and also to save money on personnel; in addition, such systems have this "learning-by-doing" capability of adjusting themselves by performing repeatedly the same task and it is even possible to extend the same model to similar activities, spreading automation through different operational areas.

It is natural that automation extends the effects of digital transformation also to the field of labor market, where the spreadth of AI and industrial robots is expected to exert a big influence on jobs and employees. On the one side, such changes have already given birth to a series of new roles for which demand on the market has rocketed through digitalisation years: data scientists, social media managers, app developers and specialists in new technologies are just examples of this workforce renewal. On the other side there is the counterposition of other roles that are instead expected to become redundant and even replaced by machines: evidences show as the impacts of digitalization on labor market are also bringing a certain amount of risk connected to automation and as a consequence to jobs changes, risk which is perceived

differently across countries not because of economies but rather due to different forms of jobs organization[47].

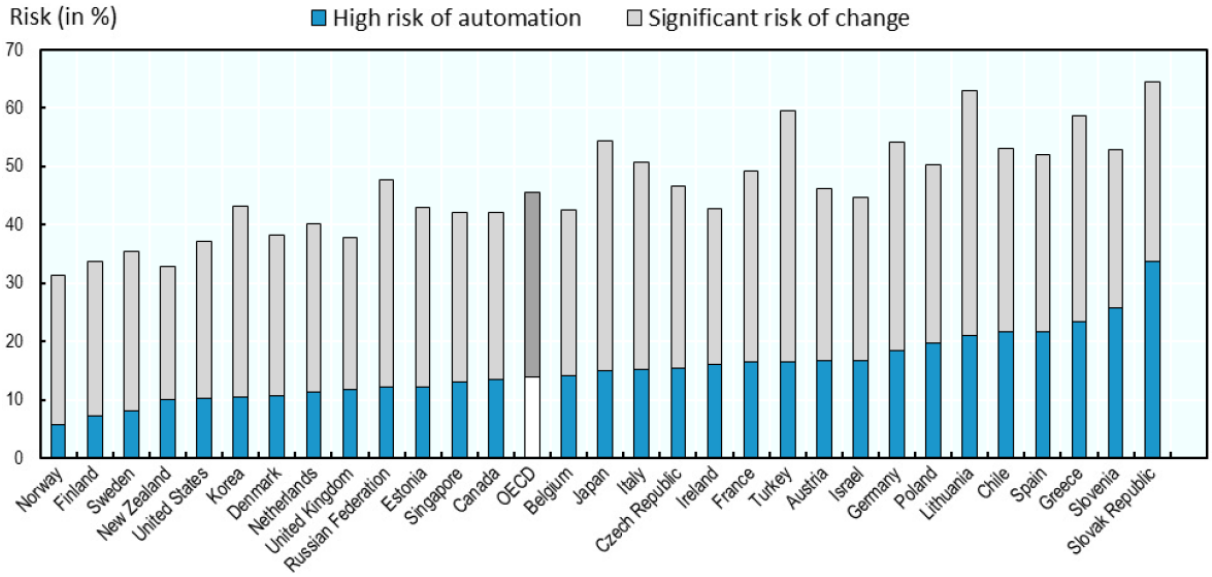

Figure 16: Share of jobs at risk of automation by the countries of OECD.

(OECD, 2018, Job creation and Local Economic Development)

Considering the key role that employees play in organizations and business environments, their figures must be protected and incentivized by investing in the so-called "employee experience". Using technologies and automation as supportive tools to increase productivity and simplify workforce's tasks is not the only way of improving employees way of living their job: considering the critical value of IT skills and digital competences, it is fundamental to provide learning and development inside the organization, allowing members of it to keep up with the fast pace of change and embrace properly the wave of transformation and its advantages for them and for their businesses. Lastly, we cannot stress enough that nowadays passwords are flexibility and agility and organizations must prepare people in that sense: solutions could represented by procurement of talents on demand, usage of outsourcing, training of human resources aimed at establishing multiskilled figures, contingent workers, and especially in the last few years adopta mixture of smartworking and work in presence[48].

Even in this section of the paper, we cannot avoid apending some words on customers, considering that their importance have rocketed more than ever and dealing with their needs has become crucial in businesses' strategizing process. In particular, considering the fiercer level of competition and the new opportunities that can be exploited through industries, the key stays not so much in current needs as in future ones. The ability to predict and steadily respond

[47] Roman Chinoracký, Tatiana Čorejová. "Impact of Digital Technologies on Labor Market and the Transport Sector"
[48] Didier Bonnet, George Westerman. The New Elements of Digital Transformation, page 5

to latent needs can make the difference in a competitive environment and today's IT advances and big data technologies represents a big aid to approach this topic and find new ways of value creation among clientele. Such achievements contribute to the improvement of business image and reputation in the customers' perspective and the implementation of technological elements in the business could represent a key for success in that field. Recalling the role of data and information as the protagonists of modern era, technology can first of all upgrade the process of customer intelligence: the usage of advanced databases for data-conservation, the performance of deeper analysis through new analytical tools and the implementation of machine learning in data-driven processes has the potential to positively affect company's value and bring customer experience to the next level. But customer experience also means "design experience", so the form and the way of delivering experience to customers: in that sense the effots must be dedicated to front office technologies as well as back-office infrastructure, with the main aim of enforcing the value of the service in terms of availability, quality and efficiency. Lastly, customer experience in its purest form has to involve people's emotions and feelings and so the last field that needs to be cared is that of engagement. Technologies and R&D should in this case be oriented to product development, content creation and services improvement, while at the same time adopting a proper marketing and advertising strategy able to promote and enhance business brand and image.

TLC goes on until it approaches a point of market saturation: in that moment, revenues established as high and stable thanks to technology's recognition as mature start to decline, competitors have succeded in appropriating it and what previously was perceived as an innovation is near to become a commodity, nothing more than a standard in the industry. It comes by itself the the following phase of the process is the last of the cycle: the declining phase. Considering the impossibility of achieving further gaining developments, the best solution is that of looking around and start focusing on a new project and embrace a new emerging technology[49].

Of course, TLC can have slightly different shapes and timelines, depending on the technology itself but more than all on the way it is managed over its phases. In particular, what companies want to do is retarding the declining phase of a technology as much as possible and approaches to achieve this goal are many of different. One of the most common is that of legally protecting the technology and the stream of revenues coming by it: the main example is the patent, a government authority or licence through which a company can protect its competitive position

[49] https://www.marketing91.com/technology-life-cycle/

on a market and safeguard the right of the technology owner in terms of signing contracts and litigations with other parties. Patents have also an important economic role: it can be seen in the initial phases of a TLC, when being in possess of a patent could attract financing resources from the external environment and so incentivize innovation, but even in the subsequent ones when, beyond protecting from profits erosion due to competition and maintain higher margins when operating in some markets, it may be useful in supporting economic transactions such as co-operation on the development of an improved technology[50].

In order for a firm to strategically approach technological innovation in all of its phases it could also be considered to search for an external support, so for a collaboration with one or more companies in order to better embrace digital technologies advantages and exploit potential synergies with other entities. Collaborative agreements could provide high advantages in the various phases of TLC: in the R&D phase for example, combining different knowledge and resources could boost relevantly the processes of development, production and commercialization of new technologies and, as a consequence, of new products for the market. Agreements can be also subscribed in order to license different ranges of products, as Google and Samsung made in 2014 to legally protect a broad range of technologies and business areas for the next 10 years[51]. Furthermore, agreements between parties could even involve the simple unilateral transfer of an existing technology, making it possible to skip some unavoidable steps and to appropriate of an existing tech asset.

Of course, these forms of collaboration can vary depending on the closeness and commitment of each entity to the relationship, but also at the light of risks linked to the so called "appropriability hazard" that can arise inside the organization; it involves the definition of residual control rights on one side, and the distribution of cooperation rents according to contributions made on the other hand.

We talk about Strategic Alliances when we face a collaborative arrangement between two or more firms aimed at pursuing common goals; it involves a contractual agrement that by itself could constitute a protection againt opportunism risks. In the specific case of "digital deals" to be analyzed in this essay, it is possible to observe alliances that are innovation-based and focused on generation, exchange, adaptation and exploitation of technical advances: we define them as STAs, "Strategic Technology Alliances". A strategic alliance can then flow into a Joint

[50] Harhoff, Dietmar (2009): The role of patents and licenses in securing external finance for innovation, EIB Papers, ISSN 0257-7755, European Investment Bank (EIB), Luxembourg, Vol. 14, Iss. 2, pp. 74-97
[51] Nicholas Vonortas & Lorenzo Zirulia (2015) Strategic technology alliances and networks, Economics of Innovation and New Technology, 24:5, 490-509

Venture when the entities decide to formalize their collaboration not through an agreement, but forming a jointly-owned enterprise to pursue their goals. Considering the initial setups and operating costs linked to the venture formalization and the attribution of a project's stake to each member without defining ex-ante performance requirement, such a choice would be preferred to contractual alliances only when it is particularly difficult to know ex-ante the use to be assigned to the contributed assets[52].

Generally speaking it is easy to conclude that innovation with particular referral to digital technologies cannot be limited to the traditional product-process fork: when it comes to focus on enterprises, innovation can take a third path through business model innovation. This concept expresses the aim for a company to improve its competitive advantage and value-creation approach by make innovative changes in both its organization and structure and the value-proposition offered to customers. So it is a process that involves moves such as choosing where to operate along the value chain, the cost-model to be adopted and which have to be considered as the structure and organizational capalities critical for success. This approach to innovation can even push companies to a breaking point in which innovation become a real transformation of the adopted model, a disruptive approach that as we repetead earlier can be the key of victory as well as failure.

Firms are aware of the uncertainty brought by choices on business model changes, and according to their approaches to this topic it is possible to distinguish between different kinds of players:

- **Adapters**: it is the most conservative party, more committed to survival against industry disruptive factors such as innovative waves and legislative changes, rather than trying to adapt its business model to the wind of change. In the healtchare sector, Aon Hewitt has been a virtuous example of adapter's approach: starting as a provider of public health services, deep changes in the american healthcare regulations forced them to find a business alternative, and they decided to use their experience and reputation to move on the adiacent sector of private health, launching one of the first services of this kind and reserved for large employers;
- **Reinventors**: differently from adapters, reinventors find transformation of core activities and structure as the shield against disruption. Try to think about IBM turnaround: starting as one of the main manufacturers of computing machines and

[52] Esteban Garcia-Canal, Ana Valdés-Llaneza, Pablo Sanchez-Lorda. Technological flows and choice of joint ventures in technology alliances.

equipments, the difficulties trigerred by the intensifying competition have been overrun by moving the focus on software, research and IT consulting services, choice capable of raising back its profitablity levels;

- **Adventurers**: this category has breakout growth as its main goal and the way to reach it is found in exploiting expansion opportunities offered by non-core business choices. Virgin Group plots perfectly this approach, being capable of exploring various different businesses, from financial services to telcom, while maintaining a solid financial profile to sustain its activities;
- **Mavericks**: the most disruptive approach consists in employing company's core advantage to revolutionize the industry, set new standards and, as a consequence, improving current competitive advantage while twisting current market's conditions[53]. "Maverick" is an adjective that can fit businesses as well as personalities and probably the best and most recent example in that sense is represented by Elon Musk and Tesla, innovators in the automotive sector with large investments on innovative car features such as eletric vechicles and automated driving.

Despite the possible approaches recognized in business global environment, is easy to notice how digitalization has brought more disruption than anything else, revolutionizing industries and giving the opportunities for new digital stars to burst into markets and impose new rules for success and at times survival. Rather than relying on numbers on the topic, such as the significant declin in medium lifetime for companies, business models and industries worldiwide, the biggest demonstration of the digital dominance on global markets can be found in company rankings: top positions are monopolized by tech-companies or firms that have wisely embraced digital transformation as a value added, while "old-shool" players are falling down without being capable of getting closer to their rivals.

Some sectors have experienced the rise of a new side of them thanks to digital innovation implementation and one of the most representative example is that of e-books. The year of birth of e-books is commonly recognized in 1971 thanks to the Gutenberg Project, an initiative aimed at creating an electronic librar of titles fully consultable in a digital way. E-books have immediately shown advantages over their paper precedessor: money saving in terms of printing volumes, possibility for remote access outside libraries and 24/7 availability in that sense, no physical space required to hold them, etc. It has not been a case that at the end of 20th century e-books helped developing a new product market: that of e-readers, involving through years

[53] Zhenya Lindgardt and Margaret Ayers. Driving Growth with Business Model Innovation.

also big realities such as Sony, Kobo Inc., and last buyt not least Amazon with is Kindle app for e-books reading. Despite all these considerations, it has been shown by many circulation studies that e-books failed in fully replacing traditional books: tha main reason, apart from observation such as reduced privacy for the reader and impossibility to return the product, seems to be in the traditional book itself. "Electronic books are useless for people who are engaged in an intense, lifelong love affair with books. Books that we can touch; books that we can smell; books that we can depend on."[54]

Many examples could be presented to properly picture the power that digitalization had in the business environment, but probably the most representative would be the advent of streaming in two different, sectors: music and video. Netflix and Spotify have been innovators in their fields thanks to their foresight and their strategic choice, and nowadays they are still two technologic giants maintaining the undisputed control of their market despite the competitors trying to oust them.

The project Netflix started with the objective of satisfying the market niche of DVD and VHS distribution: at that time Blockbuster was the leader in the market, but its way of making business was not able to fully reach market's needs and satisfy customers' expectations. The real turning point of Netflix's business was that of implementing a streaming platform able to replace the traditional physical delivery of products, counting on the availability of an incomparable catalog in terms of service's quality, original productions' value and multiculturalism of the offer, but also on a complex algorithm capable of perfectly entering in the audience preferences and suggesting each customer what to see based on the collected data. Platform power has been supported by a low cost pricing strategy but especially through an important communication strategy: the massive use of social networks as a tool to remain as user-friendly as possible and to create hype in the contents' choices, mostly focused on the new releases, made a difference in building customer loyalty more than the competitors. Netflix is nowadays a clearly international phenomenon, reaching more than 200 milions of subscribers on the platform, mostly focused in US and the EMEA area, and still outperforming on its main competitors: the main rival, Amazon Prime Video, has reached 150 milions of subscriber at the end of 2020 while Disney+, which has recently been the most growing player in the market, has not even reached 100 milions[55].

[54] Queenan Joe. One for the Books, Viking Adult, 2012
[55] FIPP, Company Earnings Reports (as of February 2021)

Spotify's story is pretty similar to that of Netflix, also considering that the music industry prior to streaming experienced fifteen years of stagnation and decline, with recorded music revenues dropping from $14.6 billion in 1999 to $6.7 billion in 2015[56]. Around 2010 streaming services for audio and video contents began to spread globally, gradually replacing physical media and downloads, whose sales and revenues dropped critically over years. Music streaming subscribers worldwide went growing really fast over years, passing from 77Mln in 2015 to more than 400Mln in 2020, with overall music industry reaching a total revenues amount of around $23Bln with streaming contributing to this value more than the 50% and this is expected to keep growing at the expenses of the other music services[57].

Spotify was the first to fully embrace the streaming revolution of music industry, investing more than the other competitors in two key digital features of the last decade: AI and its digital platform. The former was a choice aimed at achieving a superior performance in terms of data collection and elaboration: the focus is especially on listening habits of customers, which are able on the one side to guide music recommendations more and more precisely, while on the other support in understanding new audio trends and expand the platform's offer with products like podcasts, live events and news. Considering the global establishment of Spotify, active on more than 150 markets all over the world, the amount as well as the deepness of data analytics Spotify can provide is huge, and this can be a big asset for customers improving the quality of the customer experience provided, but also creating opportunities for music discovery and talent scounting on new artists (one of the main functions of the platform). On the other side, artists as well can benefit from data available on Spotify's platform: numbers and trends on their own produced music allows them to go deep into how their work is performing, but there are also opportunities to take advantage of as Spotify playlists, some of which have become a real springboard for emergent artists, and direct licensing with the company's brand (as Chance the Rapper did, among the others). Nowadays, Spotify relies on mind-boggling numbers, like165Mln subscribers and 365Mln monthly active users, with an oustanding amount of around €7.88 Bln of revenues produced in 2020 (a growth rate of 3.06% compared to 2015's value of €1.94 Bln). [58]

Relying on single industries is already representative of the big changes delivered by digital transformation, but its impact is even more observable in payment industry and, as a consequence, in the whole financial&banking sector. Initially, the most recognized revolution

[56] https://moiglobal.com/spotify-case-study-202008/
[57] Statista
[58] https://newsroom.spotify.com/company-info/

has been that of digital payments, started in the 19th century with Western Union's EFT[59] and evolved around a century after with the refining of money transfering and the establishment of the firsts credit card companies (like American Express). Clearly, Internet invention has represented a turning point in this history, allowing the introduction of primeval forms on online banking and digital payments, upgraded through years in aspects such as user-interface and transactions' security. Nowadays society is moving towards the abandon of cash in favour of digital payments and the numerous advantages offered by this new border of payments to almost every player on the market, especially entrepreneurs: minor operating costs, easier management of trade contracts, simpler interactions with clients and suppliers, no more mobility limits in payments and easier access to money and marketplaces, facilitation in tracking financial transaction lowering the risks of fraud[60]. Requirements such as a strong and costly financial infrastructure, relevant legislative adaptation by the government and a higher spread of financial culture among entrepreneurs and companies are the reason why different countries are not aligned in the race to the ideal "cashless economy". Currently, the ranking in this field is dominated by Canada globally and Norway in Europe, and includes other countries such as UK, Asian giants like China and Japan and Scandinavian countries[61].

Digital payments breakout has been a springboard for digital progress also in the financial and banking sector as a whole, which is facing a revolution currently embodied by his majesty the Bitcoin and all the others cryptocurrencies introduced over the decades. Born in 2009 as an informatic code aspiring to create a new currency model independent from countries and major global regulations, Bitcoin established as what it could be defined as the rival of the traditional payments sector: it is nowadays traded at embarassing prices if compared to its first years of life (despite its higher volatility due to the skepticism that still hovers around cryptocurrencies), it is accepted by a wide variety of businesses, and especially over the the last few years it has been publicly supported by influent characters such as Elon Musk and Jeff Bezos. Despite the undeniable role currently played by cryptocurrencies, its future is still uncertain and studded with doubts and different opinions. There is who believe that Bitcoin will turn out to be nothing more than a speculative bubble; some others think that cryptocurrencies will function as a niche money or will play a major role in those countries with weak currencies; lastly, considering

[59] Electronic funds transfer (EFT): the electronic transfer of money over an online network (bankrate.com)
[60] Leora Klapper. "How digital payments can benefit entrepreneurs". IZA World of Labor
[61] https://www.paymentscardsandmobile.com/cashless-countries-which-are-the-forefront-of-the-cashless-revolution/

what technology and digitalization have been capable of, it is not possible to exclude a definitive boom of cryptocurrencies and their establishment as the next global currency[62].

All this chapters' considerations lead us to a single, clear point: we are already living in a digital world. Digital transformation have radically modified the environment we live in, in a business sense as well as a social sense, influencing all the traditional aspects of daily routine. COVID-19 pandemic period has represented an accelerator in that sense: the need not to interrupt relationships and activities it has been necessary to intensely boost technological progress and diffusion inside the society, giving light to new devices and innovative trends. By offering a fully online life experience to the global community, digitalization's role upgraded even more, with technology becoming almost a basic necessity for the society: by analyzing the current state of the world after the first two pandemic years, it will be possible to make forecastings about next years and as a consequence to understand which is the possible future for our daily life in all its aspects.

[62] William J. Luther. Bitcoin and the Future of Digital Payments. The Independent Review, Winter 2016, Vol. 20, No. 3

CHAPTER 2 – COVID-19 OUTBREAK: DIGITAL SOLUTIONS TO DEAL WITH THE UNEXPECTED

PAR. 2.1 – Overview on COVID-19 crisis

The last two years of recent history have been witnesses of an epoch-making crisis which has a single main character: the novel coronavirus (SARS-CoV-2), also referred to as COVID-19. This lethal and invisible "alien" constantly evolving, which seems to have started its spread from the city of Wuhan, in China's Hubei Province, in September 2019 already, has quickly degenerated in a global pandemic. In just a few weeks, has rapidly conquered pages of newspapers, news, web sites, has changed the economic-social, familiar, working world, putting in pause also our relational lives and, in serious problems the global economies. Despite the fact that the scientific information that was administered was often without real foundation or from unreliable sources, it is certain that the pandemic, beyond causing a severe loss of lives, has tipped millions of people into extreme poverty and still inflicts lasting scars that are keeping activities and income pushed well below their pre-pandemic levels, and so is expected to prolong over time.

Although the world has experienced several pandemics from the late twentieth century to the early twenty-first century, the COVID-19 pandemic has placed itself as far more lethal and brutal than its forerunners, because of its extensive global influence burdening on today's service-oriented economy, promoting its circulation at lightning speed. COVID-19 is different from other pandemics in several ways: for instance, it has resulted in 4,5 billion people being confined to their homes in most affected countries globally, despite the 'stop–start' attempts to get economies moving again. Moreover, it has adversely affected people's health, also at the neuropsychiatric and psycho-anthropological level, due to shutdowns, quarantine and restrictions on mobility and social contact, whereas previous pandemics were limited to specific countries and regions in which financial crisis manifested.[63]

In the succession of the various historical cycles, epidemics and pandemics, in whatever way they have manifested themselves, have been major threats to the life, health and economy of peoples and have required great efforts to be contained, contrasted and made less serious, including the administration of new vaccines.

The difficulty of epidemic and pandemic management has always depended on multiple actors, starting from the unpredictability and mutability that characterizes them to the indispensability

[63] Bose Sudipta. COVID-19 impact, sustainability performance and firm value: international evidence. *(2021)*

of international and national coordination, especially in the current situation of globalization and rapid interconnection of people and goods. Many difficulties have been encountered in providing timely, comprehensible and as accurate as possible information both to governments, health professionals and the general population, but above all in maintaining a sufficiently high level of awareness in the early detection of suspected cases, without arousing alarmism. In fact, especially the refutation of false news not supported by reliable sources is very important to avoid further damage to people, society and economy: anxiety is in some cases psychosis, the result of uncontrolled and alarmist news can cause unjustified discrimination among entire population groups, even only for ethnicity, damage important economic sectors such as tourism, commerce, catering, just as happened during the spread of coronavirus infection. Often the excess of prevention that was necessary, but miscommunicated, caused collective psychosis and individual and social behaviors that were not mitigating either for COVID-19 or for the other diseases from which people were affected. I would say that in order to prevent and strengthen social and psychological cohesion and support, which is fundamental in a time of pandemic crisis such as the current one, more correct communication would have been necessary and by the health authority and by the mass media, especially in individualistic Western societies such as ours.

The pandemic, despite mass vaccination is still characterized by subjective resistance and considerable uncertainty. Health crisis is still ongoing and far from being overcomed, despite the numerous attempts made by governments and policy-makers to lockdown social activities and contain the diffusion of the virus. Common traits among national restrictive strategies were firstly represented by a complete closure of activities, jobs provided in remote mode (also referred to as “Smart-working”), restrictions on public and private transports and prohibition to leave their homes except in case of particular or justifed need, obligation to wear protective face-masks and maintain social distancing between people. Phases of complete closure alternated with reopening phases - as experienced in 2020 summer months – but this stop-start approach to the emergency has not managed to modify the situation in absence of vaccines’ administration to the population, despite a strong commitment in scientific research and development and the interest of giant multinationals of the pharmaceutical.

As an initial response to the economic downturn following the introduction of restrictive policies over the world, governments adopted a series of actions in the main form of monetary policies aimed at stabilizing financial markets and ensuring the flow of credit. In the second phase, Governments’ action’ and political choices shifted to fiscal measures in order to sustain

economic growth by activating quarantine and social distancing measures to slow down contagions. The third phase is associated with the developing, purchasing and distribution of vaccines following the evolution and the persistency of the health and economic effects of the virus, nonetheless of Government actions. These lasts then became less distinct in the moment of vaccines' administration to the populations, because of additional fiscal measures adopted to sustain household income.

2021 officially inaugurated vaccination season, especially with the most developed countries making strides in vaccinating growing shares of their populations, and as a consequence raising prospects of a global economic and social recovery in this new year. Despite the rebound of many key indicators from the depths of pre-pandemic levels, the profileration of new virus variants endowed of resistance to vaccination raised questions about the speed and the strength of an economic recovery over the near term. In particular, Delta variant, the last globally observed one and actually the most virulent detected so far, has recently forced to implement additional safety measures and to reintroduce some of the old-but-gold restrictions adopted in the previous months[64].

Lock-down strategies inadvertently induced a global economic recession, unprecedent in terms of magnitude and speed of the economic collapse, whose depth has been surpassed only by the two World Wars and the Great Depression over the past century and a half. In that sense, coronavirus can be explained as a real negative productivity shock, with the global economy in all estimated to have contracted 4,3 percent in 2020. Advanced economies had suffered a less severe than anticipated initial contraction, but the ensuing recovery were dampened by a substantial resurgence of COVID-19 cases; considering EMDEs[65] instead, China represents the only exception to the huge damages resulted in the majority of other countries of the taken group, more severe than previously envisioned, resulting in deeper recessions and slower recoveries[66].

[64] Congressional Research Service - Global Economic Effects of COVID-19
[65] Acronym for "*Emerging Markets and Developing Economies*", including countries such as those belonging to BRICS group (Brazil, Russia, India, China, and South Africa)
[66] World Bank Group: Global Economic Prospects (January 2021)

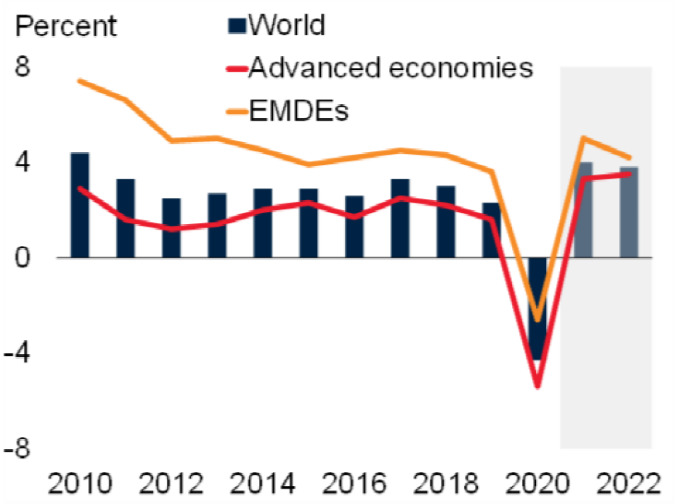

Figure 17: Global GDP Growth (according to Global Bank Report)

COVID-19 impacts also greatly curtailed the viability of the labour market, significantly pushing up worldwide unemployment rates: many people have lost their jobs and/or experienced income cuts, while others have had to deal with the problem of workplace closures. ILO estimates on workforce in 2020 are dramatic: around 8.8% of global working hours lost in comparison to the fourth quarter of 2019 - equivalent to 255 million full-time jobs – picturing an impact on global working hours which is approximately 4 times greater than the global financial crisis. In addition, employment losses have reached a massive amount of 114 million jobs with respect to the pre-crisis employment level in 2019: more specifically, this loss translated into an additional 81 million people shifting to inactivity alongside 33 million unemployed, leading to a global labour force participation rate drop of 2.2%[67].

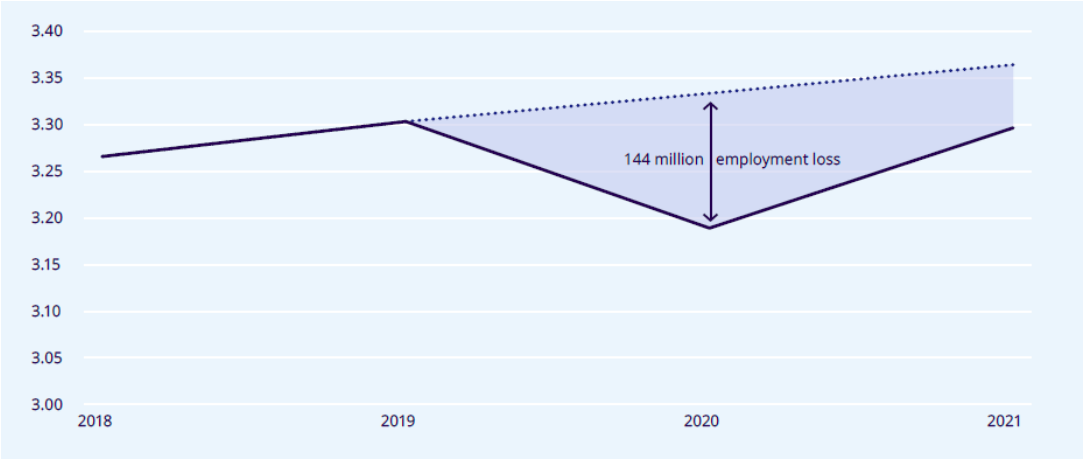

Figure 18: Global employment loss relative to the "no pandemic" scenario, 2018–21

(Employment: billion people)

[67] ILO Monitor: COVID-19 and the world of work (Seventh edition), Updated estimates and analysis

What hides behind these numbers is a radical evolution of labour market, highlighting that the impact of the pandemic has been more severe than reported by traditional indicators, in such a way that data results as not sufficient to fully capture the entity of changes occured. On the other hand, companies have suffered huge damages and losses and many of them have been closed with little possibility of re-opening, causing a great deal of disruption to commerce and entrepreneurial activities in a broad sense in most industries. The COVID-19 crisis has brought about years of change in the way companies in all sectors and regions traditionally used to operate, and the timeframe within which reacting and adapting to this new reality turned out tighter than ever. The majority of the firms has been forced to work completely on a remote basis, dealing with a temporary transformation of their working routine: adoption of instruments for online communication (such as videoconferencing tools and collaboration softwares), coordination and monitoring of employees work-from-home approach, endowment of health equipment (e.g. contact thermometers and on-site testing) in the moment of office reopening. Furthermore, the COVID-19 outbreak opened up new business models opportunities, leading firms and industries to question and in most cases tranform their traditional ways of operating and making business.

An important contribution for firms' survival has been represented by the various incentives and support measures provided by governments to keep companies alive as much as possible. Non-repayable contributions for the most affected industries and sectors, usually proportionally to damages suffered by single companies; fiscal incentives and improved tax credits; subsidized loans and deferral, reduction or cancellation of tax, bill, mortgage, loan or debt payments; wage supports for employees (such as supplements for still-employed people and unemployment benefits). Also because of the emergency and the psychological impact it unavoidably have had on people, the value of such supportive policies have mostly been perceived as not sufficient if compared to the extent of the phenomenon: for example, the "Living, Work and COVID-19[68]" survey performed by the Eurofund in April 2021 shows declining levels of satisfaction with support measures across Member States, as showed in the graph below.

[68] Eurofund. "Living, working and COVID-19 (Update April 2021): Mental health and trust decline across EU as pandemic enters another year".

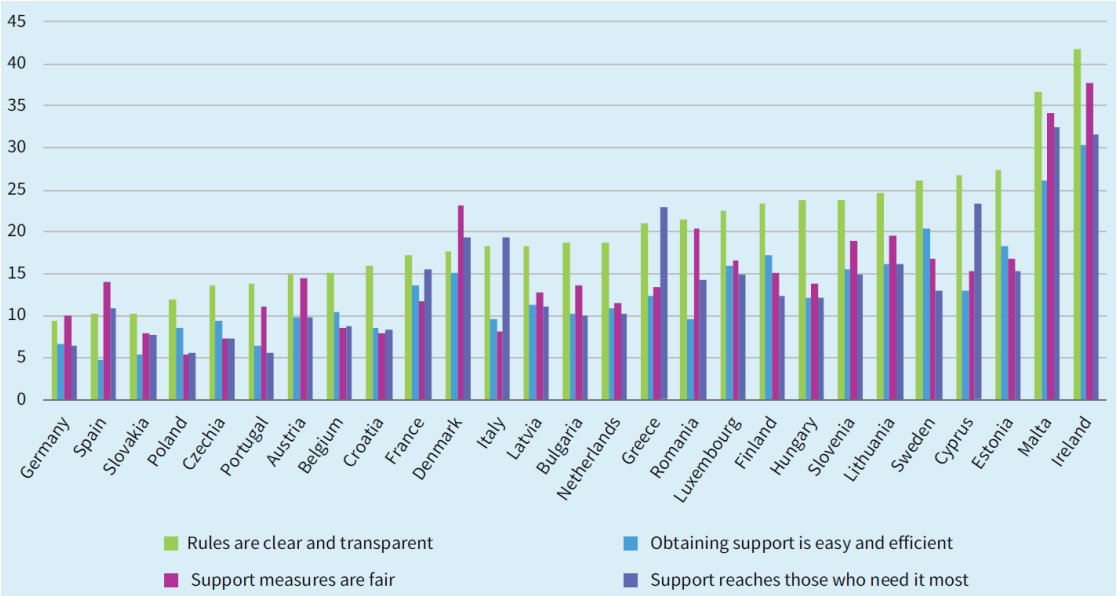

Figure 19: Views about pandemic support measures by country, spring 2021, EU27 (%)

In this continuing economic turmoil, COVID-19 has influenced financial markets around the globe: share markets have fallen and stock market volatility worldwide has exponentially increased, resulting in an unprecedented level of risk that contextually made investors suffer considerably in a short period of time. Aggressive policy actions by central banks kept the global financial system from falling into crisis last year; however, financial conditions are generally loose, as suggested by low borrowing costs, abundant credit issuance, and a recovery in equity market valuations resting on positive news about vaccine developments[69]. In particular, low interest rates for over a decade had already led to a buildup of global financial risks and historically high levels of government and private debt in most countries. These debt vulnerabilities have significantly increased with the pandemic and the Great Lockdown, which has led to large increases deficits beyond those recorded during the global financial crisis[70].

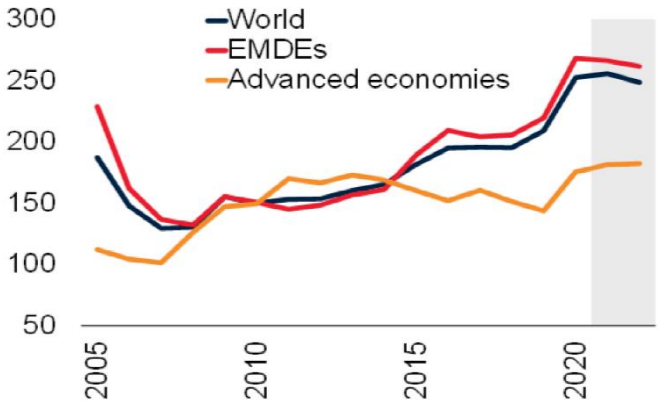

Figure 20: Global debt (as a percentage of government revenue)

[69] World Bank Group: Global Economic Prospects (January 2021), pag.10
[70] IMF Annual Report 2020, "A year like no other".

Despite this, the financial sector has not had the worst of the crisis to date: according to the 2020's global bankruptcy report, many financial sectors saw output growing in the third quarter of 2020, and only a few have experienced a double-digit decline in output. Among the reasons, beyond government support for their borrowers and financial market income, are that SMEs as small borrowers even in aggregate create less risk to capital. For the time being, with post-2008 crisis capital buffers assisting, banks can afford to wait, even if part of their capital base may be a mirage if the pandemic continues much longer. Low policy rates and long-term interest rates lowered by central bank actions are a further factor in reducing debt-servicing costs, especially for new debt, including the rise in corporate debt issuance in 2020[71]. These observations resulted, especially among OECD countries, in a slowdown in bankruptcies among both large and small firms: so far, the number of bankruptcies has remained lower than in the global financial crisis, and, in some advanced economies, it was even lower than in the years preceding the COVID-19 crisis[72].

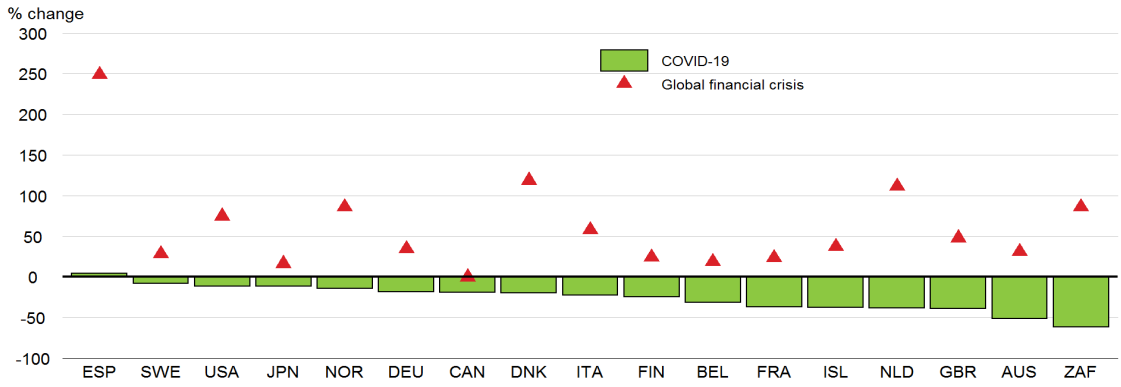

Figure 21: Percentage change in the number of bankruptcies - COVID-19 VS Global Financial Crisis

The first semester of 2021 alerts us that the near global future is still shrouded in the shadow, being the recent boost in the vaccination campaign worldwide not sufficient to stem the spread of new variants, with a consequent further slowdown in economic and social recovery. Generally speaking, prospects for the global economy have improved considerably, even if to a different extent across economies, and it is expected Pil to reach back pre-pandemic levels by mid-2022.

At the same time, a large number of downside risks able to negatively affect the afore-mentioned forecasts must be taken into account to avoid undervaluing possible future downturns and being well-equiped to properly react. Focusing on growth, it would be weaker

[71] Dun & Bradstreet Worldwide Network. GLOBAL BANKRUPTCY REPORT 2020
[72] OECD Economic Outlook – May 2021

than projected if logistical hurdles in procuring and distributing vaccines in emerging market and developing economies lead to an even slower pace of vaccination than assumed. Such delays would allow new variants to spread, with possibly higher risks of breakthrough infections among vaccinated populations. Moreover, households' excess savings may be released more gradually if they remain worried about employment prospects and income security, weighing on aggregate spending[73]. Pandemic effect on potential growth could be longer lasting than expected also considering the current debt management worldwide: having surged above already-high levels, even with banking systems generally well capitalized, a wave of bankruptcies could erode bank buffers, putting some countries at increased risk of financial crisis[74]. Higher level of inflation through the next months, further employment hits especially in terms of youth unemployment and structural unemployment, future liquidity problems for businesses and possible new waves of closures and bankruptcies, in addition to socially relevant factors such as increased geopolitical tensions and weather-related disasters, contributes to form the large group of risk we would probably have to face over the next months (and, in the most pessimistic scenario, next years).

This exceptional level of uncertainty outlook also highlights the role of policy makers in raising the likelihood of better outcomes while warding off worse ones: effective containment measures are the key to avoid disruptive flare-ups of new cases. In the immediate term, strengthened COVID-19 infection control policies in advanced economies, including effective surveillance and universal masking, have the potential to significantly alter the pandemic's course and bolster the recovery. As the crisis abates, policy makers will need to keep policy support in place to sustain the recovery, such as a greater role for fiscal policies in bolstering activities, and in the long-term a series of structural reforms needed to reverse economic scarring from the pandemic and stimulate productivity growth[75].

[73] IMF World Economic Outlook – July 2021
[74] World Bank Group: Global Economic Prospects (January 2021)
[75] World Bank Group: Global Economic Prospects (January 2021)

PAR. 2.2 – Technological trends and business digitalization during the epidemic

Recalling concepts by the first chapter of this thesis, the business environment we use to deal with daily is continually changing and remaining competitive in such a new landscape requiring flexibility and openess to new strategies and practices, especially on the digital side of modern operations and models. The COVID-19 crisis has made this imperative more urgent than ever: as the pandemic took hold on society, the fallout on the general economy resembled that of a massive disruptor to businesses, demanding industries and single companies for adaptation to operational limitations, especially through strategic and creative plans of action and innovative tactics able to tackle emergency's limitations.

COVID-19 impact has deeply affected both structural framework of companies and single strategic choices, putting in front of economic agents a series of complex and hard to face challenges. The main effect we can notice is the damage inflicted to the standard global value chain structure, due to delays in some of its basic components, transports and logistics firstly, and the subsequent fragmentation of the production process secondly. Restrictions to transportations and border closures have resulted in higher trade costs and timing, and in a loss of trust depending on forbidden face-to-face contacts with customers and suppliers. The international value chain suffers by becoming costly and less efficient, while experiencing a general increase of risks linked to components' shipping and delivery time. In addition, given the interconnection between chain's components and its consequent vulnerability to single stages' shocks, these last will suffer pandemic implications and they could be experienced at the same time in different stages and in different locations, arising the risk of a value chain paralysis.

The economic crisis arising from the COVID-19 emergency has also modified the business landscape, combining both the conventional risks to competition associated with a severe downturn in economic activity as well as more-novel impacts associated with responses to the pandemic. Today's process is unavoidably exacerbating prior concerns about the state of competition in the global economy: many firms have been struggling financially, have filed for bankruptcy, or have shut down, while some other, large, well-positioned firms appear to have increased their market share, accelerating trends seen prior to the pandemic. This reinforcement of the dominance of the largest firms in the economy can be observed also by looking at trends such as the social media usage: social media sites saw skyrocketing numbers about their usage, and online video and streaming services reported record growth in demand, likely reflecting a combination of new users and more-intensive engagement by preexisting ones. This has tended

to reinforce the incumbent advantages of the largest firms, which often had the systems, logistics, and capacity to better accommodate the surge in demand associated with the shift to the online. This impact is likely to strenghten their dominant positions not only during COVID-19 shutdowns, but also extensively into the future. Another issue to be keen about refers to tomorrow's product and labour markets, which may be less competitive and less performing than they were before the crisis because of factors as the increment in the number of bankruptcies and the reduction of new business entries. This outcome would be even more likely if antitrust enforcers succumb to pressures to approve acquisitions of weaker competitors and immunize overly broad cooperative solutions to market challenges, particularly because cooperative behavior learned under antitrust exemptions can facilitate collusive behavior long after those exemptions are removed. This makes the preservation of the benefits of competitive markets far more difficult as it was before the wake of the epidemic and will require renewed commitment by policymakers to assertive antitrust enforcement – it would be then necessary to focus on blocking anticompetitive mergers, combatting exclusionary behaviors that disadvantage opponents, and aggressively monitoring for and prosecuting collusion by industry rivals[76].

Many organizations, especially small and medium enterprises (SMEs), no longer enjoy the luxury of developing strategies for intervals of several years but are struggling to find survival plans for the next quarter or months. To face the current situation and recent challenges, companies need to develop a long-term vision while solving short-term problems: indeed, it now becomes crucial to identify and focus on the elements that affect most single businesses, analysing present and future variations and accordingly deciding on the new strategy to follow.[77]. At the same time, companies will have to face the unpredictability of the pandemic by strongly embracing strategic agility as a core skill to be employed: continuous adjustment and readjustment of the strategic direction would be necessary together with a view to develop innovative value-creating solutions, achievable by bringing together dynamic capabilities such as strategic sensitivity, resource fluidity and collective commitment, in a way that retains flexibility without losing efficiency.[78]

In such an historical moment, the traditional strategic planning process and the alignment on overall strategy and strong leadership, which have long been markers of success during

[76] N. L. Rose. Will Competition Be Another COVID-19 Casualty? The Hamilton Project, ESSAY 2020-15 | JULY 2020
[77] J. R. Cobo-Benita, M. D. Herrero Amo, A. C. Santiuste. Rethinking businesses: Collaboration, digitalization, and sustainability as core pillars for future innovative and resilient. ESCP Impact Paper No. 2020-30-EN
[78] J. Couturier, D. Sola. Strategic agility in a time of crisis. ESCP Impact Paper No. 2020-32-EN

disruptions or transformations, left room to the extent of technology's and digitalization differentiating role through the pandemic. Outbreaks like lockdowns and social distancing challenged firms to operate and meet the demand of consumers in a less-than-ever physically interactive environment. The COVID-19 crisis and its revolutionary traits have imposed themselves as drivers of change in an important and unexpected way, and such a situation has been fertile ground for a profound acceleration of digital transformation process, phenomenon seen as a sort of best practice to adopt in this specific emergency context. A growing number of organizations across sectors engaged quickly in this reinforced digitalization wave, not only to make their operations nimbler and more efficient, but also to respond to dramatic fluctuations in demand and customer expectations. In that sense, the pandemic has raised various opportunities to advance technology-based solutions and to push businesses to enter in a "evolutionary mode" towards digitalization, simultaneously providing a rare opportunity to study more deeply the research and practice of this universe, including concepts such as information management, work practices, and design and use of technologies.[79]

Technology today is a source of new competitive advantage for some organizations and a threat to ongoing survival for others. As a result, the distinction between corporate strategy and technology strategy is blurring - each needs to inform the other. Savy corporate strategists are looking beyond their organizations' current tech capabilities and competitive landscape in order to consider a broader range of future possibilities about how technology can expand where they play and how they win. But the complex range of uncertainties and possibilities could be far too elaborated to be processed from the human brain on its own: strategists have chosen then to turn to strategic technology platforms equipped with advanced analytics, automation, and AI. Organizations are using these tools to continually identify internal and external strategic forces, inform strategic decisions, and monitor outcomes. As a result, companies are transforming strategy development from an infrequent, time-consuming process to one that is continuous and dynamic, helping strategists to think more expansively and creatively about the wide range of future opportunities[80].

Advances in digital technologies are occurring at the speed of light: cloud-based ubiquitous computing, big data analytics, artificial intelligence, machine learning, Internet of Things, autonomous systems, smart robots, and virtual and augmented reality (VR & AR). These technologies are not only changing the way organizations function and operate day by day, but

[79] Kudyba S. COVID-19 and the Acceleration of Digital Transformation and the Future of Work. (2020)
[80] Deloitte Insights. Tech Trends 2021.

they have also proven to be greatly valuable in attacking social problems: advanced digital technologies are extensively applied to testing, contact tracing, and treating people for the coronavirus, to quickly restructuring supply chains, and to supporting tele-work and remote education. Each of these usages are expected to permanently change the nature of work, education, and almost every activity in the future, representing also possible robust solutions to sustain derailed economic and social structures[81].

21th century marked a breakage moment, offering food for thoughts about the traditional idea of company, which were already largely influenced by some long-run trends such as the initial adoption of new digital technologies, demographic evolution and worries on planet inequalities and sustainability. The disruptions introduced by the pandemic in the world economic landscape forced an acceleration of both the utilization of the existing Intellectual Capital (IC) in companies and the creation of completely new IC. As individuals and groups deliberate to generate new strategic initiatives, the result is often the parallel use and augmentation of existing information resources, interactions with and understanding of technologies, and increasing the knowledge of stakeholders towards organizational capabilities, which can include how new technologies can be used within new solutions[82].

We can identify some structural capital elements extablished as key features for organizations through COVID-19 crisis outbreak, which can easily approached as a link to broader topics. These elements include:

- **Communication and connectivity** - The workplace transformation triggered by the pandemic have been tackled by organization by developing digital spaces and workplaces within weeks, together with the implementation of many and different collaboration tools enabling to participate in meetings and perform working activitie effectively. Furthermore, the usefulness of these tools through the social distancing months have lead such applications to become no longer exclusive for corporations: indeed, softwares such as Microsoft Team, Slack and Zoom rapidly entered into individuals daily life, embodying the simpler way to communicate and keep in touch with families, friends, and colleagues during the lockdown[83]. It follows that as people become more familiar with teleworking, the boom in videoconferencing may endure; this could ultimately lead to less face-to-face meetings, less foreign travel for short

[81] Lee Sang M., Trimi Silvana. Convergence innovation in the digital age and in the COVID-19 pandemic crisis.
[82] Kudyba S. COVID-19 and the Acceleration of Digital Transformation and the Future of Work. (2020)
[83] J.R. Cobo-Benita, M.D.H. Amo, A.C. Santiuste. Rethinking businesses: collaboration, digitalization, and sustainability as core pillars for future innovative and resilient companies. ESCP Business School, ESCP Impact Paper No. 2020-30-EN.

meetings, and in the long-term more flexible work environments in a greater variety of industries.

Unavoidably, the need for a reliable internet connectivity has now become a hot topic to be addressed: indeed, it is now essential to work from home, to access e-learning, telemedicine, and virtual courts, as well as to conduct financial transactions, and consume online entertainment. Overall, internet traffic has increased by approximately 30%, and the transition to telecommuting has brought about a shift from enterprise to residential access. Traffic no longer comes primarily from central business districts, shifting instead to residential areas; similarly, in response to the lockdown, a portion of data traffic has shifted from mobile to fixed or wi-fi networks. Daily traffic patterns have changed as well: contrary to the period prior to COVID-19, internet traffic has started to surge in the morning at levels close to the evening peak, partly as a result of telecommuting, but also headed by sustained streaming usage. Finally, mobile voice traffic has grown strongly too, driven by an increase in both the number of calls and their duration[84].

Area	Service provider	Area of usage percent increase	Source
Telecommunication traffic	AT&T (US)	Core network traffic (22%)	AT&T
	British Telecom (UK)	Fixed network traffic (60% on weekdays)	British Telecom
	Telecom Italia (Italy)	Internet traffic (70%)	Telecom Italia
	Vodafone	Mobile data traffic in Italy and Spain (30%)	Vodafone
Over The Top	Facebook	Facebook Messenger (50%)	Facebook
		WhatsApp (Overall: 50%; Spain: 76%)	WhatsApp
		Video calling (100%)	Facebook
	Netflix	Subscriber base (9.6% or 16 million)	Netflix
	E-commerce (Mexico)	Number of Users (8%)	Competitive Intelligence
Video conferen.	Zoom	Daily usage (300%)	JP Morgan
	Cisco Webex	Subscribers (33%)	Cisco
	Teams (Italy)	Monthly users (775%)	Microsoft

Figure 22: Internet usage increase triggered by COVID-19 (examples). Source: Analysis Mason (2020)

There is universal consensus that, despite the initial impact, fixed and mobile broadband networks and the internet backbone have shown a high level of resilience in the face of the COVID-19 disruption. Telcom sector is performing well compared to other infrastructure sub-sectors, also considering it has been generally exempted from major COVID-19-related restrictions, and at the same time it has benefitted from the surge in

[84] ITU. Economic impact of COVID-19 on digital infrastructure, GSR-20 Discussion Paper, July 2020.

the traffic of data and voice. Despite the emergence of many conspiracy theories linking it with COVID-19 contagion, 5G connection currently numbers about 600 milion worldwide in 2021 and is expected to raise to 3 bilion by 2025[85]. Its diffusion would provide higher data rates, higher capacity to accommodate massive device connectivity, lower latency, higher reliability, high mobility support as well as enhanced energy efficiency. 5G networks will be a fulcrum point in the current and future pandemic situation due to the drastic changes in network service demands and operational procedures resulting from movement restrictions and remote working policies put in place by government and various organizations to curtail the spread of COVID-19[86]. However, many inequalities in that sense still exist worldwide: less-developed countries such many of those located in Africa will suffer, due to economic or structural inequalities, greater digital exclusion during the pandemic, in the specific form of inadequate access to affordable and high-speed internet. This is perhaps a moment of opportunity for countries, especially the developing ones, to use the current crisis as a pretext to implement positive regulatory and policy changes to provide meaningful internet connectivity to their citizens[87]. Since the start of the COVID-19 pandemic, many initiatives in that sense have been launched: institutions such as ITU[88] have moved to enable and support collaborative action, through initiatives such as the Broadband Commission's for Sustainable Development Agenda for Action for Faster and Better Recovery, the World Bank, ITU, GSMA and World Economic Forum (WEF) COVID-19 Crisis Response Digital Development Joint Action Plan and Call for Action, and the Global Network Resiliency Platform (REG4COVID)[89];

- **Apps** - It is certain that internet will be stronger than ever, becoming even more central and pervasive in consumers' lives with all its various forms: social media, mobile and app usage, e-commerce, and several old and new tasks including, respectively, gaming, home delivery, and messaging on the one side, and business video conferencing, aperitifs with friends, and people movement tracking. The app economy experienced immense growth in 2020 as people all over the world realized the benefits of mobile in

[85] Yoram Wurmser. An Overview of 5G Technology Worldwide 2021 – Why the New Standards Are About More than Speed. Insider Intelligence, Mar 2021.
[86] Abubakar AI, Omeke KG, Ozturk M, Hussain S, and Imran MA (2020) The Role of Artificial Intelligence Driven 5G Networks in COVID-19 Outbreak: Opportunities, Challenges, and Future Outlook.
[87] Vrinda Bhandari. Improving internet connectivity during COVID-19, Digital Pathways Paper Series, August 2020, Paper 4.
[88] International Telecommunication Union - International organization that deals with defining standards in telecommunications and in the use of radio waves.
[89] Doreen Bogdan-Martin (ITU). Accelerating digital connectivity in the wake of COVID-19, 17/09/2020.

many aspects of their lives. Across all the observed verticals, one of the most representative is the 50% increase in installs comparing 2019 to 2020, with a higher popularity of fintech, gaming, and e-commerce apps[90].

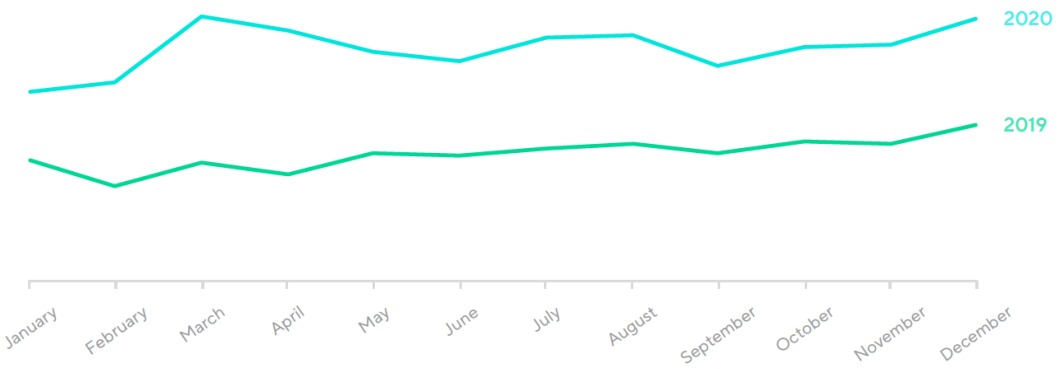

Figure 23: Installs all verticals 2019 vs. 2020

Their importance resulted as particularly urgent for mobile marketers, considering that the potential to reach new users was at an all-time high, but so was the pressure exerted by competition. The focus had to shift on balancing user acquisition with reengagement: in that sense, many marketers achieved that goal by creating engaging ad experiences and optimizing with a data-first approach – supported by analytics system, on which we will focus in the next section.

While the streets are empty, the web is overpopulated, and as an obvious consequence social media are experiencing a new wave of increased usage, accompanied by a return to their original social scope: in fact, social media have become the place in which to seek refuge, find a sense of community, and socialize in this though age of physical and social distancing. They have become the public place for comfort and distraction in an age of social distancing: all the live streaming of concerts, museum virtual tours or even virtual winetasting sessions on Instagram and other leading social networks through the last year is a consistent proof of it. Moreover, social media serve as a preferred information source, with a higher level of credibility than traditional mass media.

Being active on social media during a crisis comes with several benefits for companies connect with their consumers, support them emotionally, and create social cohesion and stronger relationships; they can make use of social media for crowdsourcing, co-creating, and crowdfunding; finally, they can themselves be a place in which a crisis can be detected in time and possibly prevented, considering how social media platforms

[90] Adjust. Mobile app trends 2021.

are also adding features to support local communities in a time of crisis (and potentially get even more data in return)[91];

- **Analytics and customer management** – The key role of big data in the modern era and especially in a period of isolation and no human conctact as the pandemic one, has increased creation of information and the application of analytics have assumed an important function in supporting organizations, especially in the supporting the decision-making process. Softwares and Apps like Microsoft, SAS, and Salesforce/Tableau constitutes a category hiding a critical strategic value: indeed, competing in a complex and unstable world as the requires an upgrade in the strategic planning and executions process, clearly digitally-orientated and dealing with a huge number of variables and future scenarios. In that sense, tech-enabled strategy platforms equipped with advanced analytics systems can help firstly strategists to think more expansively and precisely about the wide range of future possibilities, and secondly leaders to gain insight into seemingly unrelated occurrences that can drive smarter strategic choices on a continual basis[92];
- **Cloud** - Cloud computing is playing an increasing role in ensuring the smooth provision of services, also enabling the opportunity to provide additional new features in simple, cost-efficient fashion. COVID-19 has suddenly and dramatically magnified the focus on resilience and the increased need for agility and digital scablity, and the experienced disruption over markets and industries has visibly demonstrated the importance of cloud and the benefits deriving from it.

  Elasticity is the key feature of cloud architecture and allows firms to adapt to market conditions rapidly and efficiently. In a COVID-19 situation, the most relevant benefit relies on the ability to scale up automatically without physical on-site presence, adding servers to process peaks to minimize service disruption or outage. Key applications must provide continuous service, in the face of events such as this global health crisis, hardware failures and human errors. In additional, outages create risks of application downtime and data loss, resulting in revenue loss, legal and financial implications, impacts to reputation (trust) and customer dissatisfaction. By enabling remote data access and storage in an efficient way, the added versatility of cloud delivers new ways to mitigate risk and build resilience against outages, supporting financial stability.

[91] F. Pucciarelli, A. Kaplan. Force for good: Social media's bright side restored. ESCP Business School, ESCP Impact Paper No. 2020-33-EN
[92] Deloitte Insights. Tech Trends 2021. pp.16-17

For those institutions that had already started their cloud journey as part of the broader digitalization process, it produced improvements in the approach to customers' expectations, but also very importantly, in supporting business continuity. On the other hand, those organizations with less versatile infrastructure lack that same flexibility in dealing with the changing operational environment. For some firms, cloud architecture has represented a key element to effectively manage the new scenario, supporting a resilient infrastructure in the context of the otherwise limited bandwidth of traditional architectures. The elasticity and scalability characteristics of public cloud, in addition to the ability of cloud workloads to be available via the public internet on an "any time any place" basis and beyond other clear and demonstrated benefits, have made this a powerful tool for firms using public cloud in responding to such a global and disruptive environment.

In this context, the intrinsic characteristics associated with cloud computing architecture have emerged as key strategic features for organizations, enablers to help to develop their day-to-day activities in a completely different environment, but also to deal with situations that have represented actual risks to the provision of (in many cases) essential services.[93];

- **AI and Machine Learning** - ML has a very broad range of applications, mainly because of its strong optimization capabilities and its adaptability in dynamic environments. This is the reason why sophisticated machine learning models are being increasingly implemented inside organizations in order to support into efficiently discover patterns, reveal anomalies, make predictions and decisions, and generate insights. With machine learning and AI gradually becoming key drivers of organizational performance, enterprises are realizing the need to shift from personal heroics to engineered performance, to more efficiently move ML models, from development through to production and management. Organizations may even need to rethink cultural norms, organizational structures, and governance mechanisms to more efficiently leverage AI resources. As a consequence, forecastings about ML global market have widely improved, with an expected CAGR of 42,4% over the time period 2021-2027, reaching a market size of over €77.000Mln by 2027[94].

  Currently, AI is already being used to automate routine business processes, saving time, reducing operating costs, cutting out errors, and increasing productivity: automating

[93] Institute of International Finance. Cloud Computing: A Vital Enabler in Times of Disruption, June 2020
[94] Market Research Future. Global machine learning market research report – Forecast till 2027. Y 2021.

mundane day-to-day activities contributes to more efficient use of labor, with workers able to focus their time on higher-value tasks[95]. At the light of its predictive potential, ML applications through the pandemic revealed critical in the field of healthcare: these techniques may be applied for the COVID-19 pandemic to identify different risks and information, such as patients at high risk, their death rate, and other abnormalities, to forecasts virus-related upcoming issues, as well as to identify existing drugs that might be potentially advantageous in coronavirus treatments[96];

- **Systems Security, Monitoring, and Alerting** - The massive use of digital technologies and devices has made the topics of Privacy and Data security even more central than before. The anticipated growth of smart devices, 5G, edge computing, and artificial intelligence promises to create even more data, connected nodes, and expanded attack surfaces. Shadow IT is likely to have dramatically expanded during the COVID-19 crisis, while several public bodies stated that cybercriminality cases raised dramatically (as we can notice by the high number of hospitals that have been cyberattacked at the heart of the crisis response), taking advantage of people going digital rapidly but without being prepared enough[97]. Moreover, in today's digital economy internet services are provided for free, but customers are required to hand over personal data and suffer other non-material costs, including again reduced security and privacy violations. As such, antitrust regulators are shifting their focus from investigating monopolistic practices in product markets to investigating abuses relating to customer data; this approach has resulted in increased oversight and fines for antitrust as well as data privacy violations[98]. The further importance of cybersecurity across firms and industries requires the adoption of tech solutions such as the implementation of systems security, monitoring, and alerting, to maintain privacy and security compliance, and identify system functionality relative to usage (e.g. processing capabilities and memory capacity). This task has been favoured by the activity of providers such as SolarWinds that have contributed to the development of this kind of services, offering support in IT management and monitoring, and widening the range of available solutions to upgrade security perimeters of firms.

[95] MarketLine. Digital transformation will be vital for survival in the post-Covid World. (December 2020)
[96] S. Kushwaha et al. Significant Applications of Machine Learning for COVID-19 Pandemic. Journal of Industrial Integration and Management, Vol. 05, No. 04, pp. 453-479 (2020)
[97] Y. Meiller. Digital transformation, COVID-19 crisis, digital transformation. ESCP Business School, ESCP Impact Paper No. 2020-36-EN
[98] MarketLine Case Studies. The Future of Work: COVID-19 is accelerating technological and employment changes that were underway. (July 2020)

Recently, apart from improvement of trends such as the further adoption of corporate VPN across firms (whose market is expected to boost from the 2020 global value of $35 bilion to $107 bilion by 2027, with a forecasted CAGR of 17,2% over the period 2020-2027[99]), we are witnessing to a new strategic approach to cybersecurity problem, a philosophical shift in the way enterprises think about security: the "Zero Trust" approach. By implementing a Zero Trust architecture, organizations assume that cyber dangers are hided both internally and externally, and as that all access requests are continuously vetted prior to allowing connection to any of your enterprise or cloud assets. This approach results as very different from the previous standard "trust but verify" method, which automatically trusted users and endpoints within the organization's perimeter, with the risk of putting the organization vulnerable to malicious internal actors and rogue credentials. Such an approach combines a wide range of preventative techniques including identity verification and behavioral analysis, microsegmentation, endpoint security and least privilege controls to deter would-be attackers and limit their access in the event of a breach[100].

With the growing importance of technological solutions in the COVID-19 period, even the traditional idea of "working" got engaged into the storm of changes. With digitized companies having started already to move towards a concept of dematerialized workplace, moving apart from the standard idea of a physical localization in a given territory, over the years organizations were following a series of new trends as lean administrative headquarters, digital document management, and services' outsourcing. This already ongoing transformation has been unavoidably accentuated by the COVID-19 emergency: many elements of the future of work, or the ways workers interact with technologies to communicate, which many times involves the utilization of evolving technologies, were no longer a future endeavor but became a requirement for survival in this chaotic economic environment.[101] In addition, pandemic's realities have triggered new concern for workers' health and safety and thereby pushed organisations towards increased focus on well-being. As a consequence, by exposing the vulnerabilities of various segments of the workforce and underlying inequalities COVID-19 has also brought ethical issues around employment to the fore and further raised the standards which companies are expected to attain[102].

[99] Research and Markets. Virtual Private Network (VPN) - Global Market Trajectory & Analytics, 2021.
[100] https://www.crowdstrike.com/cybersecurity-101/zero-trust-security/
[101] Kudyba S. COVID-19 and the Acceleration of Digital Transformation and the Future of Work. (2020)
[102] Deloitte Insights. May the workforce be with you - The voice of the European workforce 2020. (June 2020)

In that sense, many advantages can be achieved with the aid of digital technologies: computer devices and telcoms allow to reorganize activities in order to reduce waste of resources and working hours, guaranteeing flexibility to employees and different forms of cost reduction (ex. costs of moving home-to-work, or for the disposal of appropriate physical spaces). The pandemic represents a turning point: it can be identified in the triumphal entrance of the society into the Agile Working Era, with agile working (also referred to as "smartworking" or "teleworking") commonly defined as a declination of the classic subordinate employment but without constraints of time and place in which to carry out the activities. Thanks to agile work, organizations optimize the use of physical environments, limit travel, reimbursements and opportunities for contagion, improving lifestyles and gaining organizational well-being - all this, with positive returns also on city traffic, CO2 emissions and the environment.

Suddenly becoming smart is everything but simple. Agile working requires working for assigned objectives rather than continuous processes: to achieve satisfactory results it is necessary to experiment, to value the means available, to be flexible, and management itself must seek increasingly trust-oriented approaches to collaboration, flexibility and delegation. In this, technology can make a difference and the use of multichannel communication solutions simplify everyone's work: company, management, employees, work groups. Of course, to get to all company levels, a digital learning phase must also be taken into account. Despite all the critical issues of the case, the Coronavirus emergency has led to an increase in the digital learning curve of employees and to win important resistances to change. People have learned the use of innovative collaboration tools, have interacted and coordinated effectively in widespread teams and have maintained positive informal relationships[103].

As organisations head towards recovery from COVID-19, they therefore need to think about how to leverage and channel this increased individual autonomy and adapt their leadership style in order to monitor and guide workers' contributions, without micromanaging. Learning how to manage a more autonomous and less workplace-centred workforce is the new big challenge for organizations: tt will involve, among other things, moving away from old schemes of remuneration and appraisal – evaluation should be then less based around presence and hours worked. Failing to adapt performance evaluation to the increased autonomy and flexibility of workers would restrict the positive impact that more flexible work arrangements can have.

[103] https://www.i-tel.it/it/blog/digital-hr/telelavoro-smartworking-tecnologie-che-garantiscono-efficienza/

Smartworking allowed workers to relate and coordinate more efficiently as a team, maintaining positive informal relationships from which the worker had strayed and still had to learn the techniques. Maintaining these relationships even after smartworking requires the guarantee of validated and certified information flows between people located in different places. In fact, workplaces have increasingly merged into both physical and virtual environments. Moreover, the post-COVID-19 work environment will require new skills from the workforce, and workers seem to be aware of this. The pandemic might have been for many workers an important wake-up call, signalling not only the pace of change but also its breadth, and the importance of being prepared for it. Companies should capitalise on this positive attitude and double down on commitments to build a more resilient workforce. This requires going beyond training workers only in technical skills: companies should focus on creating an organisational culture and mindset that can foster the ability to learn, apply and adapt new skills[104].

According to economists' expectations, pandemic-related disruptions to labour markets in developed and developing economies could have long-lasting effects. Some estimates state that even after the pandemic recedes and economic activity ramps up, firms may not abandon the saving lessons they learned about labour and structures. This would mean the attitude towards the downsizing of regional headquarters in favour of remote working practices on the one side, and fewer jobs created in fields as retail stores, restaurants, and auto dealerships. Other analysis provide a more detailed picture, stating that the pandemic could affect the structure of work in specific area, starting by creating a permanent presence of telework, which could account for 20% to 25% of workers, and could reduce demand for public transportation, restaurants, and retail stores. Smart working can also incentivize an upgrade in the level of e-commerce: this may disrupt traditional jobs in travel and leisure, low-wage jobs in brick-and-mortar stores and restaurants, while increasing jobs in distribution centers. Lastly, there is a *do ut des* logic between smartowrking and digitalization: even if triggered by technological advancements, agile working proliferation may contribute in accelerating the adoption of artificial intelligence (AI) and robotics.[105]

Smart-working and remote working practices inspired other proposals to innovate the current view of working process: one of the main interesting suggests a shift to a four-day week and this idea is currently on the rise, with the possibility to become part of the COVID-19 legacy. This practice is considered particularly beneficial to a good work-life balance, as it gives

[104] Deloitte Insights. May the workforce be with you - The voice of the European workforce 2020. (June 2020)
[105] Congressional Research Service - Global Economic Effects of COVID-19

employees more leisure time without reducing their salaries: this contributes also to the mental health condition of employees, recognizing a shorter working week as a way to help economies recover post-COVID-19 too. Attempts to oppose to agile working trend is headed particularly from those organizations that need to provide customer service beyond standard office hours and for whom a reduction in employee availability would be hugely impactful. Furthermore, the feasibility of compressing the workload to align with a shorter working week is not an easy change to embrace, so it could as well represent a challenge to be faced. However, advocates of the four-day week point to the fact that workers' overall productivity can suffer if they work long hours: a working paper from the Henley Business School states that 64% of UK employers that are already offering a four-day week say there has been an improvement in productivity[106], and it is important to highlight that it is not the only study reaching a similar consensus.

The changes workers have experienced over recent months go well beyond the shift to remote working: they also encompass the work they have done and how they have performed it. In particular, employees across Europe report that their work schedule has become more flexible and that they have enjoyed greater autonomy in how they perform their work. Moreover, during the pandemic many employees have experienced not just a change in location but a profound shift in how they see their ability to contribute. An interesting survey conducted by Deloitte in June 2020 on european workforce[107] revealed employees perceptions on 2020 influence on the way the used to work and the image below shows the main experiences in that sense.

[106] MarketLine Case Studies. The Future of Work: COVID-19 is accelerating technological and employment changes that were underway. (July 2020)
[107] Deloitte Insights. May the workforce be with you - The voice of the European workforce 2020 (June 2020)

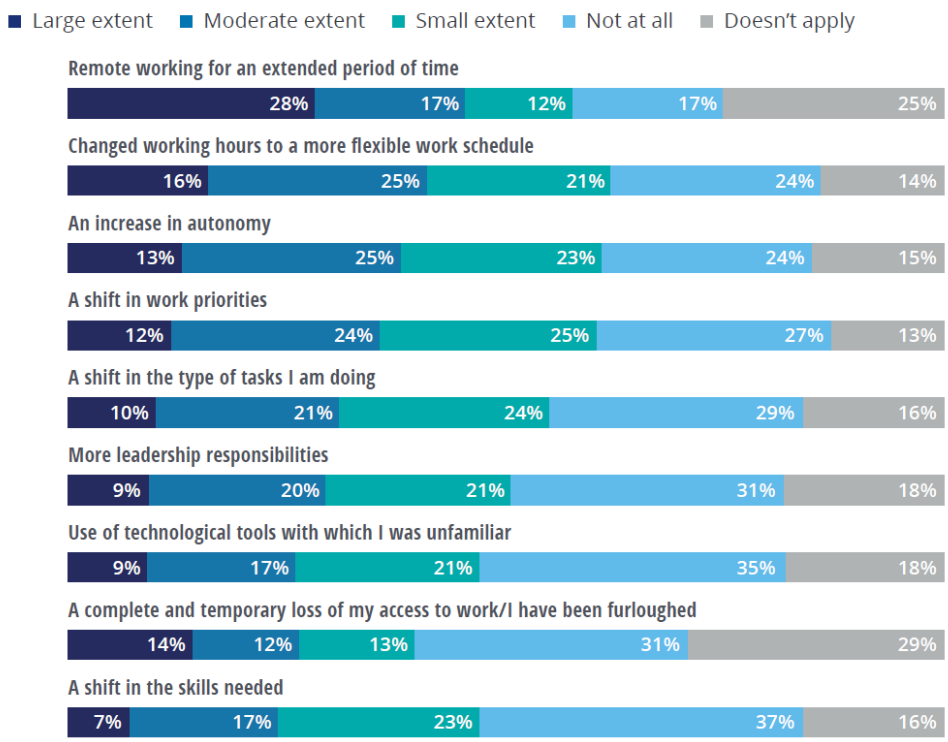

Figure 24: To what extent employees have experienced the following to date as a result of the COVID-19 pandemic

In the current scenario caused by the COVID-19 pandemic, companies are considering digital technologies to address social distancing and adapt to the new normal, but also their implementation along their processes. Nobody denies the great deal of potential in AI, robotics, and other digital technologies to replace manual repeated tasks with automation, even though organizations need to be aware that leveraging unique human competencies by technology is still hard to replicate. Creativity, empathy, judgment, intuition, interpersonal sensitivity, problem-solving are some specific interpersonal human competencies that machines for the moment do not have. In particular, it is estimated that only around 20% of work tasks are automatable, while the rest can be only augmented by technology; technology then does not eliminate jobs, rather it upgrades human productivity. In fact, there is definitely room for improvement: recalling Pareto principle[108], it is estimated that employees spend 80% of their working time doing trivial tasks representing 20% of results, whilre the remaining 80% of results come from the few vital tasks to which we dedicate only 20% of our time. Furthermore, as we said previously, digital technologies are responsible for the creation of totally new jobs, and most of those can be performed remotely: so the COVID-19 pandemic has, if any, little effect on them. On the contrary, these jobs are being more and more demanded in the COVID-

[108] The Pareto principle states that for many outcomes, roughly 80% of consequences come from 20% of causes.

19 context because of the companies' need to sell, engage, and create new customer experiences through digital means[109].

The quick transition to digitally-based solutions in response to the coronavirus threat is a reminder that digital technology brings many benefits and can play an essential role in managing and reducing the risks caused by the lockdown during the pandemic and even after the pandemic. Many researches and surveys have been performed through pandemic months and findings reveal that, along the multiyear acceleration of digital, the crisis has brought about a sea change in executive mindsets on the role of technology in business. Is now clearer than ever that to remain competitive in this new economic environment new strategies and practices are required, and technology's strategic importance is finally starting to be recognized as a differentiating factor in approaching to the crisis. A representative survey performed by McKinsey in October 2020 reveals that respondents now perceive digital technologies as critical component of the business, not just a source of cost efficiencies; in addition, at the organizations that experimented with new digital technologies during the crisis, and among those that invested more capital expenditures in digital technology than their peers did, executives are twice as likely to report outsize revenue growth than executives at other companies[110].

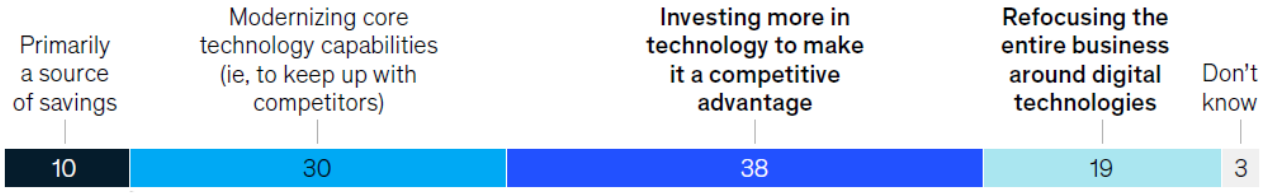

Figure 25: Executive mindsets on technology's strategic importance have changed

The management of a crisis period in terms of business continuity then represents a crucial strategic process, especially when considering the heavy impact the pandemic is still exerting of companies and industries. Generally, we can easily state that a crisis may have a negative impact on established business models if not effectively managed; on the other hand, "a crisis is a terrible thing to waste"[111], as it can often give rise to new business models that encompass new capabilities, new value propositions, and new value demonstrations, and address new customer needs. This two-sided analysis have led to a deep study of crisis impact on business model, especially focused on the two main crisis experienced by the system over the recent

[109] Pedro Soto-Acosta (2020) COVID-19 Pandemic: Shifting Digital Transformation to a High-Speed Gear, Information Systems Management, 37:4, 260-266,
[110] McKinsey & Company. How COVID-19 has pushed companies over the technology tipping point—and transformed business forever. McKinsey Global Publishing, 2020.
[111] https://www.nytimes.com/2009/08/02/magazine/02FOB-onlanguage-t.html

years, the dot.com bubble and the 2008 financial crisis, as well as on crisis having as an input nutarl disasters, such as the one following the Hurricane Katrina in 2005[112]. Despite all the contributions made in the field, it is not possible to fully capture pandemic's specifics only by looking to past crisis, recalling that the extent of COVID-19 outbreak on the global economy has been unprecedent from many points of view: this generates confusion and uncertainty on the one side, but on the other it gives white paper to individuals and organizations to approach the crisis.

The ongoing pandemic has triggered new values in the intensity of change, which just evoke exponentially in the possibilities of adapting business models. It is at this time that the pressure to build the long-term dynamism and value of companies is demonstrated, which can make appropriate use of ongoing changes to introduce the dynamics of change and adaptation into their business models as basic frameworks operationalizing their business. It seems that companies that adapt changes more quickly and are able to operate with a development of value not only for the customer create a competitive potential for survival or, conversely, for finding a competitive potential. Therefore, it is desirable to develop a business model shift, meant to significally affect the factors and logic of specific elements of the business structure and activities: being endowed with a viable business model is fundamental for long-term survival of the businesses.

In order for companies to be able to react quickly, they must be agile, flexible, equipped with the right resources. These resources are dynamic capabilities that allow for subsequent changes in the new business ecosystem: creation of digital platforms, implementation of simplified technological processes, identification of partners and key stakeholders in a given ecosystem, together with a deep understaning of the operating logic behind the business itself. The willingness of business owners to respond and invest additional funds in technology and digitalization plays an important role here: as Industry 4.0 technologies have the capability provide better digital solutions for business operations, benefits can be delivered to various elements of the business model, such asvalue creation, cost reduction, ancillary services, supply chain creation, and delivery methods. Industry 4.0 even provides a solution for manufacturing and other related areas enabling the collection, transferring, analyzing, and proper monitoring information in the business model's element[113].

[112] T. Ritter, C.L. Pedersen. Analyzing the impact of the coronavirus crisis on business models. Industrial Marketing Management 88 (2020) 214–224

[113] Pavel Adámek, Lucie MEIXNEROVÁ. "COVID-19: Implications for the Business Models". Journal of Applied Economic Sciences (JAES) 70:860-877.

The hardest challenge organization will have to face in the pandemic era would be that of querying the whole business architecture and eventually consider a complete upheaval of its model and features as the were traditionally established and carried on by organization's members. Business model innovation is a powerful tool for companies to achieve resilience and growth, especially in a global crisis and instability context. In "normal" times of operating, obtaining approval from stakeholders or consumer's adoption of a radical or divergent approach could be difficult, if not impossible. In times of crisis, business model innovation in a divergent way is easier to address: a crisis can be a lever for companies to start fresh, instead of employing defensive pricing or operational tactics. Moreover, business model innovation is recognized as able to deliver superior return than standard process or product innovation[114], so it must at least apparently incentivize organization to take into account opportunities offered by a business redirection.

A first approach to deal with such a task would be the evaluation of a value chain reorganization process, with leaders and policy makers are increasingly accounting this choice as a solution to face pandemic outbreaks: diversification in that sense is often presented as one of the best ways to tackle value chain disruption. What COVID-19 crisis has revelead is that a lack of diversification could first of all lead to the breakdown of a supply chain, if one firm or country from which components are sourced is hit by an adverse labour supply shock, and second, dependence on one or a small number of dominant suppliers can expose firms to the risk of policy changes in these suppliers' countries. Diversification then might result in reduced output losses, lower volatility and higher firm's resilience to adverse shocks as an epidemic: enhancing short-term value chain resilience in that way is the best recommended practice, even if alternative solutions at lower costs exist and can be implemented as well (e.g. buffer stocks and easy-to-replace standardised inputs)[115].

A complete business innovation involves contextually the possibility for a company to evaluate a process of strategic pivoting, commonly defined as a a change in a firm's strategy that reorients the firm's strategic direction through a reallocation or restructuring of activities, resources, and attention. Slack, which has been of the biggest winner over the pandemic period, represents a virtuous example of pivoting: the original plan was an online video game called "Glitch", which revealed as a big market flop but kept inside it an internal messaging system

[114] Mihaela Cristina Baghiu. "ANALYSIS OF BUSINESS MODEL INNOVATION IN POSTCOVID ECONOMY: DETERMINANTS FOR SUCCESS". Journal of Public Administration, Finance and Law 17:7-24.
[115] World Trade Organization. COVID-19 AND GLOBAL VALUE CHAINS: A DISCUSSION OF ARGUMENTS ON VALUE CHAIN ORGANIZATION AND THE ROLE OF THE WTO

which constituted the basis for Slack. With examples like these, it is no wonder that entrepreneurs have embraced the pivot as a strategic action that leverages a firm's technology innovations, adapts them for new markets, and enables the firm to revive like a phoenix from its ashes[116].

Basically, a strategic change occurs when new information illuminates a gap between a firm's target outcome and its expected performance. The degree of uncertainty delivered by the pandemic in that sense can easily reveal business weaknesses and downbeat forecastings and expectations about a targeted market or a traditionally addressed business segment. Considering the unpredictable trends imposed by the pandemic, businesses cannot rely on quickly overcoming the current situation, but must look strategically to the future. Therefore, they must make changes and "tailoring" in relation to finding an equilibrium between internal resources, stakeholder requirements, and external influences of the pandemic. If businesses succeed, they have a foundation for building permanent values and business sustainability.

Going beyond comfort zones requires taking an end-to-end view of the business and operating models. Even though resources are necessarily limited, the experience of leading companies suggests that focusing on areas that touch more of the business core activities will result in the best chance of success, in both the near and the longer term. On the opposite side, organizations aiming at minor changes to the edges of their business model are recognized as nearly always falling short on their goals. Tinkering leads to returns on investment below the cost of capital and to changes (and learning) that are too small to match the external pace of disruption. In particular, organizations rapidly adopting AI tools and algorithms, as well as design thinking, and using those to redefine their business at scale have been outperforming their peers. This will be increasingly true as companies deal with large amounts of data in a rapidly evolving landscape and look to make rapid, accurate course corrections compared with their peers[117].

During COVID-19, many companies tried to figure out a new way to run their business, while also aiming to create traditional economic value. In some cases, the achievement of such a goal has led to the definition of "altruistic company": keeping in mind an unique purpose – the creation of social value – many organizations paused their traditional activities to devote themselves in supporting customers, suppliers and local communities against the health crisis. Some firms decided to help with the production of face masks, some others placed orders for

[116] J. Kirtley, S. O'Mahony. What is a pivot? Explaining when and how entrepreneurial firms decide to make strategic change and pivot. Strategic Management Journal (January 2020)
[117] S. Blackburn, L. LaBerge, C. O'Toole, J. Schneider. Digital Strategy in a time of crisis. McKinsey & Company (August 2020)

medical equipment to be donated to hospital, and still others came to meet customers in difficulties by dropping down their services pricing or freezing bills[118]. On the other hand, some firms received incentives to completely convert their businesses: an interesting example has been given by Italy, providing economic support to those companies willing to contribute in face masks production through the Cura Italia Decree. In addition, the challenges associated with the coronavirus pandemic have bloomed everywhere and often, capturing the attention of a large number of innovative entrepreneurs who have stepped up to help and have demonstrated the non-subsistence of a shortage in this investor cathegory. During March and April 2020 alone, virtual COVID-19-innovation competitions (aka hackatons) drew in tens of thousands participants from 175 countries: many of them have proposed their COVID-19 inspired innovations as examples of sustainable businesses that may continue operating on past the immediate crisis and might as well inspire other realities.[119].

Disruptions throughout history have had many negative impacts, yet these disruptions have also created new opportunities. They have driven our society to develop innovative solutions to tackle unprecedented problems. The real impact of this crisis is unknown, yet companies do have a main goal: adapt to survive. In a time of change, we need to prepare our companies for the cultural and behavioural shifts this crisis has caused. Businesses should focus on their core strategy to create more value, counter COVID-19 side effects and fulfil needs that will appear in the near future. As we are facing new challenges, developing resilient companies will be the key factor for success[120].

[118] I. Getz, L. Marbacher. COVID-19: How some companies leapt, while others stalled. ESCP Impact Paper No. 2020-17-EN
[119] Dirk G. Schroeder. Turn Your COVID-19 Solution into a Viable Business. Harvard Business Review, July 2020.
[120] J.R. Cobo-Benita, M.D.H. Amo, A.C. Santiuste. Rethinking businesses: collaboration, digitalization, and sustainability as core pillars for future innovative and resilient companies. ESCP Business School, ESCP Impact Paper No. 2020-30-EN.

PAR. 2.3 – Innovator takes it all: pandemic winners and outlooks for the future

The COVID-19 pandemic has presented to the world a new and interesting scenario whereby an unexpected shock provokes acute changes in firms' performances relative to the managers' expectations which were held just a few months prior to the crisis. Through this situation, forecastings about the hit on companies' operations and results were unlikely to be produced, and the attempts to predict pandemic impact in that sense where as well. Most firms have revised downward their expectations for sales, orders, employment, and investments, while prices should have increased at a faster rate; new obstacles related to COVID-19 must be tackled, such as mobility/travel restrictions, lockdown, closure of borders, and disruption of the value chain (production and supply) together with bottlenecks in logistics. These and many other issues, such as the accessing to finance, finding customers, and facing liquidity shortages, blend together in a complex situation characterized by a high degree of heterogeneity in terms of geography, sectors and firm sizes.

Pandemic impact on global economy was since the beginning expected to inflict several damages in almost every existent industry; however, its impact was forecasted as perceived differently depending on the hit sector. The sectors expected to be more in danger were first of all the Travel and Transport one - of course because of strict limitations in physical movements from an area to another - manufacturing, and retail. Sectors that are dependent on human contact and interaction, such as the cultural and creative industries, have as well strived during the crisis, and they are likely to suffer for extended periods because of these unprecedented shocks. Public sector and Banking & Financial Services were on the other hand expected to suffer less from COVID-19 effects, especially for what concerns influence on supply chain structure and overall performance; likewise, the digital industry has performed well, and so has the healthcare industry [121].

[121] Statista

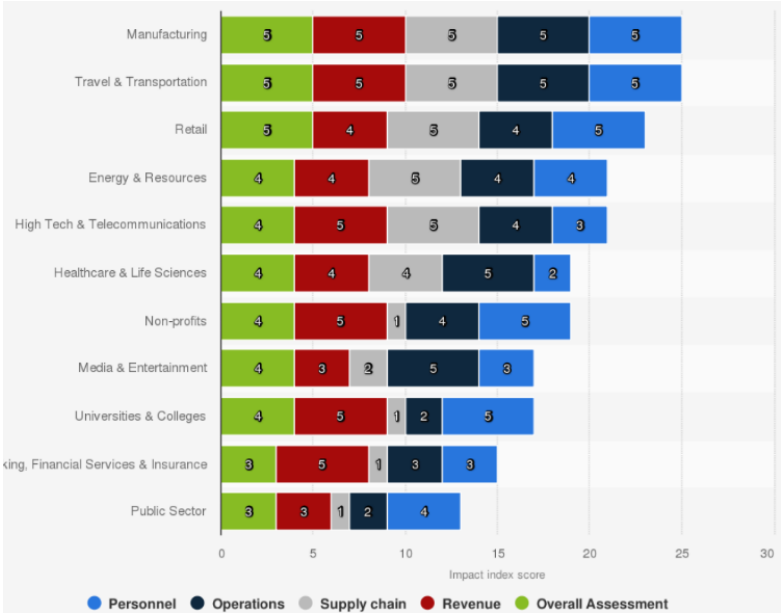

Figure 26: Projected coronavirus impact index by industry and dimension - minor (1) to severe (5) in 2020

First evidences about the trueness of these forecastings can be extracted from OECD data collected over the 2020[122]: a preliminary analysis based on a large sample of non-financial companies in OECD and major non-OECD emerging-market economies conceals the expected damages inflicted to almost every market player, showing significant heterogeneity across sectors and firm types. Revenues and profits dropped sharply for firms operating in the energy sector, reflecting depressed oil prices during most of 2020, and in contact-intensive consumer services, such as hotel and restaurant chains, casinos and gaming, and cruise lines; the income shock was also sizeable in the transportation and automobile sectors. In these industries, the median firm lost up to 30% in revenues and 50% in earnings before interest, taxes, depreciation and amortisation (EBITDA) compared with fiscal year 2019. As a result, the evolution of profits, leverage and solvencies for firms in those sectors was much more dramatic than for the median firm in the economy. In contrast, firms operating in software services, pharmaceuticals, healthcare or retailing expanded substantially in FY 2020, both in terms of revenues and profits. Performance varied also according to firm's size, with preliminary evidences suggesting that smaller firms suffered more than larger ones[123].

[122] Policy Department for Economic, Scientific and Quality of Life Policies - Impacts of the COVID-19 pandemic on EU industries
[123]OECD Economic Outlook – MAY 2021

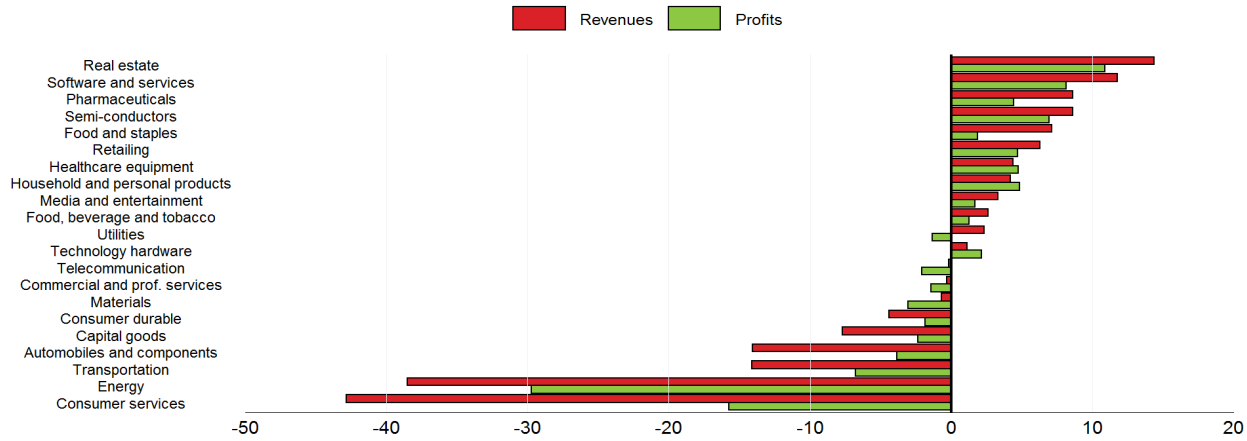

Figure 27: Changes in revenues and profits between FY2019 and FY2020, by sector

The rapidly-altered business landscape and the changed terms of competition benefitted those who adapt swiftly and risk bold moves. Most companies operating with traditional business models experienced hardship and suffer a serious financial hit amongst the coronavirus outbreak[124]. In such a moment, innovation assumes a fundamental role in exploiting the new opportunities engendered by pandemic outbreak and related limitations: innovative companies of 2021 would be those that are willing to marry the desire to innovate with the systems, leadership and processes that work to make it successful. It is then impossible to avoid speaking of digitalization at the light of these considerations: targeted, tactical digital transformations will be vital for companies to survive in the new post-Covid world, especially because it has been shown that companies that tech-enable their businesses during a recession tend to become more resilient to future shocks.

This is a good news for IT services, infrastructure and application software companies, which have struggled in 2020 as many enterprise IT projects have been delayed, scaled back, or cancelled. The latest report from GlobalData's Thematic Research team, Tech, Media, & Telecom Themes 2021, explains that enterprises have taken a conservative approach towards IT spending in 2020 due to COVID-19[125]. Contrasting with the observed trends related to R&D and tech-related spending, history tells us how successful tech companies have long recognized that spending rather than saving is the way to survive recessions. In 2008, Intel's decision to continue investments into research and development (R&D) despite the global economic downturn put it several years ahead of its competitors; beyond Intel, other examples include Microsoft and Apple in 1975, Netflix in 1997, and Airbnb in 2008. These companies'

[124] R. Coeurderoy, U.A. Wiszniowska. COVID-19 and the scale-up of the platform revolution. ESCP Impact Paper No. 2020-41-EN
[125] MarketLine. Digital transformation will be vital for survival in the post-Covid world. (December 2020)

investments put them in a position to capitalize on the increased consumer demand that followed the return to economic growth. The world of 'remote everything' should then prompt organizations to accelerate digital transformations. However, many are likely to shun larger transformational projects in 2021.

An interesting BCG's report[126] ranks the first 50 "innovative companies" in the world panorama: many of these companies are household names, but some have surged up the rankings after a period of innovation brought about by the emergence of COVID-19.

Rank: 1–10	Rank: 11–20	Rank: 21–30	Rank: 31–40	Rank: 41–50
1 Apple	11 Siemens	21 Toyota	31 Xiaomi	41 Inditex
2 Alphabet	12 LG	22 Salesforce	32 IKEA	42 Moderna
3 Amazon	13 Facebook	23 Walmart	33 Fast Retailing	43 Philips
4 Microsoft	14 Alibaba	24 Nike	34 Adidas	44 Disney
5 Tesla	15 Oracle	25 Lenovo	35 Merck & Co.	45 Mitsubishi
6 Samsung	16 Dell	26 Tencent	36 Novartis	46 Comcast
7 IBM	17 Cisco	27 Procter & Gamble	37 Ebay	47 GE
8 Huawei	18 Target	28 Coca-Cola	38 PepsiCo	48 Roche
9 Sony	19 HP	29 Abbott Labs	39 Hyundai	49 AstraZeneca
10 Pfizer	20 Johnson & Johnson	30 Bosch	40 SAP	50 Bayer

Figure 28: 2021's most innovative companies, according to BCG report "Overcoming the Innovation Readiness Gap"

Global tech giants once again dominate the top 10 in the rankings, with Apple taking the lead ahead of Google's parent company, Alphabet; Amazon, Microsoft and Tesla make up the top five. This ranking is just one of the evidences supporting the statement that the world's biggest businesses were doing fine until COVID-19 arrived – but now they're doing even better. The extraordinary growth of tech companies can be noticed by looking at the firms' rankings by market capitalization and how the composition of the top 50 spots have changed over years. Starting from an ephemeral number of two tech firms in 1990, in 2020 technological firms accounts for nearly a half of the top 50 spots, with 21 companies including giants such as Apple, Microsoft, Amazon, Facebook and Alibaba: this change reflects no more than the generational shift from "Big Oil" (like Exxon Mobil and Royal Dutch Shell) to "Big Tech".

[126] Boston Consulting Group research. "Overcoming the Innovation Readiness Gap - Most Innovative Companies 2021".

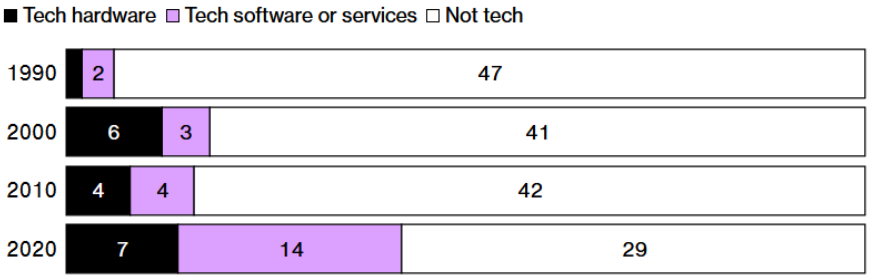

Figure 29: Top 50 companies by market cap - Numbers over the last four decades

The advantages superstar firms enjoy became all the more glaring during the pandemic, which is a reason why the issue of how to tame them has vaulted up the political agenda in so many countries. Many of the tech giants have business models that are tailor-made for a year of social distancing, unlike Main Street competitors dependent on foot traffic: this has been shown for example by the increased profit margins reported for superstar firms - which would likely be even wider if some companies had not sacrificed short-term income for gains in market share aimed at delivering larger payoffs in the years ahead. In addition, government rescues worked best for the biggest companies, advantaged from central bank backstops that kept borrowing costs low and stock prices high; in contrast, patchwork relief efforts for small businesses left many struggling to pay their bills[127].

These considerations and the turbulent environment established because of the pandemic posed tech giants' names on everyone's mouth, and not even to say it the E-Commerce empire built by Amazon benefitted more than ever from the crisis. Retail was one of the first industries to be disrupted by the rise of the internet, way before the outbreak of the pandemic, and e-Commerce became the main driver of digital innovation through the 21st century. COVID-19 has further disrupted the retail industry, accelerating the trends dictated by online purchasing: as consumers are avoided in-store purchases, eCommerce sales increased by 19% due to COVID-19 in 2020 and this growth touched almost every commercial segment, from media to fashion to food & personal care.

[127] https://www.bloomberg.com/graphics/2021-biggest-global-companies-growth-trends/

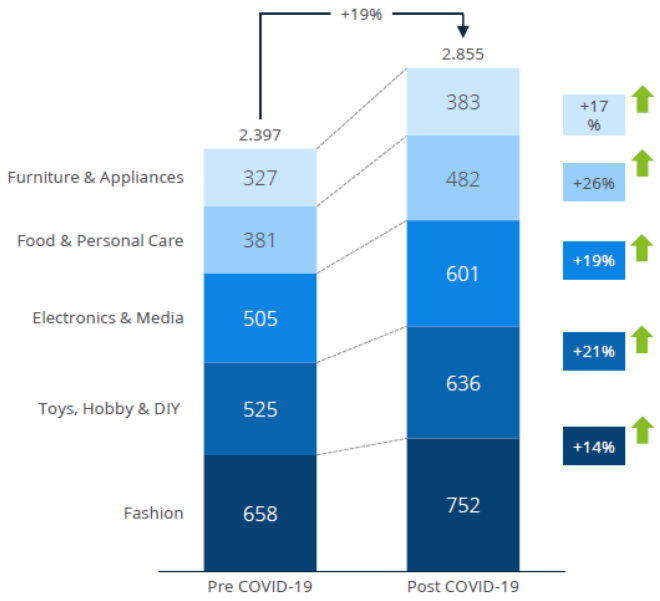

Figure 30: Worldwide e-commerce revenues in 2020 (billion US$)

Amazon has built its dominance through aggressively pursuing growth at the expense of profits, a strategy that the economics of internet platform markets traditionally encourages. Achievable results from such an approach are shown by the stunning results obtained by the firm through the crisis: Amazon's 2020 e-Commerce net sales amounted to $121 billion, with a growth of around 40% compared to 2019. By looking at its global rivals, there is clearly no comparison: MediaMarkt for example, recognized as the largest German online shop and specialized in the online selling of Electronic&Media, has barely reached a net sales volume of US$1,54 billion. On of the main strenght of Amazon is represented by its offer: differently from other players that may be focused on low prices rather than product diversification, Amazon's marketplace makes available a large variety of products, supported by competitive prices and an exceptional delivery system. In addition, a high commitment of resources is invested in the brand value, especially with the increasing importance of "sponsored" product impressions and search optimization, which can generate fast growth in sales and visibility: this the reason why consumers tend to start direct product searches on large marketplaces like Amazon rather than with a Google product search.

Moving the attention on the workforce composition, Amazon is a pioneer of the future of work technologies: from co-bots and CV in warehouses to delivery drones, the company currently uses robots in a large number of its fulfillment centers worldwide. Amazon's machine learning software powers robots in warehouses and transportation execution systems, with its Amazon Web Services cloud business providing the backbone. The company's drone delivery operation is still in embryonic stage, and with last mile delivery being the most expensive and time-

consuming part of the shipping process, it has the potential to give Amazon an advantage over other logistics companies. On the "people side", Amazon is instead regularly criticized for unsafe and unfair working conditions: spurred by the COVID-19 pandemic, Amazon's warehouse workers united to tackle issues such as the company's failure to provide enough protective equipment and the inadequate compensation given to frontline workers[128].

Despite Amazon undisputed dominance, United States are still behind China in terms of market size: 2020's data outline a market value of around US$1343,5 billion, with a revenues CAGR of around 8% up to 2025, which means the maintenance of the primacy at least until the end of this year[129]. Jeff Bezos's antagonist in the Asian continent is embodied by Alibaba, a multinational company founded in 1999 by Jack Ma and positioned in the last decade as one of the most important companies in the whole Chinese and global market. On the surface, the two firms seem to share quite a bit in common: they both have started their activities through the 90s, a major portion of their revenues comes from electronic products and merchandise and digital media content, and each of them dominates its respective home-country and enjoy the luxury of very few competitors - despite their market shares may be very different in percentages (Amazon owns 39% of all US ecommerce sales, while Alibaba owns 58.2% of all retail ecommerce shares in China). Moreover, they both have proprietary payment systems: Amazon has Amazon Pay, which allows users to purchase items on non-Amazon sites with their Amazon accounts, while Alibaba can count on Alipay, with more than 700 million annual active users employing its mobile and online payment system.

However, Amazon and Alibaba have very different business models and divergences can be observed since the target audience: the former is mainly involved in direct sales to consumers (mainly B2C), while the latter works as an intermediary between buyers and sellers (mainly B2B) and consequently manages to save money on features such as warehouses and infrastructures. However, Alibaba operates also through AliExpress and Taobao, two sites that instead operate more similarly to Amazon. Also marketplace-related fees differ significantly between the two platforms: Amazon charges sellers with many different fees, matching them with additional services such as Amazon Seller entitlement or Prime membership (which conversely contributes to brand loyalty), while Alibaba keep charges at low levels (or even zero, as it happens on Taobao segment), rather focusing on generating revenues thanks to sellers paying to rank higher on international searches (differently from Amazon that does not charge

[128] MarketLine Case Studies. The Future of Work: COVID-19 is accelerating technological and employment changes that were underway. (July 2020).
[129] Statista Digital Market Outlook – eCommerce Report 2021 (June 2021).

for it, being SEO and metrics the best ways to upgrade sellers in search results). Lastly, Amazon employs a combination of online and offline stores, together with its aim of establishing dominance in online streaming services: for instance, the launch of Amazon Prime Video in the video-streaming market did not go unnoticed, even if it is not enough profitable yet to be labeled as a major source of revenues. Alibaba have instead chosen to operate in a niche, making money through core commerce, digital media, entertainment and funding innovation.

Alibaba's model have also been supported by heavily investing in an automated business model in which most operational decisions are made by machines. In Alibaba's New Retail strategy, especially looking at COVID-19 limitations, offline and online merge into a data-driven network of sellers powered by machine learning. The company has forged partnerships with China's leading companies in AI chips and facial recognition software (like Cambricon, Face++, and SenseTime), and has developed its own AI chip, AliNPU. The company has also heavily invested in a smart supply chain structure, and in 2018 it opened China's biggest robot warehouse with over 700 robots[130].

By looking at current companies' numbers, Amazon's results are definitely much higher than Alibaba's ones (for obvious reasons): it would be sufficient to take into account that Alibaba's revenues in the fiscal year 2020 were around $72 billion, while Amazon generated an higher number over the first quarter alone. On the other side, Alibaba is overperforming on the growth side and the chinese company is now claiming a relevant position in Europe as well, being a market leader only in its homecountry at the present time. Despite the big investments in Europe, in particular a project on a warehouse in Belgium (Liege) by 2021 that could represent the gateway for the continent, Jack Ma is struggling with the european shopping culture and the failure in being recognized as more than a market for low-end goods: reputation in that sense cannot stand the competition with Amazon and other huge names such as Microsoft and Alphabet. At least they are maintaining undisturbated control over China: 2019 sanctioned this primacy, with Amazon shutting down its chinese brunch to focus on cross-border selling to Chinese consumer, but this strategic plan is not delivering the expected result.

Despite the apparent primacy of bigger firms in the markets' struggle for survival, the global trends in the market indicates that large companies do not necessarily dominate over small ones like they used to. Instead, young, fast and tech-savy companies with the right approaches and investments have tangible chances to get closer to market leaders: no wonder that SMEs en

[130] MarketLine Case Studies. The Future of Work: COVID-19 is accelerating technological and employment changes that were underway. (July 2020)

masse are willing to move toward the industry of tomorrow. The transition to digital solutions and to the overall world of Industry 4.0 brings with it a long series of advantages for SME, impacting on different sides of business activities and delivering a range of benefits that can reveal as key factors for a successful persistence on the market. Digitalization allows industrial SMEs to introduce effective processes to mass produce higher-quality products at lower costs, and the arrival of Industry 4.0 in that sense results in increased productivity's potential for small and medium enterprises alike. By using cloud technology, Big Data and analytic systems, SMEs can benefit from getting actionable insights out of their data: this basically means they can shift from reactive to predictive maintenance, identifying areas for improvements, minimizing wastes and intensifying yields. Secondly, such technologies have a significant impact on quality management, which can lead to saving costs together with the overall increase in revenues. Indeed, the growing demand for new equipments and data applications from manufacturers, combined with clients' need for more customized products, has resulted in the arising of additional sources of income for SMEs. However, we must take into account that SMEs are still evaluating carefully possibile benefits they could get by investing money into Industry 4.0-related R&D: it is clear that big-size companies have more funds to be committed to tech innovative processes and a better understanding of how to embrace the journey toward Industry 4.0. In their turn, SMEs have more obstacles in digitizing their operations that integrate a number of complex technologies; even with limited resources, SMEs might accelerate the digital transformation if governments provide them with measures and methods enabling their adoption in a simpler and more immediate way.

An interesting small cap company's story in the afore-mentioned e-commerce field is Jumia, often referred to as "the African Amazon". Founded in 2012, it is a leading e-commerce platform in Africa, built around a marketplace including Jumia Logistics (delivery) and JumiaPay (online payments). Launched in Africa, Jumia is now operating in 11 countries across Africa and have partnered over the last years with more than 100000 sellers, including local African companies and entrepreneurs. Jumia's growth and efforts had a key role in the promotion of concepts such as online shopping, digital supply chains and fintech ecosystem in the African continent, as well as performing an important function in supporting financial inclusion for the unbanked segment of population.

African e-commerce and digital economy grew considerably throughout the decade ending in 2019, especially thanks to improved Internet penetration rates, reduced Internet costs and the growth of mobile communication. Despite the pandemic impact on the market, consumer

perception of the value of online purchasing have improved over time and the e-commerce sector has experienced a boom: considering for example the first half of 2020, Jumia has shown an increase in purchases of 17% compared to the same period in 2019, while the gross merchandise volume grew by 30,4% - numbers that have led the company to achieve a 12% growth in the profit at the end of the year (€28 million)[131].

During the COVID-19 pandemic crisis, Jumia has adopted a series of strategic moves to expand as an online marketplace, simultaneously supporting nigerians against epidemic outbreaks. As an example, the company has offered its logistics chain to the government in Nigeria to enable the distribution of basic sanitary items to healthcare workers; moreover the group is also leveraging its network of vendors to ensure the public sector can source essential items like face masks, also facilitating their delivery via its last-mile logistics operations. The previous implementation of digital payments (JumiaPay) have been upgraded in Covid times by reducing user fees and even providing contact-free options for bill payments, as well as quick access to small personal loans. Lastly, Jumia joined forces with the United Nations Development Programme (UNDP) to launch an e-commerce platform to sustain supply chains for micro, small and medium enterprises (MSMEs) and connect them with online consumers in underdeveloped countries like Uganda. This initiative is a strategic opportunity to empower vulnerable groups and those hardest hit by the pandemic in the informal trade sector such as women, youth and persons with disabilities by connecting them with potential buyers. It will also connect rural farmers with the urban markets, keep the supply chain for agricultural produce active, provide employment and mitigate effects of the COVID-19 on the economy[132].

But when it comes to talk about technologies and digitalization, the real innovative boost is carried by new companies, new digital startups that have take advantage of the digital transformation's speed up experienced through the pandemic months. The focus is especially on unicorns, category of private high-growth startup companies, worth one billion dollars or more. Despite main unicorns have suffered significal damages because of COVID-19 – as exemplified by big names such as Gympass, Uber and AirBnb -, the overall startups' environment have managed to achieve relevant results in terms of growth and performance through the crisis. The capability to respond dynamically to adversity allowed startups to still pursue innovation to improve their performance perspectives, even in a condition of resource shortage. This is because the business model is built around a single digital platform or

[131] United Nations. Economic Commission for Africa; United Nations. Economic Commission for Africa (2021-03). COVID-19 Impact on E-Commerce: Africa. Addis Ababa. © UN.ECA.
[132] https://group.jumia.com/

software, which is very fast and cheap to develop and promote: by adapting business model innovation, many startups achieved to steadily embrace digital innovations as solutions to meet market needs quickly. In addition, considering the critical role played by funding for startups' orientation towards a fast growth, trends in the market of venture capital positively contributed to their states of health and evolution. Despite economic fallout, VC dealmaking was resilient on a broad level: in Europe, for example, VC deal value reached a new annual record of €42.8 billion, representing a 14.8% YoY increase from the previous record set in 2019 and renewed investor optimism. Software sector remains the most popular investment strategy, representing a third of total European VC deal value in 2020, but investor interest has shifted towards other sectors as well: for example, investment into biotech & pharma startups jumped 41.1% YoY to €5.4 billion as COVID-19 held attention globally[133]. This positive trand seems destined to persist also in 2021: as highlighted by Startup Genome[134], in the first half of 2020 venture funding worldwide was $148 billion, while in the first half of 2021 it had soared 95% to $288 billion, mainly represented by North America - home country of the Silicon Valley, the most relevant startup ecosystem in the world.

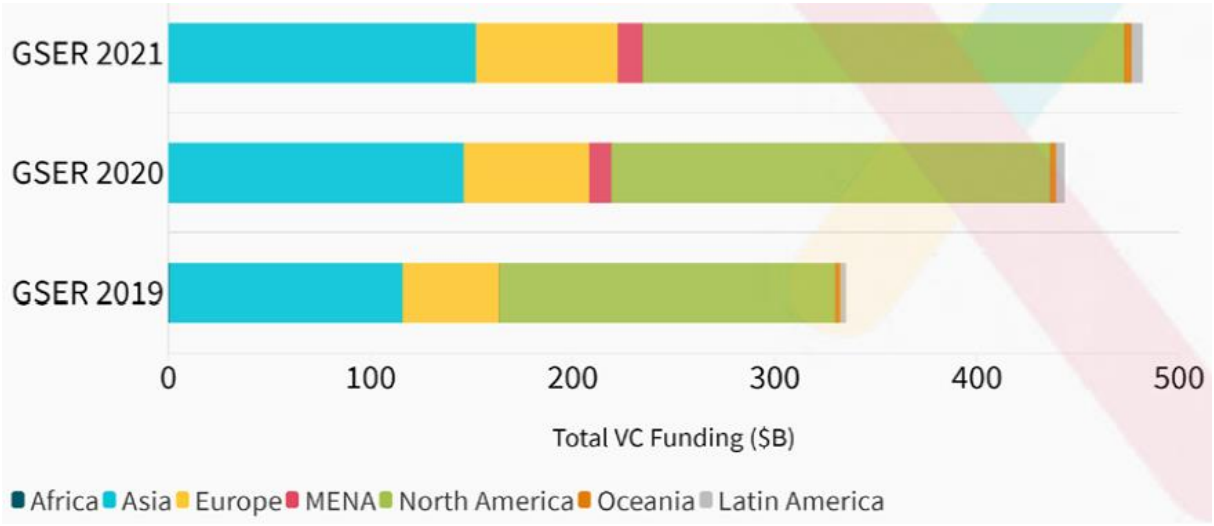

Figure 31: Funding ($B) by Region for Top 100 Ecosystems

Startups' role through crisis would result as particularly relavant in the labour market, first of all because, as about a decade of research has shown, most of the net job creation in the economy comes from new young companies, especially those that scale. Secondly, when we compare dollar for dollar, startup jobs are cheaper to save than traditional small business jobs by government programs. Lastly, in addition to creating most of the net new jobs, tech companies have impressive job multipliers: estimates suggest that for every high-technology

[133] Pitchbook. European Venture Report (Annual 2020)
[134] Startup Genome. Global Startup Ecosystem Report 2021

job, five other jobs are created in the economy. This last assumption derives not only by high wages paid by these jobs, but also because these realities consistently manage to create new products and innovations to share with the market environment, consequently positioning as big exporters for the economy.[135] In that sense, the contribution of startup-tech to the global economic framework will be fundamental for recovery, as it has been already shown by their important cotìntribution in the wake of the Great Recession, and their strong attitude towards innovation and new technologies confers them a key strategic role as well.

It is well-known that global crises always accelerate the adoption curve of new technologies, and indeed COVID-19 has wildly increased adoption of relatively young companies such as Slack, Shopify, and Zoom: all three were startups not long ago that went public and now they are playing an important role in keeping companies connected and relevant in the pandemic age. Zoom's story results as particularly relevant in the COVID-19 context: born as a startup in 2011 and launched its software on the market less than 10 years ago, Zoom's potential came out in a short time, and thanks to its aggressive revenue growth and its perceived ease-of-use and reliability, it became a unicorn company in 2017 by achieving a $1 billion valiuation. Over the pandemic, the sudden need for videocommunication as the only available lifeline to society, Zoom represented the best tool to face crisis challenges and social limitations. Its service revealed incredibly efficient and easy to use, and its versatility allowed to save an incalculable number of jobs: organizations turned to its usage to perpetuate business continuity and mitigate performance losses deriving from lack in communication and collaboration among employees, schools and universities found in distance-learning the solution to the education shutdown, healthcare sector was supported with videomeeting in keeping in touch with patients and follow them over their treatments.

What really made the difference was the strong focus of the company on its own product strategy, on the online videoconferencing platform and the service quality: indeed, Zoom was already chugging along on an impressive growth trajectory over the last years, having gained the reputation of being reliable, less glitchy, less flashy, easier to launch, and more intuitive, and all these features made it a standout when the pandemic took hold. To overcome the epidemic damages and the skepticism of society towards this new reality, Zoom decided to undergo on an adjustment in its positioning and its self-image. Established for a long time as a free B2C service, Zoom had to face many new challenges and in particular the extended, diverse user basis: along its strong commitment on customers' needs and expectations, feature updates

[135] Startup Genome. Global Startup Ecosystem Report 2020

and enhancements like updated font sizes, breakout rooms, and most important tougher security were prioritized. These just apparently small details quickly produced the expected benefits and were well-received by people, highlighting and demonstrating again Zoom's ability to empathize with its customers, solve users' problems, and delight them — all while navigating a pandemic with the rest of the world[136].

It is evident that Zoom Video Communications received a huge boost and responsibility from COVID-19, resulting in astonishing numbers: stats show that the company has more than 500000 customers that have more than 10 employees, claiming more than 300 million daily meeting participants; in addition, company has closed 2020 with $2651,4 milion total revenue (+369% year-over-year) and a valuation of over $100 billion[137]. Eric S. Yuan, CEO and Founder of the company, perfectly summed up Zoom profile and approach to the pandemic: "In FY2020, we significantly scaled our business to provide critical communications and collaboration services to our customers and the global community in response to the pandemic. We are humbled by our role as a trusted partner and an engine for the modern work-from-anywhere environment. Our ability to rapidly respond and execute drove strong financial results throughout the year." And "As we enter FY2021, we believe we are well positioned for strong growth with our innovative video communications platform, on which our customers can build, run, and grow their businesses; our globally recognized brand; and a team ever focused on delivering happiness to our customers."[138] What is certain is that Zoom is now an undisputed leader: in fact, it is the one to watch in a crowded space that includes important players in video conferencing such as Cisco Webex Meetings, Google Meet, and BlueJeans Meetings, and still detains a market share higher than 70% despite the presence of more than 140000 companies offering a similar software![139]

[136] https://www.productplan.com/learn/zoom-product-strategy-example/
[137] https://www.globenewswire.com/
[138] https://investors.zoom.us/news-releases/news-release-details/zoom-video-communications-reports-fourth-quarter-and-fiscal-0/
[139] https://www.datanyze.com/market-share/web-conferencing--52/zoom-market-share

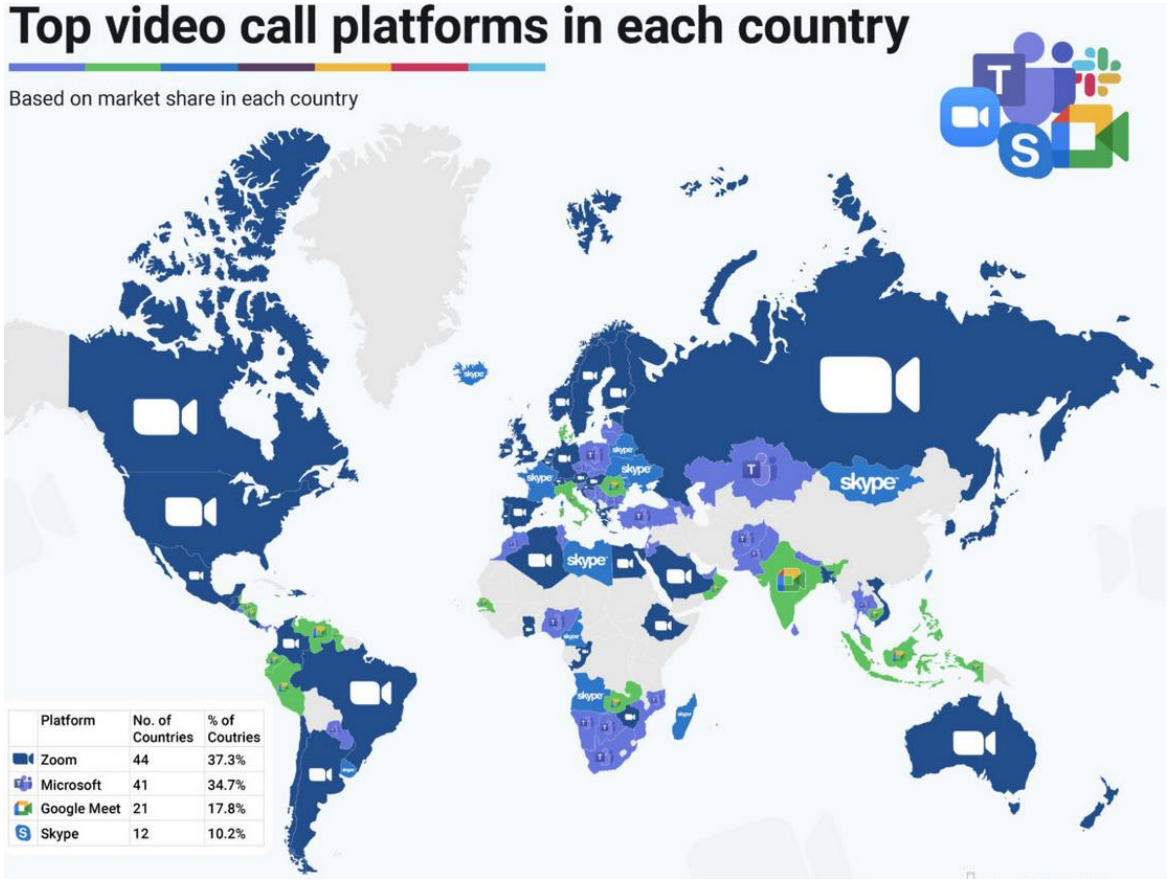

Figure 32: Top video call platforms in each country.

(Source: R. Barndl, Video Call Victories: map reveals the most popular video conferencing platforms worldwide. Emailtooltester Survey, Mar 2021)

Coronavirus crisis opens a big opportunities for online platforms to show off the unique benefits of the new business model, in particular the opportunities to scale: this has applied in nearly every existing business field, in many forms as different as equally interesting among them. Just to provide an example referred to the education sector, forced to suddenly shift towards distance learning, the Italian company Treccani, a leader in sales of encyclopaedias and precious books with an annual turnover of around €80 million, entered the school and education industry in 2017, setting up a subscription-based online platform (Treccani Scuola) aimed at middle and high schools. The emerging COVID-19 crisis forced it to accelerate its digital transformation process: by leveraging its digital assets, it moved its school online platform to a freemium-based model, resulting in an impressive growth in active users within a few weeks, from 20,000 in 2019 to more than 200,000 the year after, operating with a totally renewed business model[140]. Neither the Food & Beverage sector has been left alone in that sense: the online food industry's growth rates all around the world have hit the roof over the last 5 years, proving that millions of consumers are more keen on having groceries and meals delivered at

[140] J. Couturier, D. Sola. Strategic agilility in a time of crisis. ESCP Impact Paper No. 2020-32-EN

the press of a button rather than wasting their time finding a parking spot to go shopping or spending their evenings in front of the stove. This has led to an incomparable growth of platform-to-consumer delivery compared to traditional restaurant-to-consumer delivery; as a consequence, food delivery apps managed to boost significantly their performance and players are fiercely competing among them nowadays more than ever. In terms of geographic location, companies like Uber Eats are trying to establish in a position of top market player on a global basis, while some others are focusing and dominating mainly in single geographical areas: examples are Just Eat Takeaway and Deliveroo over the European market, Doordash in the US, and foodpanda in the Asian market[141].

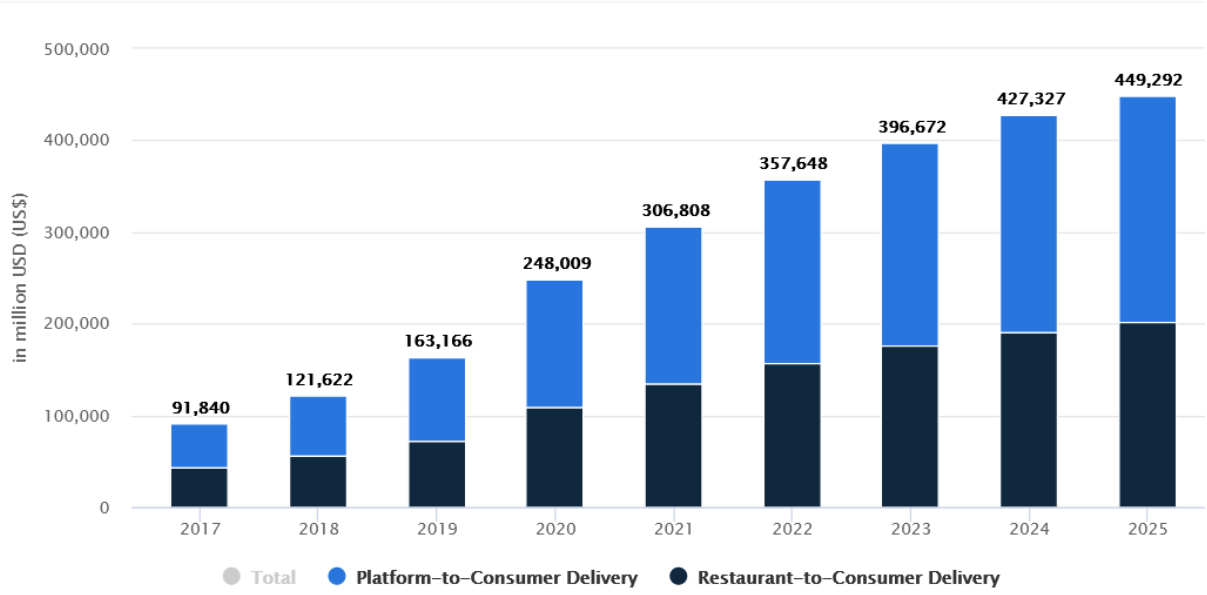

Figure 33: Online Food Delivery revenues - historic and forecasted (Updated - July 2021)

The value of online platforms is strictly connected to social networks' usage, considering that the COVID-19 pandemic has placed social media marketing squarely in the center of a company's outreach strategy, as one of most efficient ways to market during a crisis. It's crucial for businesses to have a strong online presence that communicates directly with customers and thrives in the new normal: this can be a difficult task to be performed, especially when those needs are changing in such significant ways and customers have had to adapt to a shifting world, but strategies oriented to a massive usage of social media together with a wisely process of brand refreshing can represent a great solution to strive through the crisis[142].

Social networks appear to be an exceptional tool for companies to implement a sound marketing strategy and to communicate with consumers, especially due to the speed with which

[141] The State of Food Delivery Apps in 2021. Sensortower report, March 2021.
[142] S. Porter. Social media marketing strategies for the post-COVID new normal. business.twitter.com/blog

information circulates and the low costs associated compared to traditional marketing. Benefits related to social network strategies are delivered to different business area, mainly to brand image, communication, and relationship management, and this is even truer in the case of SMEs where they represent important channels to advertise their brands easily and accessibly without requiringlarge budgets[143].

The attention is mainly focused on Facebook, which constitutes together with Google and Amazon the so-called "Big Tech triopoly", especially in relation to AD spending: U.S. advertising spend was worth just over $225 billion in 2020, and the triopoly accounted for more than 50% of that amount (roughly $120 billion)[144]. Apart from this, Facebook has accounted for relevant innovative investment also in other business features, especially from the workforce side. After announcing in May 2020 that half of its employees were expected to permanently embrace remote working even after the COVID-19 lockdown eases, Zuckerberg's giant has been seeing the future of work through the lens of mixed reality, where VR/AR platforms enable to enhance remote work. More specifically, Facebook imagines a virtual office setup with outward-facing cameras on a Rift or Quest VR headset that take in the room around the user[145]. The world's largest social network is known for its heavy investments in virtual and augmented reality and this has lead to the release of a test of its new virtual-reality remote work app in August 2021, which apparently shown to have affected about 4 million units in the United States, providing an estimate of Quest 2 headset sales which have not yet been officially announced by the company. In addition, Facebook reported non-advertising revenuecomes from the AR and VR part of the business as well as e-commerce, of $497 million in the second quarter of 2021[146].

Online platforms and social media are also recognized for an activity that has revealed as particularly profitable and inspiring during this period of social distancing: that of content creation. The value of this activity can be observed referring to companies' marketing activities, but also when focusing on single content creators able to use social network channels to spread their works and gain notoriety and reputation. A pioneer of this skill is certainly Onlyfans: born in 2016 as a simple website for content creators to post their works and allow followers to subscribe for a monthly fee, in the last few years it came out as being an exceptional tool for users. Considering the possibility to privately share materials with followers only and the full

[143] H. Nobre, D. Silva. Social Network Marketing Strategy and SME Strategy Benefits.
[144] https://www.visualcapitalist.com/3-companies-make-up-50-percent-of-us-ad-revenues/
[145] MarketLine Case Studies. The Future of Work: COVID-19 is accelerating technological and employment changes that were underway. (July 2020)
[146] https://www.reuters.com/technology/facebook-launches-vr-remote-work-app-calling-it-step-metaverse-2021-08-19/

protection offered by Onlyfans brand to creators, it became particularly popular among vips and models to share confidential contents: these contents include new songs spoilers by famous musicians, secret news about showbiz personalities, but also adult material - maybe the main reason of Onlyfans boom and nonetheless representing a disruptive danger for the porn industry.

Onlyfans's business model in particular is a feature recognized as significantly appetizing: creators are remunerated with around 80% of the collected fees, while only less than 20% goes directly into the pockets of the society. In that sense, Onlyfans embodies the essence of online subscription-based industry, emerging money-making opportunity for technical and creative entrepreneur as well as a faster-than-ever growing sector. It is worth to highlight that this is an opportunity available for companies as well: indeed, businesses can start conversations about the products and services they offer online, with the possibility to encourage communication and establish a growing community for its business. This strategy can be also useful to help companies in differentiating themselves from their competitors to existing and prospective buyers: through such a subscription-based social channel, businesses can build excitement about their offerings and drive up demand[147]. All these considerations lead us to Onlyfans numbers: over $3 billion paid to content creators until today, a sales increase higher than 600% year-over year, and last but not least an exponential growth in the user basis (1 million in 2017, around 10 million users in 2019, hit 1 million at the beginning of 2021 and more than 150 million today)[148]. Despite these outstanding results, the company unavoidably ended up in the center of a lot of harsh criticism related to the nature of most of its contents, and it has been announced that the social media would no longer allow sexually explicit contents starting from October 2021 - even if it is not known yet if the company will step back on this decision, would it be a killshot for the platform?

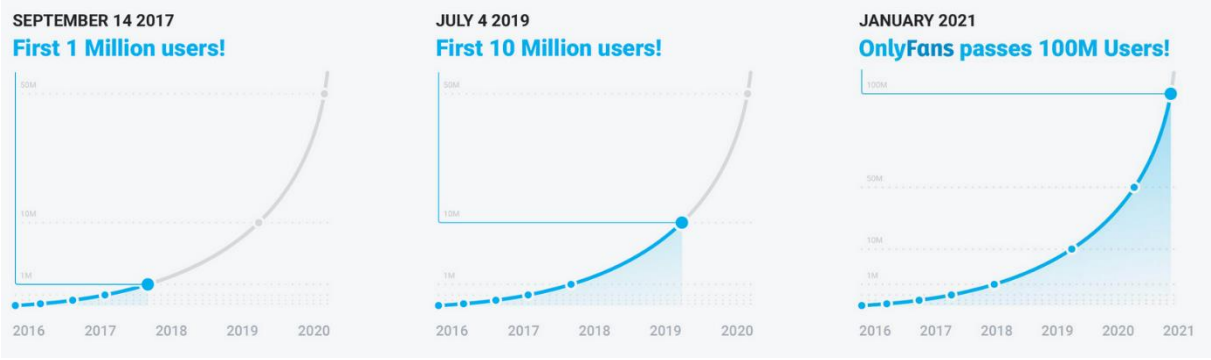

Figure 34: Onlyfans n. of users over years

[147] https://influencermarketinghub.com/glossary/onlyfans/
[148] https://onlyfans.com/about

It is clear that the COVID-19 crisis has contributed to make more visible new forms of competition and business leadership with digital platforms thriving despite the economic hardship. First of all, competition is challenged by a permanent "out of the blue" X factor with rapid and unexpected growth during this crisis: this is the case of Zoom or Slack for instance, whose openness, ease of use, digital infrastructure and ideal niche of remote work assistance has fit extremely well with the crisis-based and crisis aftermath market needs. This opportunity needs to meet with an appropriate response and client offering as the competition starts to get fierce amongst digital platforms. Secondly, today, and even more in the future, companies in the world of on-line platforms may experience a "15 minutes of fame" effect and quickly become known in a given market field. The new stars for instance, as those belonging to the online grocery shopping platforms segment, are now being challenged by the need to turn the market requests into a sustainable advantage that scales beyond the COVID-19 crisis times. The main second-effect issue, of course, is to stay alive after these 15 minutes and not go back to the unknown. Finally, these companies may be concerned by a "Achillis heel" syndrome: high performance, exponential user growth and increased security risk tend to result in the need for quick re-invention, adaptation, technology advancement and a new managerial skill set that can lead through the crisis time ahead. Lack of those skills and techniques can turn the growth opportunity into a threat: successful scale-up leaders need to focus on the opportunities that the current situation offers and think innovatively about their products and services as well as new sources of investments. They need to focus on digitalization of offerings and operations as well as on building collaborative, agile teams that adapt to fast-changing conditions[149].

Going back to BCG innovation ranking, the first 50 spots leave space for pharmaceutical companies, whose role in research and development of vaccines against the coronavirus have resulted in heavy investments and boosted growth, both in terms of performance and social acknowledgement. The pharmaceutical company Pfizer is ranked as the 10th most innovative company in the world: in 2020, in partnership with the German company BioNTech, it revolutionized vaccine development and production when faced with the challenge of helping to control the worst pandemic in living memory. The BCG report credits Pfizer-BioNTech with "the innovation story of the year" adding, "commitment and readiness helped Pfizer, in partnership with BioNTech, not only to cut the innovation time for a COVID-19 vaccine from

[149] R. Coeurderoy, U.A. Wiszniowska. COVID-19 and the scale-up of the platform revolution. ESCP Impact Paper No. 2020-41-EN

a decade or more to less than a year but also to ramp up production capacity to deliver much-needed vaccines"[150].

Pfizer is not the only name that can be found on BCG's list. Johnson & Johnson (20th), Moderna (42nd), and AstraZeneca (49th) have got praises similar to those reserved to Pfizer, according to their commitment in COVID-19 vaccine development; moreover, during 2020 there were more than 20 public- and private-sector organizations worldwide involved in this race. The growth importance of these pharma companies and the further commitment of many others realities have produced big changes in the market environment, especially from a competitive perspective. Big players as those afore-mentioned are excluding other competitors with a strong commitment of resources on vaccines development, are making partnerships with countries for medicine distribution and they are operating as a kind of counterposed holigopoly.

The pharmaceutical industry experienced the influence of pandemic outbreaks in many ways: delays in routine treatments, straining healthcare budgets, derailing drug development for non-COVID related diseases, and supply chain disruptions. The pharmaceutical industry was forced to adopt various digital technologies to overcome the challenges posed by the pandemic: digital transformation in that sense revealed crucial for improved patient care, cost-effectiveness, greater transparency, improved production, and drug development. Technologies such as cloud computing and cybersecurity helped the industry adopt remote working and perform decentralised clinical trials.[151].

Apart from its specific effects on the pharma sector, pandemic has severely impacted the whole healthcare industry. The magnitude of the outbreak has overwhelmed healthcare facilities, leading to a shortage of trained critical care professionals, insufficient bed spaces, severe shortage of testing kits, ventilators and personal protective equipment (PPE)[152]. It is true that successful rollout of mass vaccination programs in some countries has seen dramatic reductions in hospitalizations, enabling a build of up hospital capacity to treat other illnesses; on the other side, new spikes in cases experienced in some other areas have revealed continued shortage of necessary hospital equipment, plunging healthcare systems into fresh, persisting crises.

Again, the ambrace of digital technologies have represented a primary supporting tools to handle the pandemic outbreak over the last two years. Mobile communication and applications,

[150] Boston Consulting Group research. "Overcoming the Innovation Readiness Gap - Most Innovative Companies 2021".
[151] https://www.pharmaceutical-technology.com/news/COVID-19-accelerated-digital-transformation-of-the-pharma-industry-by-five-years-poll/
[152] Emanuel, E. J., Persad, G., Upshur, R., Thome, B., Parker, M., Glickman, A., et al. (2020). Fair allocation of scarce medical resources in the time of COVID-19. N. Engl. J. Med. 382, 2049–2055.

video-conferencing, and other information technology (IT) tools are helping to provide care outside hospitals during the pandemic. Other systems rely on communication technologies for tracing and tracking, remote patient monitoring, COVID-19 diagnosis and telehealth services.

5G in particular has shown to have many use cases defined specifically to provide next-generation care and safety. First of all, 5G can also be used to support telemedicine in the forms of tactile control communications, remote surgery and patient monitoring, with telemedicine supported by 5G to provide consultations over the phone or via video, especially in remote areas where health facilities are often in inadequate supply. Moreover, it can also help break language barriers by providing real-time translation and transcription services to allow countries to copy tested solutions implemented by those affected early by the pandemic. A common limitation of tools currently employed to combat the virus is the time-lag in accessing available data, with delays of up to 1 month or longer being common, which makes it difficult to implement a speedy response to spatiotemporal distributions of the disease and predict areas that might be more prone to near-future spread. Again, the high speed, bandwidth, and software-defined features of 5G can bridge this time gap and ensure timely availability of data, potentially saving many lives[153].

Countries such as China are using 5G and 5G-enabled robots to provide care, disinfect surfaces, dispense drugs and measure temperatures in hospitals and public places, and trace suspected cases. One of the main trend is that of wearable technologies coupled with wireless communications, whose usage helped to remotely monitor vital signs in patients and report to experts, making it possible for them to reach more people by cutting down on consultation time and reducing hospital bed occupancy. This is an area that has seen a massive growth in recent times: even before the COVID-19 crisis, the global smart wearable healthcare (SWH) market was expected to rise at a rapid pace of more than 5.6% per year[154]. Of course the need for detection and monitoring during the crisis has further increased their usage: in terms of the current COVID-19 pandemic, 5G provides the capacity to accommodate the increased demand due to exploding number of connected devices, as well as high reliability and low latency that may be required by some wearable applications, such as pacemakers.

In addition to dedicated wearable devices, some governments like those of China, Italy, and Israel, have also used regular smartphones to check whether people stay confined: taking

[153] Abubakar AI, Omeke KG, Ozturk M, Hussain S, and Imran MA (2020). The Role of Artificial Intelligence Driven 5G Networks in COVID-19 Outbreak: Opportunities, Challenges, and Future Outlook.
[154] Report Grand View (GVR), 2016. Wearable Medical Device Market Analysis and Segment - Forecasts to 2022, Market Research Report, ID: 978-1–68038-724-7.

China's specific case, the monitoring of smartphones, combined with facial recognition cameras, is allowing authorities to identify suspected coronavirus carriers. Meanwhile, mobile applications warn people about their proximity to infected patients in their daily activities. These developments in wearables and smartphone applications[155] represented a fertile ground for new business ideas across the world, also connected with other sectors such as mobility and transportations, one of the most critically hit by the pandemic crisis. An interesting innovators in that sense responds to the name of "Vivacity Lab", a British startup founded with the ambition to change the transport industry using their comprehensive data to drive real-time optimisation of the transport network. Thanks to an integrated combination of computer vision, IoT hardware and control systems, and optimisation AI algorithms to enable accurate detection, classification and analysis of different transport modes and traffic movement allowed to develop a 24/7 mobility data capture tool to help the government monitor social distancing in order to perform an ex-post assessment on policies' efficacy. Vivacity project revealed as particularly successful and its appeal has landed in other countries too: recently, Vivacity has expanded in Australia, thanks to a partnership with City of Port Phillip (CoPP) and Bycicle Network that will promote active travel, and particularly the use of bikes and e-scooters, in local area, with Vivacity technology supporting the council to make data-driven decisions and implement new schemes successfully[156].

Implemented restrictions over national and global travels have unavoidably led to a reduction in the workforce in transportations's and most travel-related sectors; the travel bans have directly or indirectly led to loss of several billions of dollars from airlines and affiliated industries, also considering a dramatic drop of the global passenger volume in order to contain the spread of the virus. In the same vein, the tourism industry suffered its worst year on record in 2020, with international arrivals dropping by 74% and 1 billion fewer international arrivals worldwide compared to 2019. Europe recorded a 70% decrease in arrivals, despite a small and short-lived revival in the summer of 2020, suffering the largest drop in absolute terms, with over 500 million fewer international tourists in 2020; the Americas saw a 69% decrease in international arrivals, following somewhat better results in the last quarter of the year[157]. Even 2021's data from the first five months look worrying, as showed in the chartline below.

[155] A. Brem, E. Viardot, P.A. Nylund. Implications of the coronavirus (COVID-19) outbreak for innovation: Which technologies will improve our lives? Technol Forecast Soc Change. 2021 Feb; 163: 120451.
[156] https://www.bikebiz.com/vivacity-labs-expands-into-australia-with-bicycle-network-partnership/
[157] https://www.unwto.org/news/2020-worst-year-in-tourism-history-with-1-billion-fewer-international-arrivals

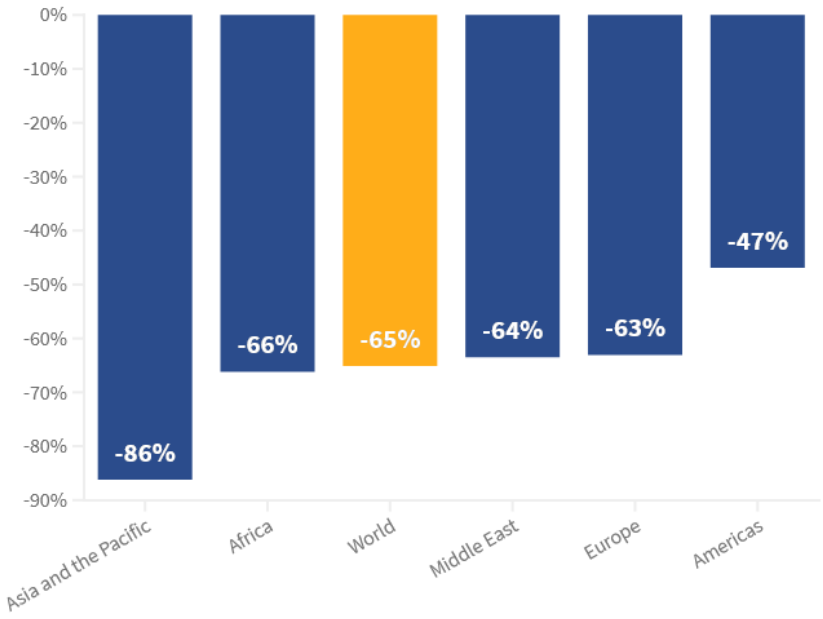

Figure 35: International Tourist Arrivals, % change Jan-May 2021 vs 2020, by region

Since travel is requisite for tourism activity, any factor that hinders traveling may have a profound impact on tourism industry; an international issue, such as the COVID-19 pandemic, is particularly a typical example. The World Tourism Organization has noted that the tourism industry is one of the hardest hit by the current pandemic, also considering that generally it is recognized as extremely vulnerable to numerous factors, such as natural disasters, daises pandemic, and terrorism. Moreover, the travel agency industry is associated with many other businesses, like transports and hospitality: since many of them are interrelated, each collapse could have a significant impact on the others, with the word 'tourism' standing in the epicenter and in the position of suffering immensely when any faces a problem[158].

Crisis has been a call to action to governments, at all levels, to respond in a co-ordinated way, and has highlighted the importance of integrated tourism policy approaches to support recovery. Delivering well-targeted and accessible supports as quickly and efficiently as possible to vulnerable tourism businesses, workers and tourists has and continues to be crucial. Overall, the immediate and first response from governments consisted of cross-cutting fiscal and monetary measures to mitigate the economic impact of the crisis, with a special focus on SMEs liquidity, and protect jobs in the most severely affected sectors. By far the most common measures adopted by countries referring to tourism were mainly three: fiscal stimulus packages adopted together with important monetary measures; complementary specific packages aimed at sustaining jobs, income and livelihoods; lastly, initatives addressed to support the restart of

[158] Shih-Shuo Yeh (2021) Tourism recovery strategy against COVID-19 pandemic, Tourism Recreation Research, 46:2, 188-194.

tourism and the promotion of domestic demand. To quote some examples: countries like Germany, Norway and Turkey have temporary reduced the VAT rate for some sectors such as transportations and airlines; Cyprus has approved a fund for the implementation of actions to support tourism in cooperation with airlines and travel operators, , as well as actions to boost tourist demand from October 2020 to March 2021; countries like Greece, Argentina and Singapore offered support and flexibility to the workforce, for example by temporarily suspend contracts while offering a compensation to workers through this period. Technology as well played an important role: it is the case of Thailand, which managed to create a Big Data Storage System Development Project to be ready to use in the form of Smart Data and addressed to touristic market intelligence activities[159].

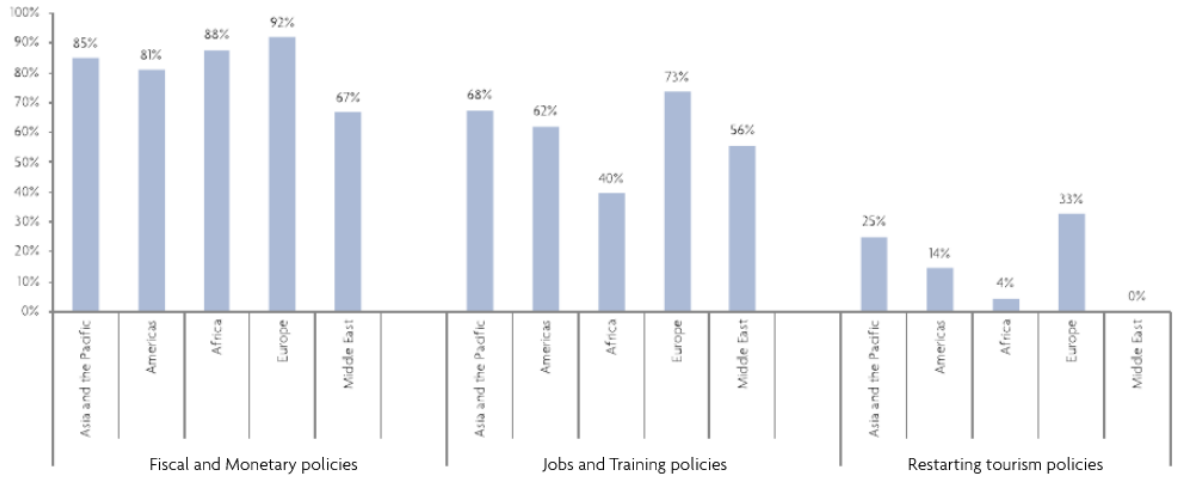

Figure 36: % of countries adopting policies per region (n=167)

News of 'vaccination passports' continues as a mean to rejuvenate the travel and tourism sector. By storing COVID-19 vaccination data alongside test results and/or anything else required, destinations, industry bodies and companies worldwide are developing an app of this kind: most recently, the EU Digital COVID certificate has been approved and it seems to be able to play this role. As destinations worldwide plan to reopen, this may see more regional forms of vaccination passports created as tourists still look to travel closer to home[160]. While positive news on vaccines has boosted the hopes of tourism businesses and travellers alike, challenges remain: government at all levels, and the private sector, need to be better prepared and have the capacity to react and adapt quickly. This requires more robust risk assessment and crisis response mechanisms, and closer co-ordination – at local, national and international level. Strengthened multi-lateral co-operation and robust support is essential to reactivate tourism.

[159] UNWTO. How are countries supporting tourism recovery - UNWTO BRIEFING NOTE – TOURISM AND COVID-19, ISSUE 1 (June 2020)
[160] MARKETLINE – COVID-19 Executive Briefing – Updated 16/07/21

Countries need to work together, as the actions taken by one government have implications for travellers and businesses in other countries, and for the global tourism system. Countries need to develop collaborative systems across borders to safety resume travel, restore traveller and business confidence, stimulate demand and accelerate tourism recovery. More efficient international co-ordination systems are also needed to respond to future shocks[161].

Therefore, tourism-related organizations need to be well prepared in countering and recovery strategies. Among the most hit companies in tourism-related sectors, Airbnb suffered a sharp decline of its business: the travel world to which Airbnb is linked has dramatically collapsed due to the global lockdown, together with listed companies such as Marriott International, Hilton Worldwide, and Booking.com which have lost up to 40% of their value on the stock market. Airbnb itself reported in March to have lost bookings by over 40% in Europe and China alone: this also led to an interruction in the firm's growth, as Airbnb's announcment of listing in 2020 were suddenly stopped by the coronavirus pandemic which virtually closed the IPO market. Despite all these obstacles, Airbnb reacted by strategically modify its business model and its single components in a smart way, starting by focusing on its core-business: the hosting experience. This revelead particularly effective because of strict limitations that had been introduced: constraints to abroad travel stucked people in looking always more for local stays, so the right move was that of focusing on long-term stays and invest in the related hosting experience offered to customers. This last choice have been integrated with creativity by Airbnb's team, who exploited the power of technology and rode the way of digital collaboration by creating a segment for Online Experiences. This new product offers a virtual hosting experiences as virtual as dynamic, considering the important involvement of customers through sharing creative projects, talking with hosts and being engaged in entertainment activities suc as meditation and live cooking classes. These actions, together with other moves oriented to fast adaptability to the emergency landscape (e.g. quick revamp of company's website and investments in a multichannel online communication with the clientele), allowed the company to offset some hard decisions, such as a relevant cut to the workforce (aimed of course at a process of cost reduction) and the heavy commitment of fundings to provide refunds for cancellations (orientated to build and maintain customer basis's trust in the Airbnb brand)[162]. Carrying with itself a clear startup mindset inherited from Silicon Valley experience, Airbnb's choices turned out as essential to reduce the pandemic impact on the business, while confirmed

[161] OECD Policy Responses to Coronavirus (COVID-19). Rebuilding tourism for the future: COVID-19 policy responses and recovery (December 2020)
[162] T. Taulli. How Airbnb Beat The COVID-19 Virus. Forbes, November 2020.

its status of driver of change and evolution in the hospitality sector, positioning also as an example to be followed by the other players in the sector.

It is clear that every transport-related industry has heavily suffered the impact of the pandemic: as an example, the aviation industry saw a drastic decrease of the number of global passengers in 2020 (1,76 billion vs 4,5 billion before the pandemic), producing a consequent downgrade of financial performance in the sector, with commercial airlines' passenger revenue amounting to $189 billion at the end of 2020 (vs $581 billion defore the pandemic) and 124,8 billion losses reported for global airports during that year[163]. In parallel, a dramatic downturn invested automotive industry, which historically plays a major role in the economy by generating various business services and influencing a vast supply chain. Already before the global spread of the COVID-19 pandemic, the automotive industry had to face several challenges related to climate change and a fast changing consumer demand. Major disruptions related to connected, autonomous, shared and electric mobility have been transforming industry, consumer behaviour and production facilities and forced industrial players to find new solutions, change production, and initiate new fleets.

Though the first coronavirus wave, shutdowns of Chinese factories represented the major disruption factor for the industry, especially across EU Member States experiencing an average closing time for factories of 30 days (shorter in Sweden, longer in Italy) and affecting more than 1mln jobs in the sector. The second wave has been showing to be less severe in the stringency of its measures. In addition, car purchasing incentives, including tax incentives and purchase subsidies from governments, have been substantially higher. Moreover, in many countries, registration offices and service centres have remained open during the lockdowns, which improved the overall business practices during the second wave as compared to the first[164].

From the third quarter of 2020 through the first quarter of 2021, automakers around the world have seen rapid (and in some cases, record) levels of production. As with multiple industries across geographic regions, the pandemic has brought a great acceleration of the trends across the mobility value chain that were building before it occurred. Even before the pandemic, consumers could explore vehicles online to compare prices; experience virtual, 360-degree views of the vehicle; and visit carmaker websites to "build their own cars." During the

[163] E. Mazareanu. Coronavirus: impact on the aviation industry worldwide - statistics & facts. Statista report, August 2021.
[164] Policy Department for Economic, Scientific and Quality of Life Policies - Impacts of the COVID-19 pandemic on EU industries

pandemic, when dealerships around the world scrambled to meet evolving in-person restrictions, the technology proved invaluable. Some dealers closed their sales floors to the public and engaged with customers over the phone, via videoconference, or by special appointment only. Potential buyers could also take advantage of sites and apps that helped them explore and arrange related services, such as financing and insurance, remotely and virtually as part of the car-buying process. Similar dynamics of legacy and digital are playing out in vehicle manufacturing as well. In supply chains, for example, some vehicle lines that had been operating on 50 to 60 days' supply are down to only ten to 15 days' supply. Those supply pressures aren't (yet) manifesting in notably higher prices for the consumer; rather, the squeeze is being felt across the supply chain, with customers getting more car for less money than they did ten or even five years ago[165].

Another issue emerging in the automotive industry relates to the changing circumstances of the industry, namely relative to the development and expected uptake of connected, autonomous and electric vehicles. COVID-19 is argued to accelerate and amplify these trends and contribute to affect consumer behaviour. As with car buying, digital is driving greater transparency in manufacturing and this trend is greatly accelerating because of the pandemic influence. In fact, for the industry at large, we expect that the core autonomous, connectivity, electrification, and smart, shared-mobility (ACES) trends will continue to accelerate. During the height of the pandemic in 2020, investments in smart and shared mobility fell significantly from the second quarter to the third quarter, and investments in autonomous driving plunged even more sharply. But investments in connectivity actually increased, and while those in electrification barely dipped—and then rose dramatically from the third quarter to the fourth quarter of 2020[166]. The COVID-19 pandemic seems to accelerate the growth of the electric vehicle market, as firstly consumer behaviour is changing towards more private mobility instead of pubic mobility to reduce contagion risks, while at the same time, regulators are intensifying activities for climate protection in the mobility sector. Moreover, recovery measures linked to the green transition are incentivising investments in this sector.

Other interesting sectors are emerging as strategically valuable for the automotive industry. The most representative is that of CAVs (Connected and autonomous vehicles), so basically the transition to autonomous driving: it holds a significant potential not only for sustaining market leadership and employment but also for improving motorway safety and the efficiency and

[165] McKinsey Quarterly. How the automotive industry is accelerating out of the turn. (July 2021)
[166] McKinsey Quarterly. How the automotive industry is accelerating out of the turn. (July 2021)

resilience of supply chains. Apart from the traditional automotive value chain subsectors, the CAV value chain is characterised by key technologies such as radar sensors, mapping hardwares and control systems. Europe is well-positioned to take a leadership position in the market of CAVs, due to its strong legacy and innovation in Advanced Driver-Assistance Systems (ADAS) and Cooperative Intelligent Transport Systems.

Even so, as the pandemic-related restrictions have eased in some areas, customers have flocked back to dealership floors. Many people still want to interact with a dealer and to see, feel, sit in, and test-drive their vehicles before buying them. For now, different platforms, both physical and virtual, are existing side by side, simultaneously complementing and competing with one another. Ready reactions of fast movers such as Porsche, Volkswagen, and Volvo allowed them to position at the vanguard of selling by means other than a dealer showroom; in the meanwhile, other automakers around the world, even those with strong, legacy dealer networks, are experimenting with new dealer- or manufacturer-led models for selling and servicing vehicles. In this crowd we can observe the most chat firms of the last years shining as one of the most well-positioned realities through the pandemic bad weather: also considering the main highlights on his performance between 2020 and 2021, it is possible to state that the COVID-19 pandemic is a crisis tailor-made for Tesla and one upon which Musk is even now capitalizing. The main strategic weapon Musk's company has used is the focus on e-commerce: while parking lots are filling up with unsold cars and dealers are champing at the bit to be allowed to sell cars, Tesla Motors continues to deliver cars directly to consumers. Musk even went so far on the earnings call as to tout his progress toward a touchless vehicle purchasing proposition allowing a vehicle acquisition to occur within five minutes from a mobile phone app. The company is planning to overhaul its sales experience by emphasizing an online sales experience over offline sales: a Tesla central virtual store will be primarily responsible for sales. Online advisors at the store will coordinate the sales experience, from enabling potential buyers to unlock cars for test drives to ensuring physical delivery of a purchased car, virtually. As part of this strategy, this move will help Tesla cut down on expensive real estate rent, by getting rid of expensive showroom space, focusing rather on renting out inexpensive space in mall parking lots, warehouses, and "other locations" for test drives and delivery of its cars.

Tesla strategy take place also from a geographic perspective: considering increased competition from cheaper original equipment manufacturers (OEMs), the company has reduced the car's price in China to boost sales. This Tesla playbook is not a new one: the company reduced prices on several of its models after launch in the United States, only to hike them subsequently. It is

likely that Tesla is following a similar strategy in China: if on the one side reduced prices may help Tesla garner market share in China, on the other they also have the potential to crimp its margins[167]. This approach allowed Musk's giant to fiercely compete with some of the main foreign realities in the sector: in particular, "the Chinese Tesla" Nio has been one of the most interesting case study to be analyzed through the pandemic. This Chinese electric vehicle manufacturer has impressed impressing electric vehicle buyers in China during the last months and also revealed as a digital innovator in his sector, for example by implementing its Nio Life lifestyle app. The logic behind this move has been well explained by company's CEO Shen, who explained that since buying cars is less frequent than taking a flight or shopping in a supermarket, the idea of Nio is that of creating an app offering other parallel daily activities to keep in touch with customers. Nio's lifestyle app, which brings together social media, e-commerce and daily commuting, now has around 150,000 daily users; Nio also manages its own digital currency with exchangeable credits that customers can obtain from buying a car, attending events or even publishing their own stories on the Nio app. This implementation owns an important strategic value too, enabling the Chinese carmaker to tap significantly into brand loyalty: it is not by chance that NIO Life, since its first launch in 2018, have built a strong network with over 500 designers around the world, developed 813 new products, and delivered over 2.8 million NIO Life merchandise to our users[168].

This analysis suggests that mobility will continue to become more digital, more connected, and especially more electric. Since changes in mobility require changes in capabilities, it's also clear that automakers will have to adjust their organizations, such as by ramping up the number of software engineers relative to mechanical engineers, significantly. In all, automakers may need to reskill up to one-quarter of their current workforces. These trends will continue to accelerate as the industry moves further from the COVID-19 crisis.

From a corporate perspective, we can conclude that surviving COVID-19 or even benefitting from it depends on several factors. First, it depends on the industry, so the degree to which the sector's activities have been hit by the pandemic (ex. travel industry vs medical devices). Second, it depends on a company's degree of resilience, defined as the capability of adapting well in the face of adversity, trauma, tragedy, threats or a significant source of stress: resilience influences the ability to re-configure business models into hybrid ones where the digital sphere becomes a real alternative, rather than second best after the offline model. Third, brands'

[167] R. Sharma. Tesla (TSLA) Plans for Future, Makes Changes to Business. Investopedia Company News, July 2021.
[168] https://www.nio.com/blog/nio-life-three-years-old

promptness and response to this unprecedented crisis will make a difference in consumer trust and brand familiarity, and eventually in post-pandemic sales and market share recovery[169].

An interesting article produced by Fitch Solutions[170] identifies expected recovery outlooks with regards to sector: as imagined, sector such as Technology and Healthcare are forecasted as outperforming through 2021 and sequent years, as well as Infrastructure and Energy heavily supported by governments' investments. Food & Beverage presents a neutral outlook and spending patterns emerging in 2021 will support the process of recovery forecastings, while for example Oil&Gas could be underperforming as global prices, production and consumption in 2021 are expected to remain below pre-pandemic levels. Of course, we will experience this recovery with an high degree of divergence based on regional outlooks: advanced economies are projected to recover faster than emerging market and developing economies, having the fiscal space since the beginning of the crisis to implement effective stimulus measures, and many now can quickly roll out vaccines. This bloc tends to have larger work-from-home flexibility in conducting business as they generally have higher technology intensity in the production process and digital infrastructure. United States is projected to surpass pre-COVID levels of GDP in 2021 thanks to a rapid vaccine rollout and three rounds of stimulus checks that have kept American consumers spending through the pandemic. The European Union (EU) is expected to recover to pre-COVID GDP levels a bit later, in mid-2022, due to a slow vaccine rollout and dependency on sectors that rely on human contact and interaction, such as tourism, cultural and creative industries. Conversely, developing countries historically do not have as much room in their budgets to stimulate their economies, and have not been able to vaccinate their populations as quickly as advanced economies. Lacking access to vaccines effectively places a ceiling on growth, and some estimates project that developing economies will not have widespread access to vaccines for several years. Businesses in developing economies tend to depend more on face-to-face interactions and have fewer work-from-home jobs[171]. Lastly, fragile and conflict-affected low-income economies have been the hardest hit by the pandemic, and per capita income gains have been set back by at least a decade: also considering the lag in the vaccination campaign, their recovery prospects have been revised lower and this lead to an outlook of persisting difficulties for most vulnerable countries (but also social groups) and a dramatic increase in global world poverty[172].

[169] F. Pucciarelli, A. Kaplan. Force for good: Social media's bright side restored. ESCP Impact Paper No. 2020-33-EN
[170] Fitch Solutions. COVID-19 Global Industries: 2021 Recovery Outlook - Identifying Outperforming Sectors (December 2020)
[171] https://blog.trade.gov/2021/06/15/exploring-the-global-economic-recovery-from-COVID-19/
[172] World Bank. The Global Economy: on Track for Strong but Uneven Growth as COVID-19 Still Weighs (June 2021)

The COVID-19 crisis seemingly provides a sudden glimpse into a future world, one in which digital has become central to every interaction, forcing both organizations and individuals further up the adoption curve almost overnight. A world in which digital channels become the primary (and, in some cases, sole) customer-engagement model, and automated processes become a primary driver of productivity—and the basis of flexible, transparent, and stable supply chains. A world in which agile ways of working and thinking are a prerequisite to meeting seemingly daily changes to customer behavior and carry on business activities in innovative and smart ways[173]. However, what is really important for whichever business reality is that of avoiding losing the focus on the concept of "business resilience", a business-wide concept that merges crisis management and business continuity, and intended as the ability of organizations to rapidly adapt and respond to all types of risks. The post-COVID era opens a new challenge for sustainable business transition, and strengthen supply chain and production and business system more resilient: also as a part of corporate strategy, a solution to take account of might be the achievement of a proper degree of business resiliency through the combination of collaboration, digitalization and sustainability. It would be then necessary to develop end-to-end risk assessments and to identify critical risk scenarios on the basis of which define proper response actions and equip themselves with the right contingency capabilities based on the resilience strategy. Businesses will be judged in real time on how they manage the challenge, their behavior and strategic choices could represent an informed response useful to build trust and brand affinity, whereas poor decisions could pose a real reputational risk, and this fork could represent the key for coming out alive from the pandemic crisis[174].

[173] McKinsey Digital. Digital strategy in a time of crisis. 2020, p.2
[174] https://www.ey.com/en_bh/COVID-19/how-to-strengthen-business-resilience-during-disruptive-events

CHAPTER 3 – FITPRIME: STORYTELLING OF A REVOLUTION IN THE WORLD OF WELLBEING

PAR. 3.1 – Company profile and industry trends: innovating fitness through its hardest days

The bursting of digitalization onto the global economic and strategic scenario has generated a radical redefinition of the great paradigms of the new millennium, not least of which the industrialization and the forms of work related to it, contributing to the creation of a common vision of a society founded on the shortening of time.

Even in the world of Fitness, new horizons and new digital technologies have opened up in this period. Through the implementation of useful computer platforms, they have brought the practice of sports in one's own home into people's daily lives, thanks to recorded lessons and live training experience also promoted by corporate welfare. For this reason, apps have become the undisputed protagonists of a revolution just a click away. Among the companies that have understood the advantage of allowing individuals and public and private employees to devote themselves to the person, health, wellness, fitness and sport by practicing activities according to their own time availability, without having to stick to imposed times and places, it is possible to find Fitprime, the Italian fitness marketplace.

Fitprime is a startup born in the January of 2016 from the idea of four guys willing to launch an innovative wellness solution capable of revolutionizing and "rejuvenating" the world of fitness, for too long still and far from any form of innovation, and at the same time from enabling people to train without any constraints.

The basic idea was to combine digital technology with love for sport and physical activity, freeing anyone who wants to practice a sport from constraints in time, space, and activity. Thanks to Fitprime it is no longer necessary to choose whether to train in the gym near your home or the one nearby to your workplace, nor to commit to annual subscriptions often used very little, perhaps only half months. The revolution is that of uniting multiple sports centers in

a single marketplace, but also guaranteeing an offer that includes a single, flexible subscription for sports centers, swimming pools and gyms throughout Italy. Through its online platform and the web / mobile app, the idea to be realized is that of making the concept of a totally digital sport center, within which people are finally able to live their wellbeing experience in total freedom. This is therefore Fitprime vision: to have a positive impact on people's wellbeing, through a flexible and complete experience that guides them towards change of people, firms and employees themselves..

The business started officially in February 2016 with an exclusive focus on B2C segment, classifying Fitprime's service as addressed to the consumer world and oriented towards an immediate expansion in terms of number of users. The startup found immediately the strong support of Lventure Group, a venture capital company that through its startups accelerator, Luiss Enlabs, invests in young businesses with high scalability and growth outlooks: Fitprime's idea and model fascinated the investors audience and managed to achieve the first €400.000 capital raising of the company in its own year of birth. The following year, fortified by the excellent results collected in the consumer market, Fitprime started testing a new business ground in order to enlarge its operating field: it was the corporate welfare, a rapidly growing market that presented, according to the 1° Censis-Eudaimon Report on corporate welfare[175], a market size of around 7 billions and a potential of 21 billions, with "partnerships with gyms and sport centres" recognized as the most widespread initiative within this market. It represented opportunity to enter into a segment more B2B oriented and to position as a provider of products and services addressed to benefit employees' wellbeing. Results obtained in the first 6 months by the newly implemented offer revealed a great profitability potential, delivering to the company around €20.000 in revenues through the last semester of 2017. Fitprime managed in this way to enhance its appeal, doubling its market valutation compared to the previous year, and collecting a new appraisal of capital, amounting around €250.000.

Corporate welfare represented the prelude to a business extension, first of all favouring the introduction of a new product into Fitprime's line of services: Lifestyle Nutrition, aimed at offering to customers a diet consulting delivered through a digital platform and with the support of qualified biologists and nutritionists. But the real step ahead was represented by the opening of a new, totally B2B oriented division. Indeed, in 2018 Fitprime started to operate more closely with welfare providers, extending the number of collaborations and the user basis in that sense. At the same time, Fitprime started addressing corporate firms too, launching at the end of year

[175] Censis. 1° Rapporto Censis-Eudaimon sul welfare aziendale (2018)

Fitprime Corporate, a digital platform compliant with Italian welfare regulations, and committed to support companies in their wellbeing and corporate wellness programs. Considering the increasing importance of corporate welfare in the renewal and integration phase of national collective labor agreements, Corporate platform allowed to capture the opportunity to implement welfare plans in the field of fitness and wellbeing in a broad sense, in order to encourage improvement and optimization of working climate and staff productivity. This proved to be a sound and strategic business move, which was worth to company an additional turnover of around €60.000 through that year, beyond the expansion of the clientele and the diversification of the offering. Thanks to these business insights and its excellent performance, Fitprime was even awarded with the 1st prize of the Web Marketing Startup Competition, delivering to the company €75.000 and a valuable prize to be displayed in the showcase.

2019 was definitely the best year of the startup: with both the customer segments operating at their full capacity, Fitprime achieved its first € millions in terms of business revenues together with a relevant improvement in terms of cost efficiency; orientation to digital was confirmed through a growth of company's endowment of tech resources and a progressive enhancement of platforms' functionalities; lastly, Fitprime's network enlarged significantly, reaching more than 1000 affiliated sport centres, and entering into agreements with big corporate realities of the caliber of BIP S.p.A and Capgemini. Beyond other awards like the nomination as the best startup in the sport category, assigned by StartupItalia, and the participation to the final of B Heroes Startup Contest, the pre-coronavirus year saw also a third capital raising of €750.000, the most relevant up to this point, underwritten mainly by business angels such as Lventure Group, Boost Heroes, and FIT20, belonging to IAG and Club degli Investitori of Turin, among the biggest deal clubs in Italy.

One of the keys of Fitprime's success through its first years of life has been its leadership team: besides its long-time experience in the market, since the beginning it has involved a group of individuals with vertical competences in the wellness market specifically, together with a strong propensity to digital environments. Fitprime team grew significantly over the years and currently it counts around 40 people between employees and collaborators, dislocated between the two company's offices (One in Rome, and another in Milan), who are organized within 7 different company divisions: Administration&Finance, Marketing, Customer Care, B2B, Sales, Developers, and TV. Fitprime's internal tech team in particular can ben identified as the crown jewel of the team: it is employed in the development of the entire back-end infrastructure, as well as of the various web clients and internal business intelligence tools; development

activities performed by this division are carried out with the aid of H42 s.r.l., an external supplier which provides three additional resources with strong verticality in the field of native mobile development and video platforms, used jointly with the internal team.

The business infrastructure is managed entirely in the cloud, deployed on instances of the main providers on the market (such as AWS and Google Cloud Platform), and makes use of different technology stacks selected and calibrated on the basis of the individual service. More specifically, Fitprime's software architecture is designed following a hybrid microservices pattern: it is composed of a service-oriented core, interacting with other independent and heterogeneous components arranged over different levels, developed around the various business capabilities. At the core-level of the architecture it can be found a legacy application interacting with the main storage for the delivery of core services and delivering REST APIs for the main clients and for different microservices. At the mid-level there are instead some microservices developed over time that communicate with the main application by exchanging data and functionalities related to specific business areas or to certain evolutions required by the business. This architecture allows the adoption of the most suitable technologies for each type of service, as well as all the classic advantages of an infrastructure based on microservices - scalability, ease of maintenance, resilience.

Fitprime positions itself as an innovative solution for a large audience of different customers, going from casual fitners in need of working out only in certain periods of the year, to sports centers which get the opportunity to reach a clientele otherwise not accessible, but also corporations and their employees looking for welfare alternatives able to incentivize corporate population wellness. As inferred from the previously described Fitprime's journey, the team's choices turned out to be right and profitable, also considering the subject market it was operating into, historically recognized for its appeal and its growth perspectives.

From the GWI report of October 2018[176], defining the wellness economy as comprising a series of sectors including Fitness, Nutrition and Personal Care, its global reach in 2017 resulted in a value of approximately € 3.6 trillion (approximately 5.3% world economic output), showing an annual growth rate of 6.4% in the three-year period 2015-2017, almost double that of the global economy. The main sectorial trends presented in the Global Wellness Institute report of 2019[177] concerned in particular the mindful movement (e.g. yoga), with an expected growth of 12% per

[176] GWI Annual Report 2018 | Global Water Institute
[177] GWI Annual Report 2019 | Global Water Institute

year in the five-year period 2018-2023, and technology, which in this context will constitute the second market in terms of growth (8.6% per year).

Referring specifically to the fitness industry, its market value amounted approximately € 75 billion globally and € 31 billion at European level in 2019. Historically, it has been a market characterized by high fragmentation, but at the same time by stable and organic growth, thus allowing to level the rivalries between operators and ensure a certain sustainability in terms of profits. According to some forecasts, market performance, despite the downturn attributable to the COVID-19 epidemic, is expected to grow between now and 2023, with an expected increase in revenues of about 4.3% per year[178]. The Deloitte Health & Fitness 2020 Report[179] highlighted some very interesting data for the past year in the European context: subscriptions to European clubs increased by 3.8%, reaching 64.8 million in 2019, and positioning fitness as the sport activity n. 1 in Europe; total revenues of the fitness club were € 28.2 billion (+ 3.1%); the number of facilities increased by 2.3% to 3,644 total units; the European health & fitness market continued its growth, involving 2.4 million new members.

Italy ranks as one of the most important countries on a continental level: the data show that 8.4% of the value of this market is represented by our country, placed behind only Germany, UK and France, and the revenues generated by the sector showed an interesting growth between 2015 and 2018 (about 2% per year). Forecasts seem encouraging as well: by 2023 it is estimated that the market value could go up to about 2.6 billion euros, realizing an increase of 10.1% compared to the current situation[180]. The degree of concentration of the italian market is currently quite low, and the main competitors of Fitprime in terms of the subscription and B2B Corporate offer can be identified essentially in two main players:

- **Gympass**: Brazilian startup founded in 2012 and landed in Italy in September 2016, it is currently the largest chain of affiliated sports facilities, having entered into over 30,000 partnerships with sports centers around the world between Europe and the Americas. In Italy in particular, they have an interesting business estimated to be higher than $4Mln and a network of above 2500 active sports centers. Its positioning is exclusively B2B, so the possibility to buy subscriptions is offered only to client companies' employees, and the product results as not particularly advanced, being the offer focused only on subscriptions.

[178] MarketLine Industry Profile. Gyms, Health & Fitness Clubs in Europe (February 2020)
[179] Deloitte. EuropeActive European Health & Fitness Market Report 2020
[180] MarketLine Industry Profile. Gyms, Health & Fitness Clubs in Europe (February 2020)

- **Urban Fitness**: born as a start-up in Germany and founded in 2012 as well, with an annual turnover of around $30Mln and a geographical presence across Europe, being the company active in countries like Spain, France, Italy, Portugal, and the Netherlands. Unlike Gympass, the business operates both in B2C and B2B segments: the product includes only the subscription part, and its main weakness ss mainly linked to the limitations in the entrances to sports centers – so a maximum number of entrance allowed for a signle sport center on a omnthly basis. After two years of presence in Italy, their business results still stucked and negligible: they have not managed to acquire corporate customers and their B2C business has been estimated to be around € 80,000 per year.

Taking into consideration also non-direct competitors, therefore not present on the Italian market but operating at internastional level, the first name to be mentioned is that of **Classpass**, a startup founded in the US in 2012 and having a worldwide reference (America, Asia Australia, and several European countries). Their focus is purely B2C, with a slightly different operating mechanism based on the purchase of class packages and not monthly passes that allow entry to sports centers without additional charges, and their sport centres acquisition strategy is based on a management software called MindBody - it is absent in a capillary way in Italy, justifying its absence on the Italian territory. Then **Gymlib**: French-born startup founded in 2012, it operates on the on the French and Belgian market with an exclusive B2B focus and a single product on the sports season ticket. Lastly, **BenefitSystem**: this company operates in the corporate benefits sector and boasts a strong presence in Poland and other Eastern countries; its product is managed by card and the most important verticality to date is represented by the sports one.

The initiatives undertaken, with the use of adequate financial and human resources, for the expansion of operational objectives and the strategies implemented up to that point have been seriously jeopardized by COVID-19 pandemic, whose hit on the fitness sector led to activities' full closure, and the appearance of the first cases of the COVID-19 infection heralded impending problems for gym and fitness club owners. Despite the closure of schools, kindergartens, nurseries, universities, as well as cinemas, theatres, and museums, sports facilities were still functioning for a few days, although with much lower physical presence than usual due to mandatory social distancing, which has severely limited the capacity of users and the availability of sometimes very expensive health and safety tools and devices. Then, with the declaration of the state of epidemic hazard, the fitness industry's operations became

completely blocked. In the post-waves periods when a gradual unfreezing of the economy were likely to be observed, gyms and fitness clubs' have been among the latest activities in the economic panorama to which reopening has been granted. Moreover, this sector suffered the start-and-stop governments' strategies more than many other industries and entrepreneurial activities: this "opposition" to sport activities environments has been considered as incomprehensible by industry's entrepreneurs and fitness industry representatives in particular, considering that athletes and structures were properly observing the imposed sanitation regime[181].

This approach to the industry produced huge damages: a long list of sport structure worldwide have been forced to closure, and the global gyms, health & fitness clubs market shrank by around 10% in 2020 compressing the overall turnover to €66.8 billion. A recovery is expected to start already in 2021, undertaking a growth process leading the industry to reach a €78.6 value by 2025, with a CAGR of 3.3% over the 2020-2025 period: it will of course depend on epidemic developments and pressures on the sector, with additional closures that could knock-down the market once again and shut down a lot more business reality striving for survival[182].

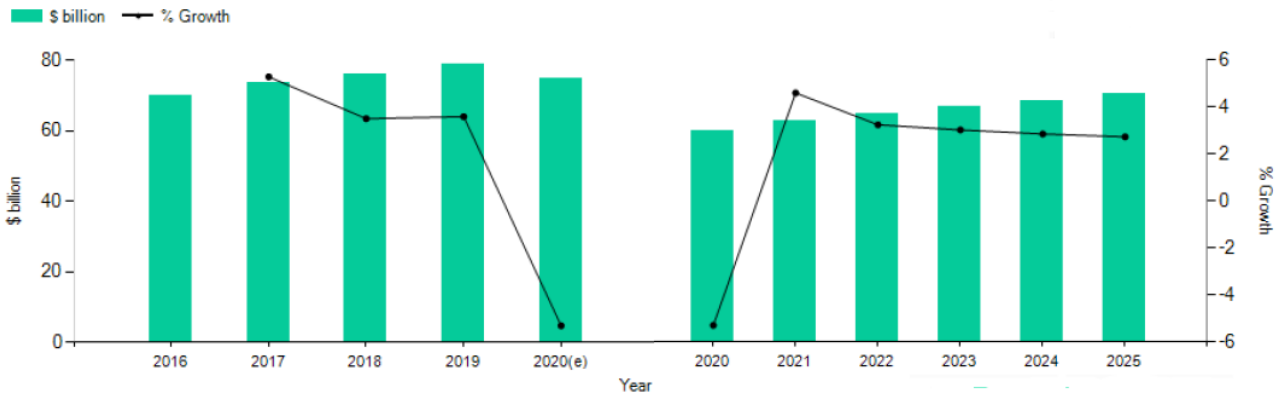

Figure 37: Global gyms, health & fitness clubs market value (2016-2020) and forecasted market value (2020-2025)

The imposed lockdown, resulting in the closure of business activities, public places, fitness and activity centers, and overall social life, has hampered many aspects of the lives of people including routine fitness activities of fitness freaks, who have experienced also various psychological issues and serious fitness and health concerns. The sudden changes in people's lifestyle include, but are not limited to, physical activities and exercise: indeed, it influenced the whole sphere of the wellbeing, subjecting it to an unprecedent amount of stress and pressure

[181] DARIUSZ PIOTROWSKI, ANNA IWONA PIOTROWSKA. Operation of gyms and fitness clubs during the COVID-19 pandemic – financial, legal, and organisational conditions. Journal of Physical Education and Sport ®(JPES), Vol 21 (Suppl. issue 2), Art 127 pp 1021 – 1028, Apr. 2021

[182] MarketLine Industry Profile. Global Gyms, Health & Fitness Clubs (December 2020)

because of changes in social life activities[183]. Consumers acknowledge that the notion of wellbeing is a multifaceted one, incorporating not only individual physical health but also mental, social, occupational and environmental health. The relative importance of these factors has shifted since the COVID-19 outbreak: diet and exercise have been overshadowed by hygiene as well as mental and emotional wellbeing. The scale and aggressiveness of COVID - 19 has elevated the importance of hygiene, as individuals globally are urged to adopt various hygiene measures to stop the spread of the virus. The anxiety, depression and loneliness resulting from social distancing has underscored the importance of personal connections in nurturing wellness[184].

The impact of the COVID-19 pandemic on health & fitness industry has then been severe, but on the other hand it has boosted some new trends, in particular those related to home exercising through the purchase of equipment like treadmills and stationary bicycles. Moreover, the COVID-19 pandemic has raised hygeneity concerns over the use of gyms and health & fitness clubs as public places, accelerating transition to home-workout during lockdown: the dynamic of pre-existing threats provided by technological development and evolving lifestyles over the industry accelerated towards progress and online fitness established as a digital trend to be followed and that may be irreversible even after the pandemic, apart from being the only valid alternative to traditional training[185]. As a consequence, the focus shifted mainly on virtual fitness and distance training, driven by technological innovation capable of bypassing training and physical activity "in presence" . In this sense, the new trends and new needs have partially revolutionized the sector and the subjects operating in it; this was reflected above all in the Fitness App market: in Italy, for example, 2020 marked an average growth of 51.5% in the use of Fitness Apps (Statista), with dizzying peaks found in yoga activities and decidedly lower for classic workout programs. In addition, first impressions on COVID-19 possible impacts on fitness industry have been higlighted in the IFO report 2021, produced jointly with Teamsystem[186]: by surveying sport clubs and their owner, it was found that around the 80% is in favour of embracing digitalization, mobile apps and social network, in order to support their businesses and enhance their performances. In that sense, it appears that the revenues deriving

[183] Kaur H, Singh T, Arya YK, and Mittal S (2020) Physical Fitness and Exercise During the COVID-19 Pandemic: A Qualitative Enquiry. Front. Psychol. 11:590172.
[184] MarketLine Case Study. Self-isolation and Wellbeing - Brands address consumer health during a global pandemic. MLCS0001-027, April 2020
[185] MarketLine Industry Profile. Global Gyms, Health & Fitness Clubs (December 2020)
[186] International Fitness Observatory & Teamsystem. Digitalizzazione & Fitness in Italia. Market Research Dec 20 – Jan 21

from eServices linked to the world of fitness are also expected to grow in the coming years, remaining steadily above the threshold of $3Mln per year between now and 2024[187].

Fitprime rode the wave and managed to reinvent its business by launching a new product on the market: Fitprime TV, a new, innovative digital platform dedicated to home-workout. Through the pandemic limitation to fitness, Fitprime TV platform represented a virtual ally for the society, providing a wide range of on demand and live contents produced by some of the best trainers around Italy. The success of such innovative initiative was immediate: after the launch of the platform, the company had in its hands a very important alternative during the period of closure of the centers, offering the opportunity for users and employees to maintain an active and healthy lifestyle, in whichever place and moment. In addition, considering that the Live and On-demand training market is currently a nascent market with few players worldwide, Fitprime TV enjoyed the luxury of few big competitors on the global market: what differentiates them from the italian company's product is the choice to add sports equipment as a complement to the sale of the content subscription. Voluntarily omitting a number of companies with non-technologically advanced solutions and arising mainly from small private initiatives, the realities we have to keep an eye on in that sense are mainly two. The first one is **Peloton**: Startup born in 2012 for live and on demand training, famous for combining the sale of the product with a spinning bike and treadmill. Today it is a listed company and with a valuation of approximately $35 Bln. Present in the English-speaking market and recently landed in Germany. The second one is **Technogym**, which in 2020 launched its home fitness line combined with an on-demand and live training platform, "buying" content from third parties (Virgin Active and Rebel Revolution); also in this case the product is combined with the purchase of equipment.

The culmination of the year have seen the most important event in terms of company growth: indeed, towards the end of 2020 Fitprime's path during this though year were crowned with the closure of a €2.500.000 investment round mainly underwritten by Vertis SGR. Starting as a startup operating in one of the industries more hit by the pandemic, Fitprime managed to achieve an incredible result and now stands in the face of 2021 as a solid SME with still high growth outlooks: it is definitely a success story that is worth telling, exploring its background and strategic approach to understand why it must be considered as a virtuous business example to be followed.

[187] Statista – Online revenues forecast for the eServices Fitness market worldwide from 2017 to 2024 (2020)

PAR. 3.2 – Commercial strategy: from single user to corporate environment

The common core between Fitprime's activities and commercial/communication channels is the sport centres' acquisition process: since the beginning, Fitprime's products and services were conveyed through its network, including not only gyms in a narrow sense, but also other structures lik SPAs and swimming pools, making the sport centres offer particularly variegated and so able to satisfy a larger clientele. The affiliation of sports centers is done through a fully internalized commercial activity, currently led by four vertical figures active on the process of scouting, procuring and closing agreements; considering that this activity is fundamental for consumers' world as well as for the B2B sector, the department interfaces mainly with the customer care and the corporate departments. The team is contextually supported by an additional figure, a strategic analyst responsible for what concerns the study and the optimization of the portfolio of partners. For business to perform efficiently, it is fundamental to have a portfolio of sports centers loyal and optimized in terms of information and pricing, and this is the reason why the company equipped itself with a set-up enabling to follow the affiliation of more than 50 new sports centers every month.

To date, Fitprime's revenues channels can be grouped into 3 main areas: B2C, B2B and Media.

The **B2C** channel is commonly referred to as the consumer world, so the direct interaction with single customers interested in purchasing and utilizing Fitprime's services. In order to reach this share of its clientele, it is required from the company to perform an intense marketing activity: currently the entire process is managed internally, skilled with specific verticals and continuously interacting with all the other departments in order to monitor activities' efficiency and develop a proper decision-making process. Marketing's performance is enhanced by the adoption of some specific tool, among which it is worth to mention Maiclhimp, Sendgrid and Chartmogul: their implementation represent a key resource in interacting with the final customer, supporting activities from its acquisition as a lead, to its conversion, and to its ex-post retention. The user acquisition strategy specifically is carried out through "direct" and "indirect" strategies. In the case of "direct" strategies we mainly refer to typical strategies of social marketing and SEO.

As repeatedly stated through the pages of this work, the importance of exploiting social networks functionalities is evident, and marketing activities in that sense should be properly performed and managed in terms of both allocated budget and types of advertising chosen. From the very beginning of the business, the two main social media channels used by Fitprime have been Facebook and Instagram: although these two social networks offer different

opportunities to acquire customers, there has always been a tendency to replicate campaigns on both platforms.

Campaigns may have multiple objectives. They could be aimed at increasing the so-called "brand awareness", so the ability of a brand to be recognized by an audience: this type of campaign is usually based on the realization of articles in the magazine of the Fitprime website or on the creation of motivational posts, on which a portion of the entire budget is committed with the specific goal of obtaining impressions[188]. Other advertising campaigns might have the purpose of directly stimulating the user to download the Fitprime application, for example by attaching to the advertisement a link directly leading to the related app store's section. For example, through the creation of an article offering the opportunity to download a training card, Fitprime receives on average 700 downloads every day. Others still may have as the main objective that of acquiring more potential buyers, or better to say more "leads", so potential customers who, in addition to having expressed interest in the business proposal of the company, has also provided it with his contact details. This information usually include consent to receive commercial communications and other information that may actually help the company to start a business negotiation through a direct and customized interaction. Finally, advertising campaigns could be focused on increasing traffic to the website: indeed, just from the traffic generated by the users on the site it is possible to realize a specific retargeting campaign. Such an initiative presents a particularly high conversion rate especially through the usage of Facebook, since this social network is able to generate precise commercial offers based on the user's behavior on the site, thus offering solutions he already had in mind.

In parallel to social networks, Google Ads as well is an interesting customer acquisition channel that Fitprime make use of. It offers the possibility for the customer who uses it to advertise their ads through two solutions: targeted advertising and "pay per click", with the latter in particular able to increase the website's ranking of the company compared to others and then be found before the other competitors in an internet search. All this optimization process has also allowed to go from 4,000 visits per month to 100,000 unique visits every month between 2018 and 2019.

The pay per click solution offered by Google Ads tool is strictly related to the second listed strategy, SEO, which stands for "Search Engine Optimization": it is a set of activities aimed at improving the ranking of a site or a web page for certain keywords in the results provided by a search engine (Search Engine Result Page, or SERP). The optimization of a site in terms of

[188] An impression is the unit of measurement of advertising exposure in the network. More specifically, it expresses the number of views of an advertisement.

SEO is a process aimed at increasing the volume of organic traffic to the website, in search engines "climbing" the organic search results on certain keywords: the results at the top of the SERPs have greater visibility and therefore are more likely to receive clicks and generate traffic to the site. In this case, however, it is not a paid activity, but a pure research and analysis that allows to climb positions on other websites: as a consequence, the attention of Fitprime has always been directed to words related to the world of fitness, nutrition or training, and the focus on SEO has allowed the company to lower costs related to marketing activities. As for pay per click through Google Ads, the optimization potential offered by SEO activities represents an obstacle for competition as well, especially for those new entrants who would find it difficult to obtain a higher ranking, and therefore a higher visibility on the market. Today Fitprime receives more than 3Mln visits per year on its website thanks to the excellent indexing in search engines.

“Indirect" strategies on the other hand include collaboration and activities that constitute an ancillary revenue channel on its own, the Media Channel, on which we will focus after in a dedicated section.

For the B2C channel, the business model is based on the payment of the subscription by the end customer, done directly on the Fitprime website or app by credit card or Paypal: Fitprime’s collection is 100% of the latter. The costs associated with production (COGS) are linked to a percentage of the proceeds that is paid to sports centers at the end of each month, computed on the basis of the frequency of sports centers by Fitprime subscribers – so the number of trainings carried out by customers. Such a model has allowed Fitprime to obtain an average ARPU of € 50.00 per month per user.

Fitprime is currently a leader in the Italian market in terms of the number of users and territorial coverage. The differentiating positioning is linked to a "pay per use" with a unique flexibility in the offer thanks to entry packages and monthly highly variable prices. On the one side it involves an initial complexity in the communication of the product, especially in the negotiation process with sport centers’ owners; however, the model delivers many benefits on the other hand, first of all in terms of pricing on the market. Fitprime’s competitive advantage in this segment comes out in many ways, starting from the capillarity on the national territory: the other players currently operating in the consumer market are present only in four big cities, and they do not have a logic of expansion in peripheral areas as well. The second competitive advantage is linked to the "non-alleys" in the frequency of sports centers (problem linked to Urban Sport Club discussed above). Finally, the last competitive advantage is represented by

the completeness of the offer given by Fitprime TV: to date no player at international level is creating its own solution linked to home fitness.

In the **B2B** channel, the target audience is represented by companies that have active welfare plans and large companies counting more than 500 employees. Even in this channel the acquisition strategies are "direct" and "indirect". In the case of "direct", customers are acquired through direct sales activity by Fitprime's B2B department. The process of promoting and selling the B2B solution is managed internally, with a team composed of a vertical figure in direct sales and two figures mainly dedicated to the activity of managing active customers and relationships with providers. Interactions take place primarily with the Marketing team, which supports the B2B division in positioning the brand, and with the sports center sales team for reporting facilities of corporate interest. This supporting activity combines the tools mentioned in the B2C channel section with an additional social network that is LinkedIn. Nowadays LinkedIn has established as a real showcase for businesses and while navigating on it is easier to connect with companies referrals or employees that may casually come across an unknown firm's post and become interested in it. Given the potential of this "alternative social network", a percentage of the budget have been committed as well to advertising activities on it, even if in smaller amounts compared to Ads and Facebook for example. Indirect strategies are instead focused on several B2B events that the company organizes over the year: the aim is that of positioning Fitprime as an "authority" in the field of corporate wellbeing, and this kind of activity has to potential to generate a number of lead even higher than through direct marketing.

The B2B channel broke down into 2 further channels: provider and direct collaboration with corporate companies. About the former, Fitprime currently collaborates with around 30 Italian providers who deliver, through a proprietary welfare platform, products and services to the employees of their client companies, who pay through flexible benefits. In that sense, Fitprime operates as a supplier and leaves a brokerage fees, so a percentage of the sales, to the provider itself, which instead works as an intermediary between the company and the final user.

Referring to corporate world, Fitprime positions as a competence center for wellbeing and corporate wellness: a specific integrated corporate platform has been designed in order to allow companies to decide which of the three available Fitprime's modules to be activated, and also to build tailor-made activities together with the company, linked to training, webinars and events associated with wellness (identified as "additional services"). In the case of the corporate platform, there are two main sources of revenues: the first one is represented by a monthly usage fee paid by the company to Fitprime + the additional una tantum fee due for additional

services; the second one comes instead from employees' direct payments when they purchase products from the platform itself, which take place in way similar to that of B2C channel – even if B2B users are advanataged by a discounted pricing reserved to corporate employees.

The main competitive advantage to date is represented by the adherence to Italian welfare regulations: indeed, through integration with welfare providers, Fitprime is able to provide its platform with payment through flexible benefits. Currently no player operating in Italy is able to offer a solution of this type due to technological and legislative limitations related to the product itself. In addition, Fitprime modules are completely independent and companies have full freedom on the choice of services to be subscribed according to their needs. Finally, with the registration in the platform of the employee, codes are generated that allow to provide the service to 3 family members of the same, thus further extending the audience of beneficiaries of these solutions, and simultaneously increase company's revenues.

The last acquisition channel for Fitprime, the **Media** channel, is represented by partnership operations with large companies, entering within loyalty programs or prize contests of big brands. Fundamentally, this channel deals with the sale of subscriptions to brands, by providing codes that that allow product activation at a later time for the acquirers , and brands in turn give Fitprime's services to their customers or potential customers. These customer loyalty operations offer Fitprime the opportunity to acquire a new pool of potential customers through an indirect route: in fact, once inside a catalog or a contest you have the opportunity to offer your service, for example through a purchase formula facilitated by a discount, to people who would be difficult to reach. In these cases, collaborations with brands are undertaken not with the main purpose of creating a new user basis on to which monetize revenue, but rather to increase the brand awareness. This strategic choice is very appropriate especially for startups that are trying to enter the market, looking for the possibility to get more awareness in a short period of time, exploiting an acquisition work already carried out by other companies.

During the course of 2018, after understanding the importance of this acquisition channel, many co-marketing operations were carried out in Fitprime with important brands such as Alitalia (Millemiglia catalog), Italo (Italo Club catalog), Enel (Enel premia catalog) and Vodafone (Vodafone Happy catalog). Today Fitprime is established as a supplier of the main Italian marketing and loyalty companies, such as SeriJakala, TLC Marketing, and Wind: the latter in particular significantly enhanced the number of Fitprime's subscribers, demonstrating an high value of initiatives engaged with telco companies.

Reviewing each channel's performance before pandemic outbreak, it is possible to identify B2C segment as the most profitable and representative one: being the first to have been developed by Fitprime since its arrival on the market, it established as the core business channel, reaching an average €70.000 in monthly revenues through the last months of 2019 and resulting in an overall year performance of €650.000 – more than doubling 2018 B2C turnover. The B2B channel was a new arrival compared to B2C, so before its ultimate implementation 2019 it was a segment manily working "for opportunities", even though its trend resulted as particularly profitable since its introduction into Fitprime's offer. Thanks to the gradual expansion towards welfare providers and corporations, B2B segment showed an exceptional growth of around 300% between 2017 and 2018, and 200% until the following year, accounting as more than the 20% of total company's revenues in 2019, despite the low corporate contribution due to official activation late in that year. Lastly, Media was expected to position as a residual channel, but it conversely raised more than €100.000 in 2019 alone, resulting as an equally important source of revenues beyond an important tool for lead generation and brand reinforcement. Shifting the focus on margins, the lowest marginality has been showed by the B2B sector: the reason behind has to be searched in the fact that most of the products are purchased through flexible benefits and provider, so COGS involved are relatively low and include mainly commercial fees paid to providers. With an observed margin of around 80%, B2B channel outperforms the remaining two: B2C entails sport centres costs, that may result high especially because of strategic acquisition with low margins accepted on purpose, resulting in an average margin of about 30%. Lastly, the low marginality of the media channel is given by the very advantageous prices of the subscriptions sold to brands for loyalty and income initiatives with the aim of increasing the Fitprime user base; consequently, this channel barely reaches a 5% margin on a yearly basis.

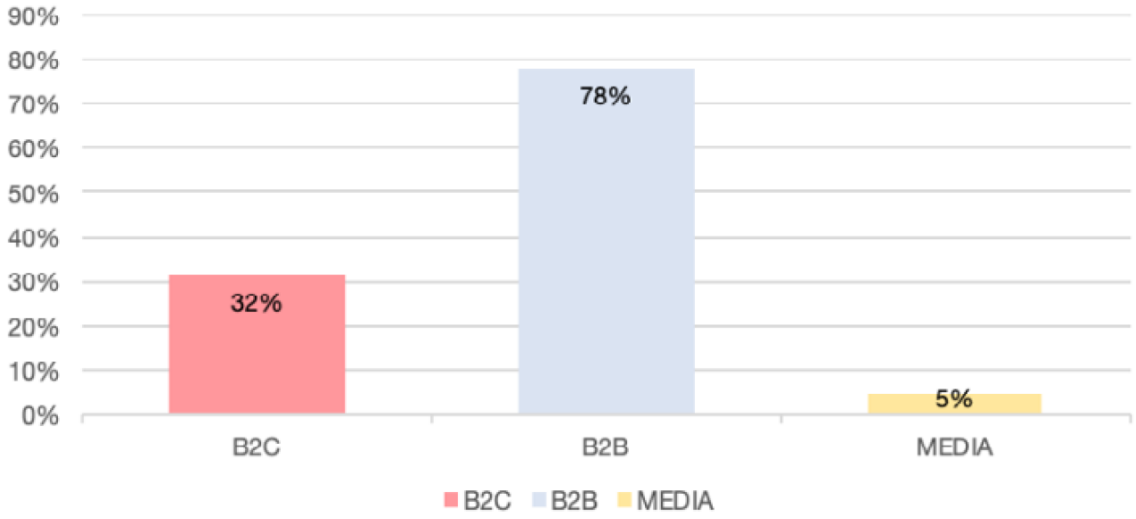

Figure 38: Fitprime's channels margins

As it was expected, the arrival of COVID-19 in the market had a big impact on the way Fitprime traditionally made use of its channels. The most evident effect has been the complete block experienced by the B2C segment: the long closure imposed to the sector and its players made it impossible for consumer world to utilize Fitprime's products, apart from a small percentage deriving from outdoor activities granted to sports centers along the first lockdown eases. In addition, the crisis negatively influenced prospects on Fitprime's network: indeed, on the one side small and medium realities found themselves in serious troubles and eventually many of them were forced to end their activity, reducing the number of Fitprime's affilited partners; on the other side, sport centres managers felt the crisis on their skin and the low hopes for the future reduced the interest in potentially bening initiatives and services as that offered by Fitprime, ending in much more complication for the sales team in dealing with them. Such a situation unavoidably impacted corporations too, who suddenly saw a shrink in the range of available product, so a reduced expendability and convenience of Fitprime offerings for their employees.

In approaching the emergency on this side, the introduction of the TV product played a pivotal role in ensuring a certain continuity in business operations and performance. Apart from being a highly innovative product benefitting from lockdown restrictive measures, it significantly contributed to almost every commercial aspects of Fitprime's business. First of all, its initial free accessibility to people represented an important source of lead generation and customers acquisition: rather than monetizing the TV service, Fitprime preferred to set the focus on its value as a flexible and innovativa solution to be offered to potential clients. The function fulfilled by TV product in that sense could represent a shortcut for users to move from it to the others available products, delivering benefits to the B2C one in the perspective of future lockdown eases for sport centres; in addition, it allowed not to stop the activity through the B2B and Media channels, having now available a new product to offer to brand and companies that fits perfectly the emergency situation triggered by COVID-19. Specifically referring to Media Channel, TV's business model has offered the possibility to sell Fitprime codes even at a low price: so it is possible to undergo low-budget activities without losing potential revenues – as for example used to happen in the case of subscription product, where such an activity often resulted in reduced revenues associated to user check-ins. It is important to explain that, as far as Fitprime TV is concerned, its business model was imagined to be based on the payment of a monthly and annual usage fee by users: waiving profits at the beginning, Fitprime is investing in its clientele in order to create a new, relevant source of revenues for the future – which is

effectively the current TV framework, which is slowly start to raise money on both the B2C and B2B sides.

Versatility of Fitprime TV contributed also to the marketing activities of the company, which had been slowed down especially in terms of advertising. Primarily, the new product opened uncharted avenues to SEO activity: keywords related to online fitness and modern training trends started to be implemented and this helped the company to strongly mitigated the downturn in the organic traffic, which instead maintained quite stable levels. In addition, the shift to live training gave the access to a still unused marketing channel: Youtube. Thanks to Fitprime TV introduction, the company strated to produce its own video content, and they represented resourced to be published on Youtube channel in order to reach a new clients' segment, previously unapproachable.

Incentivized by its new online weapon, Fitprime chose to shift its focus on the B2B channel, also advantaged by the serious damages suffered by Gympass – the main competitor to be keen about in this segment up to this point. On the corporate side, it was adopted an aggressive acquisition strategy between 2020 and 2021, supported by a targeted expansion of the team and the ivestment of senior figures to enhance department's wealth of skills and expertise. In 2020, Fitprime managed to close agreements with more than 20 new firms: among them, big names such as Sky Italia, McDonald's Development LLC, Unilever, Rai Pubblicità, Eni, BCG, KPMG, and EY contributed to enlarge B2B's clientele and to maintain business continuity in terms of revenues, and even significantly augmenting them. In addition, thanks to the availability of a product as Fitprime TV, Fitprime aspires to position as a media company in the world of fitness: future outlooks prospect the opportunity to sell their own contents, as recently happened with important realities such as Tampax.

Through the welfare subchannel, the signing of the two most important contracts with AON and EDENRED (market leaders with 60% of the shares) in July 2020 represented a boost in the business, also following an regulatory change regarding the management of welfare vouchers that would result as significantly profitable for a business as that of Fitprime. Indeed, starting from January 2021 it is provided a mandatory invoicing with VAT by all welfare providers; this change has created a problem in the "Fitness" category due to the presence of providers with corporate names such as ASD and SSD that do not issue an invoice. Thanks to these new agreements, Fitprime has the opportunity to become a "single" supplier for the Fitness category for AON and Edenred, as sports centers unable to bill will be forced to switch to Fitprime and

customers will be forced to buy membership only through Fitprime, and this agreement may be extended to other providers who will face the same problem.

In 2020, B2B revenues accounted for more than the 50% of the total company's turnover, amounting to €330.000 approximately, with Corporate subsegment finally expressing its full potential by accounting for more than €150.000 within the whole channel revenues. It is significant to highlight that each of the new Fitprime client has accepted to subscribe the TV product, which today presents a potential customer basis of around 100.000 employees – without considering their familiars, involved in the corporate initiative as it will be explained later through this chapter. 2021 outlooks speculates on the possibility of equalling 2020 B2B results just in the first semester and this occurrence would mean, together with B2C business returning to its full capacity and Fitprime TV stably established on the market, an incredible performance boost of Fitprime as well as a quicklier than ever imagined business recovery after the pandemic damages.

PAR. 3.3 – Product strategy: a smart way to refresh wellbeing

Having defined the commercial strategies and processes of Fitprime, the focus must be shifted on the product side, with company's offer representing the real valuable asset able to change the rule in the market and empowering Fitprime as one of the most relevant players in the wellbeing game. Fitprime's solution aims to reach all those people showing different needs compared to standard athletes: the focus is on the concept of flexibility, expressed in terms of training hours, sport centers where to train, practiced discipline and a lot more. In addition, trends engendered by COVID-19 emergency have placed many new limitations in terms of distance and security and this aspect has touched nearly everyone in the modern society, making Fitprime's offer suitable for a large catchment area.

All product development activities are conducted according to an internal methodology derived from AGILE, developed over time to allow maximum efficiency in the use of resources and sharing of priorities between departments. In particular, as it happens according to certain practices, the work is mainly carried out by the tech division through bi-weekly iterations planned in meetings shared with the managers of each business area. In this way it is possible to avoid the classic organizational problems of technical teams, derived from the succession of requests and the distortion of priorities dictated by each business area, gaining speed in the releases and precision in the planning of activities that depend strictly on these product releases.

In order to offer a flexible wellbeing solution accessible to all kind of users, today Fitprime provides a differentiated line of services mainly identifiable in three core products: subscriptions, lifestyle nutrition, and Fitprime TV (introduced in 2020, through pandemic months).

SUBSCRIPTION: it is the core service that people immediately associate to Fitprime's brand, as well as the basic idea on which company's founders built the whole business since the beginning of the activity. Subscription product allows the access, through a single subscription, to the whole Fitprime network, including over 1500 sport centers located in more than 300 cities in Italy and providing different activities for users (Gyms, paddle and tennis, swimming, Spa, and far more).

According to Fitprime's business model, this solution involves the sale of two different types of subscriptions for fitness centers affiliated with Fitprime:

- **Entrance packages**: solution in formula of one, five or ten packages, exploitable for a single sports center. The price of the single entrance is always lower than that proposed by the sports

center; moreover, the 5-entry package is offered at a 10% discount compared to the single, while the 10-entry package at a 15% discount.

- **Monthly unlimited**: product with a starting price of € 22.00 per month that allows access for 30 days in hundreds of different sports centers. It works within a logic of price range, so each subscription allows the entrance only to certain sport centres included into the selected range.

When the customer purchases the subscription, Fitprime collects 100% of the payment. Fitprime partner sports centers obtain a percentage of the payment made by the customer for the subscription only when the latter, after having booked the sports center in which to carry out the training through the app, accesses the center itself: entry will then be recognized by Fitprime as an "attendance fee". Payment to sports centers takes place every 30 days, in order to manage payments through administrative operations. In general, the training frequency is 7.8 monthly workouts per user, a frequency that allows to have a margin on average sales of 40%. This business model also applies to the B2B model through welfare provider; in this case Fitprime recognizes a brokerage fee to the provider. The price of the subscriptions is extremely variable and for any purchasing power: to date, the most common pricing ranges between €50 and €70.

Lifestyle nutrition: born in 2018 and initially available only for B2B customers, the Lifestyle product has allowed Fitprime to horizontally diversify its offering over the wellbeing sector, moving on the nutrition side. Lifestyle Nutrition gives the opportunity to produce a customized diet plan totally on a remote basis: interfacing with a qualified team of biologists and nutritionists, the user can take an anamnesis by compiling an online form, according to which a personalized nutritional plan is produced and directly delivered in a short period of time (the standard is up to 4 working days). Received the plan, the user has the possibility to request a new plan within 4 weeks from the first one, and so has the possibility to interact with products' staff and being monitored by its members. Recently, the product has been extended also to B2C customers, and it is provided at a fixed price depending on the type of customer addressed (€49 for B2C, €24 for B2B, and an average €60 for providers). Considering the structure of the product, the main COGS incurred by the company are those paid directly to nutritionist for their activities, so Lifestyle Nutrition configures itself as a easy to use product with a high marginality.

- **FITPRIME TV**: When moving to the last product of the offer, the newborn Fitprime TV, it is necessary to reserve a more in-depth section, both for its degree of innovation and

technological advancement, and for its key role in turning the pandemic crisis into a profitable opportunity. As said previously, in the aftermath of the COVID-19 health emergency, the closure of sports centers has precluded people from attending gyms and working out in the traditional way. Given the market trends of recent years related to home fitness and its further acceleration following the epidemic, Fitprime decided to address this situation by designing a new, innovative product to be added to its offer: Fitprime TV.

Essentially, the TV product is a new online platform dedicated to home-workout, and as that it is a service which is delivered entirely in virtual form. The TV Platform gives the access to 2 main types of contents: the first type involves the participation to live-streaming training sessions, conducted by training or sport centres directly, while the second consists of a series of on-demand lessons enclosed within several categories (like Yoga, Pilates, Meditation, and Cardio) and divided into courses different among them in terms of objectives, levels, and duration.

The creation of contents takes place within a recording studio located in the city of Rome, opened in June 2020 for the production of the first ever TV's contents: to start-up the studio, the company committed around €20.000 between structure's opening and high-level equipments purchases, representing an important investment for Fitprime's finances and so a strong symptom of trust towards this new product. Contents are produced with the aid of some of the best trainers available on the market, selectioned after a scouting process performed by the department and then contracted with the company in the form of collaboration. TV platform advent made it necessary to create a totally new business department, focused exclusively on the new product: apart from some tech figures who unavoidably had to shift their focus on the platform coding and maintenance, the team team currently counts 2 videomakers, who follow the part of recording and editing, one content director, committed to contents' format and planning, and one project manager. The establishment of this new department is aligned with the idea of a fully internalized creation of the platform's contents: directly controlling the production, the team could manage to study over time the most effective format and to experiment with total freedom. TV department mainly interacts with the marketing department for the content study, and with the product division for the work on platform; the way processes are carried out allows Fitprime to generate about 5 new complete contents per day.

The first launch of Fitprime TV on the market took place in the first half of May 2020, just 70 days after its first ideation: this Minimum Viable Product (MVP), thanks to both the legacy of the Fitprime site and its initial availability in a free form, managed to attract organic traffic of

an interesting size already in its first week on the market. For the creation of this primal version, the tech team has developed a serverless platform, using hybrid proprietary components and AWS tools that allow to manage in a scalable and autonomous way the entire workflow of the management of video on demand - from the hosting of original videos to the transcoding for the generation of streaming streams, up to the distribution of cached resources. It is important to highlight that the already existing knowledge of the dev division has favoured a faster and more efficient development and implementation of the product: indeed, having realized two other tech platform as Fitprime Lifestyle in 2018 and Fitprime Corporate in 2019, working both on the web side and the app side, the team have had the possibility to use this past experience as a strenght in the TV's online platform creation and launch on the market.

At the base of the official platform, an automated workflow has been created that allows to perform, starting from the upload on the cloud of the video content in original format, all the processes of encoding, conversion and delivery of the final video tracks necessary for the intelligent streaming of content. A network of REST APIs has been realized through which the platform can communicate with the back-end to authenticate the user and obtain the information and the content to be played. Thanks to the HLS technology, a Javascript video player can transmit on any type of device the video content in a fluid way, using different resolutions auto-selected according to the bandwidth available to the end user and the resolution of the display in use. A content protection system has been developed too, so that, through cookies and querystring parameters, it is possible to inhibit potential malicious users from spreading video content URLs, which are accessible only through a valid signature and within a reduced time frame. In addition, the platform offers a system of scheduling live content, thanks to which the user can book one of the seats available according to limited availability and receive at the appropriate time the link to access the video lesson chosen.

An important focus must be maintained on the profiling algorithm: such an algorithm, used especially with reference to research and data analysis, confers an important competitive advantage since this profiling process allows not only to enrich the data of the database of client companies, but also to profile in a predictive way the customers with the information that companies lack. In a general sense, as often recalled through this thesis, this endowment of technology, contained in particular inside the TV platform, generates a lasting advantage over time for the company that adopts it due to the minimization of human intervention and the streamlining of tasks related to it in terms of both time and workload. In addition, the artificial intelligence algorithm makes the technology itself inimitable and not reproducible because, by

processing data from the Customer Base, the machine learning technology learns the behavioral patterns and training, keeping them within its Artificial Intelligence continuously improving and making it unattainable in terms of timing and innovation.

One of the main objective regarding platform evolution is the development of a mainly autonomous service, although framed in the global software architecture. From the point of view of functionality, one of the main research activities has been related to the implementation of a real-time streaming system that, as what happens through on-demand content, allows to manage internally the transcoding and distribution of live. Being a product that aims to a high level of gamification and user engagement, microservices have been implemented to manage real-time data streams, using some of the main technologies made available by the AWS suite (such as DynamoDB and Lambda) combined with solutions already established in recent months and ready to scale.

In an historical moment as the current one, Fitprime TV represents a turning point in Fitprime's business, a smart and innovative product carrying with it a great strategic value which can be exploited from many perspectives, starting from the customers side. On the surface, the targeted clientele is that of lockdown athletes: the opportunity to move the traditional training place into people's houses has been thought as perfectly functional on account of pandemic restrictions. Moreover, this trend is intended to persist even in the following periods, initially with the sport centres reopening and the possible skepticism of athletes on going back inside sport centres, and then through the "new-normal era" as a flexible alternative to traditional training for those who have no intentions or time to reach a gym to train. In addition to the offering of this new training experience to classic athletes, Fitprime TV also aims to protect and support some categories of athletes "at risk": subjects such as pregnant women, those suffering from chronic diseases and those most vulnerable to infection find in Fitprime TV a "gym" at home totally safe from health dangers. To this end, personalized training service will be provided to each customer, meeting the needs of each and breaking down the barriers between one category and another.

Apart from individuals, Fitprime TV could represent a new way of interacting and collaborating with sport centres themselves: indeed, the product is thought also for gyms to broadcast live their indoor lessons, so it potentially represents a way to dodge centres' lockdown and keep delivering part of their traditional services online through Fitprime's TV platform. Furthermore, this opportunity appears to embedd a great potential also for the future of fitness structures: they could think of Fitprime TV as an additional service provided to their customers, carried

out alongside the traditional indoor training, and able to capture a new share of clientele unable or not interested to train in the old-fashioned way. This future outlook augment expansionist goals of Fitprime, having in its hand a new digital instrument able to expand the partners centres' audience on the one side, and to improve relationships with those already in the network on the other.

Fitprime TV gave rise to an innovative training method and a liveable experience from anywhere, while allowing Fitprime to consolidate its position as a fitness leader in Italy thanks to a new and unique product on the market. Given the characteristics of profound innovation of the project, especially when compared to the reference sector, Fitprime aims to position itself on the market with a highly competitive and technologically superior product compared to those offered by other players. The competitive advantage that Fitprime aims to acquire with the realization of the project is therefore evident, especially linked to the use of technology as a means to achieve the desired results. Moreover, through the technical development of the platform and the intensive use of the digital channels available to the company, it will be possible to realize the role of the Fitprime TV service as a new and "independent" product within the company's offer, added value in terms of diversification of both business and customer segments, as well as a possible way to expand the business abroad.

The positioning set out in the last point wants to be achieved without the help of ad hoc hardware for each type of training, but through improvement of the training experience based on two key elements: statistical data and sociality. The first element refers to the data relating to training sessions, which will be collected by the platform thanks to the implementation of an artificial intelligence algorithm and machine learning for research, collection and analysis of data: this will allow to store in the platform a database of users from which to start a user profiling activity with the aim of generating greater engagement and LTV of athletes in the use of the platform. On the other hand, "sociality" is intended to make the training customer experience as real and "immersive" as possible: through a series of hardware integrations it will be possible to establish face-to-face sessions with one's personal trainer, participate in live group lessons and compare one's performance with other participants, receive continuous feedback from instructors and the system on the basis of which to modulate the training sessions to follow.

At the moment, Fitprime TV offers two different subscription plans: a monthly plan at €11,99, or an annual plan at €99,99 (with a cumulative discount of 30%); both plans allow users to fully access to the platform and its contents, currently ranging from over 1000 on demand videos and

more than 300 different live lessons every month. The payment model is similar to B2C direct payments, and the costs Fitprime incurres in are mainly related to contents production: studio equipment and maintenance, trainers' salaries, video editing and recording, and sometimes additional costs such as success fee delivered to some trainers for their work. The choice of maintaining a low pricing, so a competitive price strategy, aims at favouring the market penetration of this new product, but also at adjusting its positioning on the market, making Fitprime recognized as a company dedicated to both content creation and sharing as well. By gradually achieving great results in this sense, the product is establishing as a new line of revenues for the company, also considering that starting from 2021 it is not a free product anymore.

With regard to B2B segment specifically, all Fitprime's products are packaged together through Fitprime Corporate, an innovative platform that since 2018 accompanies large and small companies in their Wellbeing and Engagement programs aimed at employees. Thanks to the platform, the employee has access to Fitprime products for free or with a strong discount applied: specifically, the subscription product presents an average discount of 70% compared to the consumer price, the Nutrition service is provided through a dedicated app and offers the opportunity to carry out video consultations with Fitprime nutritionists, finally, the TV platform is available free of charge to the entire corporate population. In addition, the platform allows each corporate employee to extend his subscription to three family members: at the time of registration, the employee receives three matricula that, if used by their family members, allow them to purchase Fitprime services at the same conditions reserved for corporate customers. The business model of the platform provides for the payment of a monthly usage fee by the company for the corporate platform, calculated on the basis of the number of company employees; COGS are insterad those related to single modules: sport centres costs for subscription, nutritionists' salaries for lifestyle, and content production reserved to B2B employees for TV.

The corporate platform represents a flexible wellbeing solution for the corporate population that also allows to cope with the new issues brought by the pandemic, especially in relation to the corporate population forced to smartworking and inevitably subjected to stress levels well above the pre-pandemic standard. Especially at a time like this, the platform aims to position itself as the fulcrum of all activities oriented towards sharing and social relations, aiming at optimizing relationships within the company network and increasing the level of customer engagement. Thanks to the Corporate offering, each individual will be able to pay greater

attention to his own psychophysical wellbeing and react better to situations of greater pressure; this will inevitably produce positive effects at a corporate level, increasing the overall productivity of staff and reducing costs such as those linked to absenteeism. In addition, in order to stimulate moments of social interaction and personal well-being, 3 Family codes are assigned to each employee, as sharing the use of the platform with loved ones is a further element of personal well-being in its most complete sense.

To this purpose, Fitprime decided to complement Fitprime Corporate service with an additional cathegory of activities reserved for corporation and linked to the field of comprehensive wellness. Corporation have then the possibility to tailor-made the wellbeing activities shared with its employees, choosing through a variegated and flexible offer comprising services such as: in-company psychological consuelling, webinars cycles orientated towards wellbeing culture and sensible topics for the corporate population, and live-training classes for the exclusive use of the company. This additional class of services constitutes on the one side an additional source of revenues for Fitprime, being comprehensive wellness activities paid separately with respect to standard Fitprime Corporate's modules, and on the other side contributes to employees wellbeing and to their living and working mood through pandemic difficulties. Over 2020, comprehensive wellness services contributed for around €25.000 to Fitprime earnings, and this amount is expected to furtherly increase over 2021 as corporations are showing even more interest than before in these kind of tailor-made services.

The gradual improvement of Fitprime's offer and its choice the open the gateway to online fitness through the launch of Fitprime TV contributed to complete the Fitprime experience, giving on the one hand the possibility to all Fitprime users to live a great workout experience even from home, and to have on the other hand to have an additional product able to intercept a different clientele that for different reasons at the beginning is not interested in Fitprime. Offering's evolution experienced through 2020 and 2021 is going to modify Fitprime market positioning and its brand perception: nowadyas, especially thanks to TV platform, Fitprime establishes in the industry also a creator and sharer of contents, amplifying its visibility in terms of reacheable clientele and building the prerequisites for an eventual future internationalization. On that market, big players like Peloton and Technogym managed to achieve such a goal following digital fitness trends accelerated throguh these last months, and this could work as incentive for Fitprime to seek for an expansive opportunity of that kind. However, today this epilogue remains an hypothesis, and Fitprime will certainly focus on the other aspects of TV platform before further evolve its products line.

PAR. 3.4 – Financial strategy and growth prospects: the key for a bright future

A sound company cannot exist without a sound financial strategy. Through its history, Fitprime has always kept in mind this mantra, being constantly focused on ways to make business operations and daily activities more efficient and lightening the cost structure of the company, without losing points in terms of performance. This is also stricly connected to the digital-oriented view of the top management: this is the basis of the cash life generation process implemented in Fitprime since its birth. This process begins from company's equity basis and leverages on two main features: subsidized finance and fiscal incentives. Subsidized finance effectively represents a form of debt underwriting, but with important facilitations for the underwriter in terms of interests to be paid and repaying timing. Zero-rate, unsecured loans in particular embody the perfect source of financing for companies, especially the smaller ones, enabling to leverage on obtained liquidity to undergo investment projects able to fructify enough to meet debt deadlines and still detaining extra resources to be employed in company's business operations. In addition, being public forms of debt financing, they do not involve any sort of credit rating valuation for the company, making them easily accessible to whichever firm. On the other side, fiscal incentives stands as a leverage vehicle as well: opportunities such as tax credit on R&D expenses incentivize firms to spend money on tech and innovative assets and investments projects with the outlook of a future recovery of those same costs, so representing a win-to-win opportunity for each side of the deal. Lastly, lost-in-found contributions represent an important source of revenues, in particular because they have a positive impact on the company's net income, while simultaneously not influencing its taxable income for IRES purposes. By leveraging on all these elements, a company could manage to completely recover what previously invested, going back to the initial amount of capital and triggering a virtuous circle able to confer continuity and solidity to the business, while simultaneously financing its growth and upgrades in terms of strategic and financial performance KPIs.

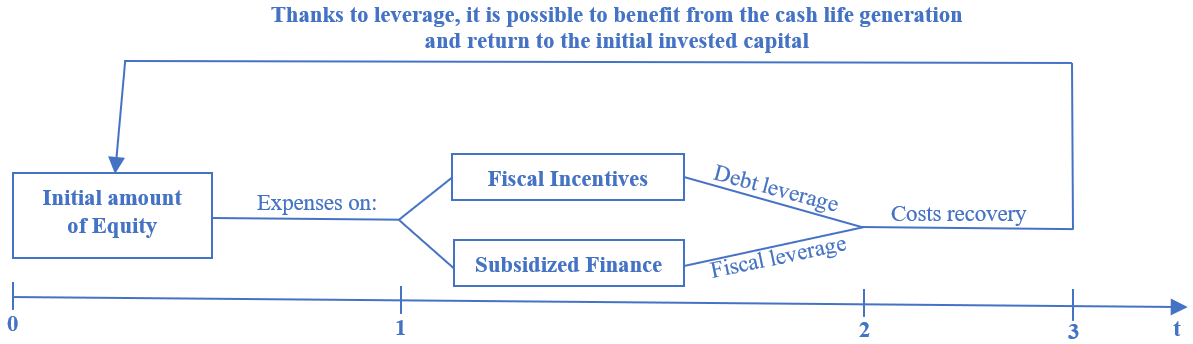

Figure 39: Fitprime's cash life generation in practice

Fitprime applied this core strategic approach constantly through its business journey, especially when managing to close capital raising deals. Obtaining new large inflows of cash into its bank account, the company exploited the growth opportunities aligned with its cash life cycle process by heavily investing on its internal tech division and on innovative tech assets - digital platforms above all (Lifestyle, Corporate, TV) – and undergoing high-growth investment projects, managing afterwards to recover an important amount of the previously committed resources. R&D tax credit, Invitalia's Smart&Start[189], and various non-refundable contributions (e.g. Voucher Digital Enterprise 4.0[190] and Innovation Manager Voucher[191]). Moreover, the company benefitted from its commitment of resources on development costs by reducing the impact on company's balance sheet: indeed, this class of expenses is usually recorded (in percentage or for the full amount) as capital expenditures – so, tech assets – more than as operating expenses, so they do not directly impact on indices such as EBITDA and net earnings.

The arrival of the pandemic damaged Fitprime in many ways: apart from issues highlighted in the previous paragraphs, the main financial trouble to tackle has been that of liquidity shortage. It is well known that liquidity is the key funnel for smaller realities and this is even truer for startups, recognized for intense spending on investment projects and business initiatives especially through its first years of life. Despite a discrete level of treasury detainments through the first months of 2020, soon the major shut-down of Fitprime's business forced the team to face a series of complex issues, in particular those related to payments. On the one side, business lockdown stopped the fast growth of the subscription channel and this meant a significant cut in the amount of cash inflows deriving from users purchases. As a consequence, payments due to suppliers and sport centres in particular were delayed for long periods of time or even suspended, in the hope of a sectorial activities' recovery. On the other side, almost every sector and every operating reality suffered because of the pandemic outbreak, as repeatedly recalled through this paper: average payment period lenghtened for other firms as well and Fitprime experienced a detrimental delay in collecting B2B invoices. As even routine expenses as salaries and G&A started to take a toll on company's finances, it was necessary to take hard decisions and prudent financial moves in order to ensure business resilience.

[189] Smart&Start Italia – A form of incentive that supports the birth and growth of innovative high-tech startups in all Italian regions. It is provided by Invitalia, the Italian National Agency for Development, and finances innovative investments projects involving expenses ranging between €100.000 and €1.500.000. It is a zero-rate, unsecured loan able to cover up to 80% of forecasted costs.

[190] Council Resolution n. 61 of April 16/2019, Chamber of Commerce of Rome – Lost in found contribution up to €10.000 for the purchase of goods, consulting services and training for new digital skills and technologies.

[191] Directorial Decree August 4/2020, MISE – Contribution up to 50% of incurred expenses (max = €40.000) that supports the processes of technological and digital transformation of SMEs and business networks throughout the country through the introduction of managerial figures able to implement the enabling technologies provided by the National Plan Enterprise 4.0.

Recalling the introductive section of the previous chapter, the pandemic outbreak forced governments and international institutions to committ a massive amount of resources to save the distressed economic landscape, consequently offering a large range of supportive measures and national aids for distressed companies. In that sense, Fitprime started its survival strategy by rapidly moving towards these measures, initially agreeing in May 2020 for a subsidized loan of €25.000 – lately extended to €30.000 – through the Italian Guarantee Fund[192]: favourable conditions of repayments terms (1,5% interest rate, 2 + 3 repayment years) convinced the company to underwrite this new amount to debt, a necessary choice to further cover expenditures requirements. This was not the only facilitation Fitprime decided to make use for through pandemic: "Decreto Rilancio[193]" allowed the company to postpone taxes payments due; tax credit for rent[194] resulted in an important fiscal incentive on the costs incurred for an office remained unused through the lockdown months; lastly, the lost-in-found bonus provided by "Decreto Sostegni[195]" delivered a contribution to partially cover losses of turnover observed in 2020 compared to 2019. A prudent approach to the workforce discomforts was adopted too: beyond the smartworking obligation imposed to all staff members, Fitprime benefitted from employees supportive measures and in particular that of The Wages Guarantee Fund (Cassa Integrazione Guadagni), one of the main social safety nets provided by the italian legal system. It consists in a partial wage remuneration assigned by INPS[196] to workers whose employer has reduced their remuneration as a result of a reduction (or radical suspension) of their work activity due to various causes, as the pandemic clearly resulted to be. Thanks to this social aid, Fitprime avoided stopping remuneration for its staff's main figures and it achieved it without further recurring to its cash in baks reserves.

However, the core of Fitprime's financial strategy has to be searched internally, in the Management&Finance department specifically, that in a short period of time managed to plan and implement some new financial policies oriented to business resilience. The first measure adopted was an important fiscal change, already forethought at the end of 2019 and definitely required by 2020's economic situation: the shift from a standard quarterly VAT regime to a

[192] Financing with warranty "Fondo Centrale di Garanzia PMI" ex art. 13. m) of D.L. 8.04.20, n. 23 converted in L. 5/6/2020 n. 40 ("DL Liquidità")
[193] "Decreto Rilancio" (DL n. 34/2020), converted with modifications into L. 77/2020," Misure urgenti in materia di salute, sostegno al lavoro e all'economia, nonché di politiche sociali, connesse all'emergenza epidemiologica da COVID-19"
[194] D.G.R. Lazio of April 9 2020, n. 176 "Stato di emergenza COVID-19. Misure straordinarie riferite al sostegno alla locazione di cui alla legge n. 431/1998 e all'articolo 14 della legge regionale n. 12/1999"
[195] "Decreto Sostegni" (Dl n. 41 of March 22/2021) converted with modifications into L. May 21/2021, n. 69
[196] Istituto Nazionale Previdenza Sociale: it is one of Europe's largest and most complex social security institutions, managing almost all of Italy's social security, providing insurance for most self-employed workers and employees in the public and private sectors.

cash VAT one. Quarterly VAT regime involved one main problem for business adopting it, that is the obligation to pay VAT due based on sales invoiced, even when money have not been collected yet: considering that Fitprime never stopped to bill invoices to its B2B partners, the risk was that of running out of liquidity to anticipately pay VAT not yet collected. Cash VAT regime is an interesting solution because it effectively works in the opposite way: VAT payments are required on a monthly basis and net amount due is reconductible exclusively to cash inflows and outflows occurred over the considered month. By aligning liquidity shifts to VAT requirements, Fitprime benefitted a better management of liquidity without missing its tax payments deadlines.

The most important financial choice put in place by Fitprime was definitely that of using bank advances of invoices. Concerns about the state of payments, both incoming and outgoing, pushed company to require the support of its credit institution (BPS, Banca Popolare di Sondrio): after negotiating with its branch, Factorit S.p.A., Fitprime underwrote a contract aimed at advancing company's invoices with recourse, agreeing a ceiling of €25.000. The logic behind this move is so easy as critical: being Fitprime's debtors mostly unable to meet payment deadlines, the company asks to the bank to pay a series of invoices' amounts in advance, receiving the full amount less a small fee witheld by the bank. Differently from an operation without recourse, which is more similar to a credit transfer to the bank, in bank advances with recourse the responsibility remains to Fitprime, which in turn has the obligations to return the full amount by invoice's expiration date.

Thanks to this kind of operations, Fitprime's business obtained benefits in two main ways. First of all, considering that the majority of B2B partners used to pay at 60 days or even more, cashing their invoices anticipately allowed to cover immediate needs for liquidity and fulfill most urgent payment requests. Secondly, this process generally impact positively on company's rating, by reducing significantly average DSO[197] and, as a consequence, allowing to not further increase the average APP[198]. Such a strategy revealed functional also in post-Covid period: in particular, BPS's ceiling has been extended to €50.000 in 2021, and in the same year Fitprime decided to open a new bank account with Banca Popolare di Milano (BPM) and agreed for another bank advances contract, obtaining an additional ceiling of €100.000. The main risk associated with such a strategy is that of overly increasing the amount of financial expenses, specifically those bank fees occuring due to advances' operations: Fitprime has then planned

[197] Days of Sales Outstanding - the average number of days required to collect a sale
[198] Average Payment Period – the average number of days required to pay suppliers

an oculated process in the choice and management of the invoices to submit, aligned with overall business needs and requirements, and as that able to completely offset associated financial losses.

In particular, invoices advance has been aligned with another important strategy, implemented since the beginning of 2021 along with the slow reopening of the business and related to the acquisition process: subscriptions pre-purchases with sport centres. As explained in the previous chapter, agreements with partners' sport centres are closed on the basis of a token that the centres cash for each user entering into the structure through Fitprime's app: so the net margin gained by Fitprime is defined as follows:

$$Margin = \frac{Monthly\ Pricing - Token * 7{,}8}{Monthly\ Pricing},$$

where 7,8 is the average number of times an individual trains in a month. In order to heighten obtained margins, especially those referring to centres acquired with low margins for strategic network's needs, through pre-purchases Fitprime buy anticipately a certain number of entrance into the addressed sport centres: being the average token's price deducted from the pre-purchase lower than than the price agreed initially, the initially higher outflow of money helps in savings over the medium-long term, and this overall reduction in token's costs impact positively on the centre's margin.

Pre-purchases are then aligned with bank advances: Fitprime cashes clients' invoices in advances in order to finance strategic pre-purchases; benefits in terms of costs reduction may reveal huge in the medium-long term. This is a win-to-win strategy, significantly advantageous for sport centres too: indeed, because of pandemic damages inflicted to sector's players, liquidity shortages had to be faced by the majority of the managers and pre-purchases represented a relevant source of immediately available liquidity for them. This new business possibility opens important avenues for Fitprime's network: on the one side, such a process may reinforce partnerships with important incumbent partners; on the other side, it represents an extra weapon that can be used in negotiation process, that may reveal critical in acquiring strategic structures (as those near client companies' headquarters) unobtainable otherwise. This strategic approach was maintained even after the €2,5Mln capital raising obtained at the end of 2020: despite it delivered enough liquidity to satisfy operational needs, thanks to bank advances operations it has been possible for Fitprime to commit resources on many different growth projects at the same time, according to the post-AUCAP industrial plan providing important investments in the various business divisions of the company.

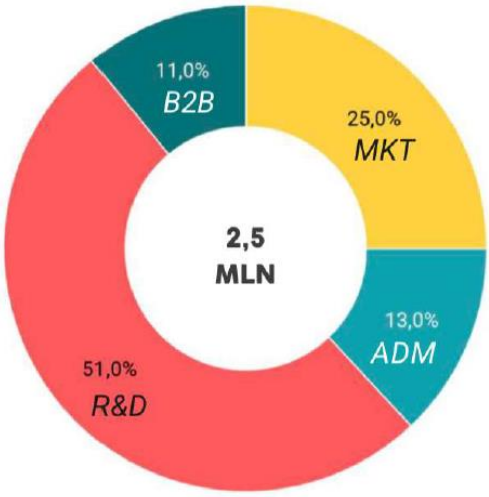

Figure 40: Fitprime assumed budget after its last capital raising

Most of the resources are programmed to be committed to further investments in Research and Development, impacting on single products as well as on the whole business infrastructure. Up to date, first steps ahead have been accomplished: indeed, in the month of July, Fitprime has officially migrated its operations to a new platform, equipped with totally redesigned infrastructure in terms of back-end and front-end, graphics and user experience, functionalities and components. Consequently, an upgrade in both the website and the app has been obtained, enhancing the quality of the product and making all the related processes more efficient.

Research & Development activities at a product level will impact especially on the Fitprime TV side, which at the moment represents the real trend to follow in an increasingly digital-oriented sector where the adoption of online features and online technologies is the key to achieve market leadership, especially in terms of competitive advantage over other players. The department dedicated to the product has already undergone a major expansion in recent months, thus the focus had to shift on the production of content: studies and consultations are work in progress to upgrade Fitprime's training formats, the scouting in order to enlist new trainers more and more skilled continues unabated, and the company is currently looking for a second recording studio to be opened in the city of Milan in order to increase and further streamline the process of content creation. The platform's functionalities are also gradually evolving in the last few months: at first, an official and stable streaming system has been developed to allow the transmission of lessons and live contents, and later on a chat again linked to live streaming area has been implemented through the usage of Stream.io software. Considering the importance of the TV product for Fitprime's business dynamics, it was also unavoidable to think about strategically setting up legal protections towards it: the TV product has already been recognized during the first months of 2021 as a software patent and filed within SIAE. The next

move seems to be the protection of Fitprime's training formats through the registration of a trademark for the product, which would be added to the three already existing ones (Fitprime, Fitprime Horizontal, Fitprime Corporate, all filed and recognized during 2020) and will identify Fitprime's formats as unique through the industry.

In the near future, the possibility of investments linked to the use of machines such as bikes and treadmills could also be taken into account. Sales of training equipment has established as one of the emerging trends in the fitness sector through the pandemic, reinforced by its embracing by some of the biggest players in the market, like Peloton and Technogym. A possible outcome in Fitprime's business could be a subsequent creation of a specific section of the platform dedicated to the purchase of training equipment made available by partner companies at discounted prices. This initiative could have a significant impact on customer retention and may settle as a new sales channel for Fitprime, to be added to those already existing and integrated into the sales strategy (as digital, youtube, and B2B), but this integration has not even been considered at the moment because TV products still needs to reach its final status, so right now the priority is to support its growth before supporting it with other adjacent services.

Important parallel investments are also planned for the remaining two products of the Fitprime offer, starting with the Lifestyle Nutrition module which seems to have the greatest growth prospects in the coming months. In addition to the team of Fitprime nutritionists, now composed of two professionals who recently joined the company, an evolution of the product is expected to be produced thanks to the integration of Oreegano, an online space app working as a nutritional compass and that will enhance the customer nutritional experience. On the subscription side, the implementation of a new business management system has already been set this Summer and, although still in the evolutionary maintenance phase, it has already proved to be definitely more efficient and accessible than the previous one, improving the management of the Fitprime's service by sports centers. In addition, the process that should lead to an expansion of the range of packages available for purchase is undergoing, while network-related activities prosecute restlessly, seeking for a further expansion due to strategic needs related to the closure of more and more deals with corporate companies scattered throughout Italy. Finally, an important innovation that is gaining momentum on the product side is Fitprime Kids, an expansion of the traditional subscription product that will also allow younger athletes to have a multi-purpose subscription to use in the Fitprime network. The sales division has already introduced within it a new vertical figure on this new entry, which at least in the initial phase

should be available exclusively on the B2B side, similar to the already existing opportunity offered to family members of employees of corporate clients.

The commercial segment front is also hot in these last months: in the B2C channel the priority is currently represented by the improvement of the customer experience, already partially achieved through the renewal of the Fitprime platform, and such a process should continue with further intergrations such as new apps (for example the version for Smart TV, one step away from going live) and new features available to users, together with the inclusion of the TV product directly within the Fitprime app. B2C segment growth will be properly supported by parallel improvements in marketing strategies well. Marketing department never stopped its activities over the COVID-19 period, and especially over the last months contextually to sport centres reopening, resources committed in ads and campaign have significantly increased in their amount, in order to attract as many athletes as possible to come back in presence training or to try the new TV product. One important concern is on the operativity of the department, starting from the lead generation process to the post-acquisition customer management. Historically, Fitprime marketing activities have been carried out with the aid of a large amounts of tools with different functions, but in 2020 this company's trend lost appeal in favour of an higher "centralization". In particular, the company has heavily invested in a sophisticated marketing and CRM software called "Salesforce", an important investment in terms of money and formation but that on the long term will replace the previously operating tools and deliver marketing activities to the next level.

Concerning B2B channel instead, we have already explained the extraordinary importance covered through the last two Fitprime's years: it is then quite obvious that it is the segment onto which invest more significantly. Ideas seem to be clear: first of all, the Corporate Platform will be the next product to go through a technological evolution, as a new modular platform has been planned to be developed and implemented by 2022. The B2B department is growing in these last months, adding figures more related to the corporate market, but also trying to explore a disregarded segment as that of SMEs: considering the capillar diffusion of this type of company on the Ialian territory and their relevant contribution to the overall economic activity, this group of firms may become a new targeted segment able to add a relevant turnover to Fitprime's business revenues.

In order to evaluate the possible pandemic impact on Fitprime business, the team tried in 2019 to provide some forecastings about the biennium 2019-2020, hypothesising a worst case scenario and so producing downsized projections of revenues and profit drivers of the company.

Despite the worst scenario approach, the main assumption of a sport centres stable reopening through 2020 revealed as wrong, considering the recalled start-and-stop approach adopted by italian government. Even if revenues expectations turned out as far overvalued than the observed value through 2020, Fitprime's performance has proved astounding in some specific fields: first of all, B2B sector focus revealed successful, as the 2020 value showed to be more than ¾ compared to worst case projections, managing to produce impressive results despite the reduction in the breadth of company's offering (€405.000 VS expected €627.000). Despite the uncertainty over business forecastings, total costs incurred by the company slightly differed from how it was expected to be. In particular, a negative delta has been observed in salaries: rather than stopping team expansion, Fitprime strategically operated new assumptions just in some departments, especially the marketing and B2B one, without renouncing to an organic growth of the company in terms of staff members. Moreover, apart from TV channel which was still just an idea in top management's mind and then not included into the scenario analysis, margins in the commercial channels resulted higher than expected, especially on the B2B channel where this value turned out as more than doubled compared to the forecasted 41%.

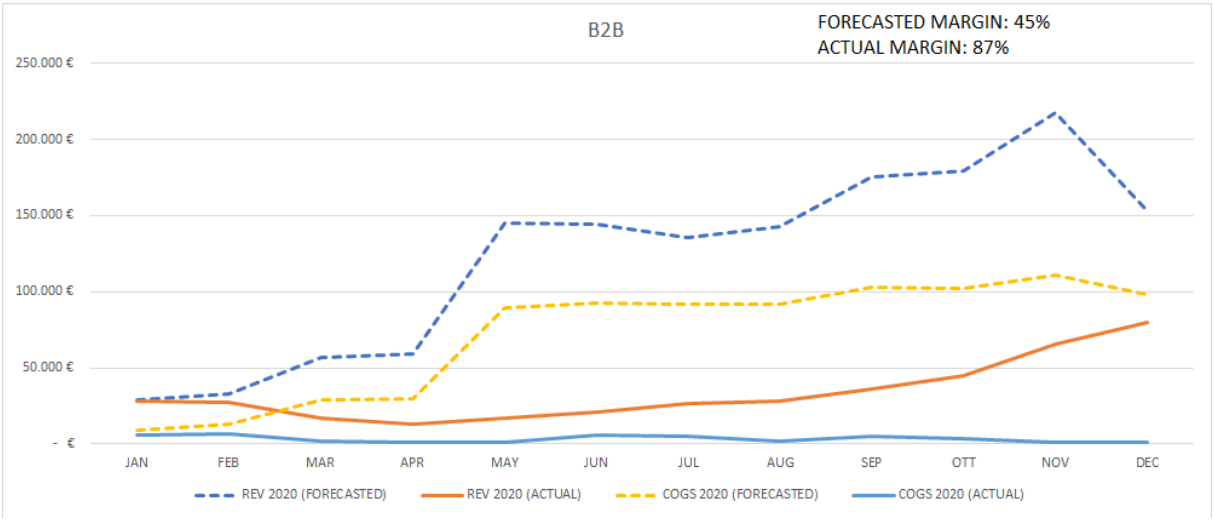

Figure 41: Fitprime's B2B Performance in 2020 - Forecasted VS Actual

In view of the above excursus, there is an evidence of a possible bright future for Fitprime's business. Growth expectations for the company look like able to make Fitprime a first class player in the Italian wellbeing industry. But a forward-looking hypothesis of internationalization cannot be refused up to date: in fact, the company was already seeking for market penetration opportunities in adjacent foreign markets, as those of Switzerland and Austria, but plans have been unavoidably stopped and cancelled by pandemic outbreak. Recently, the internal management is rethinking about this possible outlook, starting to prepare some contents in language to be shared with foreign potential users, while also looking at

international exit channels that may start a new chapter for Fitprime's story, through or not an abroad expansion. Regardless of the how, certain is that a product like Fitprime has several future exit channels; these could be mainly encapsulated in two:

- **Players similar to Fitprime**: there have been several acquisitions made by larger players that in view of market expansion and consolidation often prefer to acquire other startups. To date at the European level, even if it has already received some M&A proposals since 2018, Fitprime is still among the very few "independent" startups: at the other end we find the majority of the other players including Urban Sports Club and Gympass, currently controlled by Sodexo. Especially with regard to the Italian market and Fitprime's predominant role, thanks to B2B agreements, this exit strategy looks like very plausible in the upcoming future.

- **Welfare/Corporate**: the acquisitions made by Sodexo (Gymlib and Andjoy) and the numbers in the welfare and sports market show that products such as Fitprime are extremely appealing in this industry, both in terms of margins and completeness of the offer. As of today, in Italy the first acquisitions of welfare providers by large groups are at their beginnings (e.g. Edenred buying EW for $58Mln), and the same has already happened abroad: the next step will probably be an attention shift on providers themselves. The Corporate channel is also interesting for machinery companies that want to attack the corporate market (setting up indoor spaces); an example in that sense is that of EGym machinery company, which acquired Qualitrain in Germany in 2018.

The last process undergoing inside Fitprime represents company's intention to fully take awareness of these last two years full of challenges and changes: it is the reason why Fitprime is moving towards an end-of-year rebranding plan, aimed at repositioning the brand in the light of its recent experience and the new image it has assumed in the eyes of society. Reclassification of activities, relabeling of some of the products according to business needs and new lapels, but above all a clear and complete redefinition of Fitprime's vision and mission. After the pandemic, the company opened wide its eyes on what they want to represent for the society: a service capable of allowing every individual to live its own moment of wellness without space and time conditioning. There is still much to be done, a long period of time before the pandemic scars left would be fully recovered: Fitprime is certainly well on its way, thanks to its strategic resilience-aimed approach and its orientation towards digital trends, and if its members will manage to keep up the pace over the next years, it will be a brand to look at with attention and admiration, and that will inspire future generations not to give up through crisis moments of their histories.

CONCLUSION

Among my latest readings, I was particularly impressed by the new book written by Cosimo Bambi, "Niente è impossibile"[199] (Nothing is impossible); it is an optimistic guide to the discovery of impossible things: time travel, black holes, curved spaceships, hyper curves, gravitational waves, and parallel universes. A journey into the meanders of the impossible, in the contemporary wake of our imagination, through which taboos are explored in the light of all that we currently know about the cosmos. Cosimo Bambi's book can be considered a space map for "curious spirits": considering myself a "curious spirit", I have been particularly involved by the most disconcerting revelations presented in this work, and page after page I found a link between the book's contents and what humanity has suffered in this period of COVID-19. In the same way as the vicissitudes of the Covid made the society reconsider the value of what it already had in its hands, the book "Nothing is impossible" is a work that with clarity and simplicity puts us in front of some of the most puzzling revelations of scientific research, making us wonder not for what we ignore, but for what we already know, arousing wonder not for what is unknown but for what is "unimaginable". The attention paid to the reading led me to reflect on the most common synonyms "unimaginable, improbable, absurd", which we usually attribute to the term "impossible": effectively, nothing is more surprising than the impossible that becomes reality in the moment that we discover the key to implement it.

In the first months of 2020 we were confronted with the health and social catastrophe of COVID-19, to which Italy and the world have reacted in a particularly decisive way, with a heavy impact on lifestyles and intervening even on individual freedoms, which had remained free from restrictions for almost a century. Isolation of people, closure of urban centers, markets, public and private work activities, sports facilities, and more, have produced "unpredictable" responses, particularly for schools, dealing with problems of childcare and disabled pupils, interrupted learning, compromised nutrition and consequent economic costs for families, businesses and work. In this framework, my personal experience led my reflections to dwell on school and university worlds, which have found themselves using open educational resources to reach students of all age groups, remotely, to limit interrupted learning. In that sense, the application of distance learning has revolutionized the world of schooling by offering new opportunities on the effectiveness of this form of teaching; it will be subject to evaluation

[199] Bambi Cosimo. Niente è impossibile - Viaggiare nel tempo, camminare nei buchi neri e altre sfide scientifiche. Il Saggiatore, 2020

only in the course of this year and the years to come, as it will shed light on the results of this modus operandi which inevitably involves comparisons between different generations.

I tried to analyze the "closure" caused by the health emergency also in terms of performance and usage of new technologies, especially being it concurrent with the travel and vacation season, but also with events in the film industry, tourist attractions and fairs, festivals, music concerts, fashion shows, sporting events, and conferences. Moreover, due to the rapid spread of the virus, the flow of visitors to museums and places where culture is enjoyed has been drastically reduced, and guided tours and virtual events via the web have managed to compensate for the losses in the real economy just partially. Food for thought was also offered by work: indeed, this topic presented the need for workers to comply with quarantine obligations, to contain the spread of the coronavirus, leading to travel restrictions through the imposition of "agile work", defined as "the largest experiment in smartworking ever made in the world", but which required a particuar focus on new technologies.

The pandemic scenarios and the lessons learned demonstrate how COVID-19 may be the long-awaited "big one", capable of bringing global societies and economies to their knees. Long-dominant development models, such as those promoting economic growth, market liberalization, globalization, carbon-intensive industries, and command-and-control planning regimes, are facing an unprecedented challenge. The lockdown of 2020 has brought about radical changes in our living habits and traditional ways of doing business, which are and will be affecting us for a long time, with the possibility of becoming definitive changes. So preparation for this new paradigm shift is required both from an economic-social and technological perspective.

We are facing what the American philosopher Thomas S. Kuhn called a "paradigm shift"[200], a concept needing the past and its basic assumptions to be abandoned, in order to embrace a future of opportunities and discoveries. The studies carried out on this catastrophic event and the consequences it is determining are defining the "new normal": the design of what the future world will look like, redefined by the economic-social effects of the pandemic, rebuilt after the collective reaction of all global institutions and social resources. The term "new normal" has arrived in this period in sociology to define the social models that will be constituted after the epidemic, representing the new paradigm on which further research are required, and as that are ongoing over these months. Particularly relevant are the studies carried out by the

[200] Kuhn Thomas. The Structure of Scientific Revolutions. (1962)

prestigious consulting agency McKinsey, in which they define the "new normal" as the "next normal" to indicate a flow of constantly evolving events such as those caused by the pandemic revolution[201]. Since the impact from COVID-19 is likely to remain with us for a long time, it is wise to ascertain that the new normal is the new social normal, as well as the new paradigm – as sociologists claim. This new normal is expected to be different from our recent past, meaning that opportunities will arise for those who could anticipate the new future.

Preparing for economic recovery is necessary today, especially because we are still living on the pandemic scenarios of COVID-19, which for all is the biggest health emergency since the post-war period, noting as hospitals, healthcare facilities and vaccines that have been used have not yet been able to immunize the entire population. The main result is the need for development approaches that can anticipate and respond to the future, uncertain shocks - be they pandemics, climate change, financial turmoil, or something else we haven't even thought of. Post-pandemic transformation also means embracing uncertainty and promoting often unruly and diverse alternatives that allow economic, social, and political systems to transform toward more equitable and sustainable development paths. We are facing a scenario in which businesses, governments, and society as a whole will be forced to invest in preparing for future crises: in addition to the clearly visible impact on the lives of individuals, families, and communities, COVID-19 also has economic, operational, and financial ramifications, influencing the production and business system as well. Many realities have been affected by declining or collapsing sales and reduced consumer demand, supply chain disruptions, transportation restrictions, limited staff mobility, and resulting production difficulties. All these issues will have a domino effect on global markets, so it is important for organizations to be proactive and prepared, focusing on identifying risks and organizational exposure, finding critical dependencies, and developing pragmatic and effective crisis and resilience solutions when planning for the (potential) impact of future crises.

Today it is necessary to understand how to use one's assets to redesign family, economic-social and business strategies: to achieve this, experts suggest the application of "lateral thinking", that is, the ability to observe events from different angles and find unusual ways to arrive at different and possibly more effective solutions to face the future. I believe that, in these new scenarios of COVID-19, "lateral thinking" has been applied properly and strategically, firstly because this new paradigm of the "new normal" has already made us of agile working applied to workers since the beginning of the pandemic, both in the public and in the private sector.

[201] McKinsey & Company. The next normal arrives: Trends that will define 2021—and beyond. Article, January 2020

Lateral thinking has also given the opportunity to teachers and pupils to work remotely, taking advantage of laptops, tablets, smartphones; it has taken care of teachers' training without neglecting the education of pupils; it enabled business meetings through a close and fruitful exchange of ideas and proposals with the relevant offices. As a result, the digital transformation driven by internet technology applied to everyday things has been increased significantly.

This kind of digital transformation represents the scenario of an unprecedented change in the history of mankind, with impacts still not fully known; the use of digital technologies, internet of things, and innovative instrumentation is able to provide us with answers in real time. The conscious use of digital has led, during this pandemic, to a profound transformation of production processes, business organizations, and work based on advanced digital technology, a new challenge for organizations rather than digital technology based on the use of time: reduction of working time and costs of transferring news that allow the production of measurable benefits.

Due to the coronavirus and its deadly consequences, the world as we knew it has changed and every company in every sector is more than ever directed towards embracing progress, especially looking at digital transformation as the new standard, combining digital and face-to-face interactions as a way to better position their products and services and to better professionalize their workers, creating more value for society while facing possible disruptions. While there is great concern about the controversial aspect of using technology exclusively in work processes, we should rather look at digitalization as a way to empower the workforce, rather than to replace them with machines. Digital solutions will help people in their daily tasks, data processing and changing the mindset to focus on decision making, monitoring and supervision, as every department from HR to finance could benefit.

Despite the fact that technology has become an integral part of our existence, many companies still struggle to incorporate it into their processes and do not carry out the necessary experimentation. This is especially true in the case in old-fashioned companies that see the digitization process as an unnecessary expense rather than an investment, losing sight of the goal of leveraging the opportunities offered by technology to improve performance and productivity. In addition to acquiring the right professional figures and tools, the first step should involve a profound change in mentality, as digitizing does not just mean sending an email instead of a business letter, but adapting all business processes to the needs imposed by the digital era, where speed of execution and efficiency play crucial roles.

This is especially important for small and medium-sized businesses, which have to move in an increasingly competitive and changing market. It is essential to know the advantages and facilities available to companies, because they represent the first step to make an effective change. However, a change of mentality and business organization is necessary, especially in companies with experience and many years of activity behind them: this means making management understand that, in order to remain competitive in a globalized world, it is necessary to consider outdated the strategies of the early 2000s.

In this sense, I think it is necessary to completely review strategies and processes, in particular by reorganizing companies and introducing and training professionals with digital skills, also considering that, in the near future, new jobs and skills related to data protection, policy guidance, and trust networks will be needed. Moreover, in order to properly address this process, the change within companies should be entrusted to specific competent figures, which the literature indicates as "innovation managers": figures who, after analyzing a company's situation, would be ready to initiate and manage the innovation process, establishing themselves as the leaders of the organizations' evulsive process. I would also add that not only skills, but also cutting-edge tools are a critical vehicle for facilitating digitization in companies and for gradually introducing an endowment of technological resources capable of making business processes more fluid, efficient, fast and strategic. It is not a coincidence that one of the many challenges launched by digital transformation aims to eliminate "office paper", thinking of a new way of communicating and sharing information and documents through a corporate network from which each employee's computer can access and share information capable of creating competitive effects.

Among the main outcomes of the pandemic, the private sector has acquired a leading role in driving the global economic recovery. By hypothesizing possible future scenarios and committing a large part of their resources to innovative investment projects, many companies have embraced the digital transformation process and have managed to exploit it not only as a beneficial approach to the emergency, but also as a way to drive change in a society still tied to tradition and therefore skeptical on the evolution of new technologies and new ways of performing common activities. It was the case of the automotive industry, geared towards a massive migration from physical showrooms to digital platforms as the new home of their sales activities. It was the case of the healthcare industry, approaching the emergency with large investments in vaccine research and development, but especially in new ways of interacting with patients and providing them with medical treatment. It was the case of the fitness industry,

increasingly moving in the direction of mobile apps and digital spaces to renew their way of providing wellness services beyond in-person training, and within which Fitprime has represented one of the most interesting realities to look at.

On the other hand, the public sector has struggled to keep up with the private sector's innovation sprint, often adopting temporary solutions scheduled to be removed after reopenings, or even rejecting digitization to avoid incurring extra costs and efforts toward evolution. The slowness of public administration towards digital transformation has resulted in delays in standard procedures, a low degree of innovation in essential sectors (such as construction and transportations), and well below expectations forms of innovation support to startups and companies. In addition, the lack of international collaboration between countries has negatively contributed to the recovery process of the global economy and society. Innovation actions have only been taken over at a later stage, but still prioritizing difficult projects (such as a comprehensive vaccination of third world countries, to be implemented in a timely manner) rather than supporting the true engine of recovery - private companies. This has resulted in insufficient aids and resources made available to businesses to preserve their continuity and to pursue resilient revival processes.

Governments and public organizations need to learn a big lesson from the current crisis by preparing for the future to better deal with large-scale pandemics, minimizing their disruption of community services and any subsequent economic downturn. Business and management decision centers will need to strengthen their contingency measures and streamline their presence, such as attendance at unnecessary events or training, especially when they have digital alternatives available. They will need to invest more in educating people about the benefits of a balanced digital lifestyle and push companies to accelerate their digital transformation. The private sector should be taken as an example to inspire, in order to start a reorganization process aimed at renewing the public sector and its approach towards digitalization and its potential benefits: streamlining bureaucracy, reducing the time of procedures, greater efficiency, lower environmental impact. At the same time, by better supporting digitalization and private innovation, markets and industries could have important evolutionary prospects: on the one hand, this would represent a great incentive for the creation and development of new startups - a source of acceleration of the digital transformation process - on the other hand, it would encourage further growth of companies and consequently a relevant increase in employment.

From the outlined scenario, one becomes aware that COVID-19 definitely represent thee paradigm shift for people, companies, and entrepreneurs, who find themselves facing sudden decisions in unprecedented circumstances. I believe it is necessary, in this particular historical moment, to draw on the experience and the best practices that past crises have taught us, the solutions found and the actions to put into practice in the new historical contexts. From my point of view, in order to counter the negative effects of today's crisis, we need to focus immediately on the following points:

- Furtherly embrace digital transformation process by investing in digital assets and opportunities, and consider the online strategy as a branch strategy;
- Improve digital presence, especially by leveraging social channels and exploit social media's potential;
- Create the conditions for decision-making process to be performed quickly and responsibly;
- Perform advanced marketing activities and strive to experiment and implement new ideas and solutions in this field;
- Revise advertising campaigns with new strategies to generate leads and acquire customers;
- Communicate your business expertise and focus on increasing trust.

From the studies carried out on the "companies' wellbeing", I also agree that the health of a business is also linked to the health of its employees, so in this global economic scenario it becomes critical also taking care of the psycho-physical health of those who work within it. In Italy, Fitprime has been an ambassador of this trend, demonstrating how digital solutions such as the implementation of useful platforms and apps that bring, with a click, in the daily work and people, sports practices, wellness and fitness, could become, at this juncture, undisputed protagonists of the digital revolution.

After more than twenty months of pandemic, it is necessary that companies do not lag behind through the "new normal", but they rather prepare to face it, or better, enter the "Next Normal". This also requires the preparation and training of "digital leaders" that, in addition to communication skills, are able to bring out technical and organizational skills as well as personal skills of resilience, necessary to identify the flow of events in constant evolution, redesigning the social economic world affected by the coronavirus.

Many points of reflection have been clarified in the present work; it remains to be understood what this experience will leave in the lives of all of us, how it will intensely modify our behavior and when, and how much this event will be able to define the generation of those who are now twenty years old. In this regard, I would like to add on the subject a relevant contribution offered by Russel J. Zwanka, a professor of the University of Michigan who has published exhaustive studies on revolutionary or traumatic events such as the great economic boom, world wars, Kennedy's assassination, and the birth of the internet. In particular, one of its latest studies[202] has analyzed the world lockdown and how it has influenced and will influence powerfully the definition of "generational identities" of those who have experienced this phenomenon during their adolescence and early youth. In this paper, the focus was not limited the normal definition of "generations", but brought its attention to "cohorts", or clusters, or segments of populations that shared the same existential-transformative experience at the same time of life. In this regard, sociologists have expressed themselves by saying that the recent pandemic situation and its implications will contribute to forming young people with the "mind of consumers", so it is stressed how fundamental it is to take into account this cohort, this generation intertwined, from the historical point of view, between the generations straddling the post-millennials and the Z-Generation. It is precisely this segment the one I belong to, and as a part of it I managed to realize a great truth that this epoch-making event is telling to us, and that is that my generation will remain in the history books as the "Lockdown Cluster Generation"

[202] Zwanka Russell J., Buff Cheryl. COVID-19 Generation: A Conceptual Framework of the Consumer Behavioral Shifts to Be Caused by the COVID-19 Pandemic. Journal of International Consumer Marketing (2020)

REFERENCES

Abubakar A.I. et al. The Role of Artificial Intelligence Driven 5G Networks in COVID-19 Outbreak: Opportunities, Challenges, and Future Outlook. *(2020)*

Adámek Pavel, Meixnerová Lucie. COVID-19: Implications for the Business Models. *Journal of Applied Economic Sciences (JAES) 70:860-877*

Adjust. Mobile app trends 2021.

Amit Raphael, Schoemaker Paul J. H. Strategic Assets and Organizational Rent. *Strategic Management Journal, 1993, Vol. 14, No. 1*

Baghiu Mihaela Cristina. Analysis of business model innovation in post covid economy: determinants for success. *Journal of Public Administration, Finance and Law 17:7-24*

Bambi Cosimo. Niente è impossibile - Viaggiare nel tempo, camminare nei buchi neri e altre sfide scientifiche. *Il Saggiatore, 2020*

Barney J. Firm Resources and Sustained Competitive Advantage. *Journal of Management 1991*

Bass Frank M. A new product growth for model consumer durables.

Bhandari Vrinda. Improving internet connectivity during COVID-19. *Digital Pathways Paper Series, August 2020, Paper 4*

Blackburn S., LaBerge L., O'Toole C., Schneider J. Digital Strategy in a time of crisis. *McKinsey & Company (August 2020)*

Bloomberg Jason. "Digitization, Digitalization, And Digital Transformation: Confuse Them At Your Peril"

Bonnet Didier, Westerman George. The New Elements of Digital Transformation.

Bose Sudipta. COVID-19 impact, sustainability performance and firm value: international evidence. *(2021)*

Boston Consulting Group research. Overcoming the Innovation Readiness Gap - Most Innovative Companies 2021.

Brem A., Viardot E., Nylund P.A. Implications of the coronavirus (COVID-19) outbreak for innovation: Which technologies will improve our lives? *Technol Forecast Soc Change. 2021 Feb; 163: 120451*

Censis. 1° Rapporto Censis-Eudaimon sul welfare aziendale *(2018)*

Chinoracký Roman, Čorejová Tatiana. Impact of Digital Technologies on Labor Market and the Transport Sector.

Christensen Clayton M. The Innovator Dilemma: When New Technologies Cause Great Firms to Fail. *Harvard Business School Press, Boston Massachusetts*

Cobo-Benita J. R., Herrero Amo M. D., Santiuste A. C. Rethinking businesses: Collaboration, digitalization, and sustainability as core pillars for future innovative and resilient. *ESCP Impact Paper No. 2020-30-EN*

Coeurderoy R., Wiszniowska U.A. COVID-19 and the scale-up of the platform revolution. *ESCP Impact Paper No. 2020-41-EN*

Congressional Research Service - Global Economic Effects of COVID-19

Couturier J., Sola D. Strategic agility in a time of crisis. *ESCP Impact Paper No. 2020-32-EN*

Deloitte Insights. May the workforce be with you - The voice of the European workforce 2020. *(June 2020)*

Deloitte Insights. Tech Trends 2021.

Deloitte. Addressing the impact of COVID-19 - Crisis management and resilience planning *(2020)*

Deloitte. EuropeActive European Health & Fitness Market Report 2020

de Robespierre Maximilien. Discours contre les Girondins. *(November 5, 1972)*

Doreen Bogdan-Martin (ITU). Accelerating digital connectivity in the wake of COVID-19. *17/09/2020*

Dun & Bradstreet Worldwide Network. Global Bankruptcy Report 2020.

Emanuel E. J. et al. Fair allocation of scarce medical resources in the time of COVID-19. *N. Engl. J. Med. 382, 2049–2055 (2020)*

Eurofund. Living, working and COVID-19 (Update April 2021): Mental health and trust decline across EU as pandemic enters another year.

European Commission. A European strategy for KETs - A bridge to growth and jobs. *COM/2012/0341 final*

Fitch Solutions. COVID-19 Global Industries: 2021 Recovery Outlook - Identifying Outperforming Sectors *(December 2020)*

Ford David. Develop Your Technology Strategy - Long Range Planning. *Vol. 11, No. 5, pp. 85 to 95, 1988*

Garcia-Canal Esteban, Valdés-Llaneza Ana, Sanchez-Lorda Pablo. Technological flows and choice of joint ventures in technology alliances.

Getz I., Marbacher L. COVID-19: How some companies leapt, while others stalled. *ESCP Impact Paper No. 2020-17-EN*

Goodman Richard Arthur. Technology and Strategy: Conceptual Models and Diagnostics.

GWI Annual Report 2018 | Global Water Institute

GWI Annual Report 2019 | Global Water Institute

Harhoff, Dietmar. The role of patents and licenses in securing external finance for innovation. *EIB Papers, ISSN 0257-7755, European Investment Bank (EIB), Luxembourg, Vol. 14, Iss. 2, pp. 74-97 (2009)*

IDC, Statista estimates; Salesforce.com

ILO Monitor. COVID-19 and the world of work. *(Seventh edition) Updated estimates and analysis*

IMF Annual Report 2020. "A year like no other".

IMF World Economic Outlook – July 2021

Institute of International Finance. Cloud Computing: a vital enabler in times of disruption. *June 2020*

Inter-American Development Bank. "Exponential disruption in the digital economy" *(2018)*

International Fitness Observatory & Teamsystem. Digitalizzazione & Fitness in Italia. *Market Research Dec 20 – Jan 21*

IPP, Company Earnings Reports (as of February 2021)

ITU. Economic impact of COVID-19 on digital infrastructure. *GSR-20 Discussion Paper, July 2020*

Kane G. C., D. Palmer, Phillips A. N., Kiron D., Buckley N. Strategy, Not Technology, Drives Digital Transformation. *MIT Sloan Management Review and Deloitte University Press, July 2015*

Kaur H., Singh T., Arya Y.K., Mittal S. Physical Fitness and Exercise During the COVID-19 Pandemic: A Qualitative Enquiry. *Front. Psychol. 11:590172 (2020)*

Keeley Larry, Walters Helen, Pikkel Ryan, Quinn Brian. Ten Types of Innovation: The Discipline of Building Breakthroughs

Kijek T., Kijek A. Is innovation the key to solving the productivity paradox?

Kim B. Managing the transition of technology life cycle. *Technovation, Volume 23, Issue 5, 2003*

Kirtley J., O'Mahony S. What is a pivot? Explaining when and how entrepreneurial firms decide to make strategic change and pivot. *Strategic Management Journal (January 202*0)

Klapper Leora. How digital payments can benefit entrepreneurs. *IZA World of Labor*

Krishnan Mekala, Mischke Jan, Remes Jaana. Is the Solow Paradox Back? *McKinsey Quarterly, article 06/04/2018*

Kudyba S. COVID-19 and the Acceleration of Digital Transformation and the Future of Work. *(2020)*

Kuhn Thomas. The Structure of Scientific Revolutions. *(1962)*

Kushwaha S. et al. Significant Applications of Machine Learning for COVID-19 Pandemic. *Journal of Industrial Integration and Management, Vol. 05, No. 04, pp. 453-479 (2020)*

Leach Melissa, MacGregor Hayley, Scoones Ian, Wilkinson Annie. Post-pandemic transformations: How and why COVID-19 requires us to rethink development. *World Development, Volume 138, 2021*

Lee Sang M., Trimi Silvana. Convergence innovation in the digital age and in the COVID-19 pandemic crisis.

Lindgardt Zhenya, Ayers Margaret. Driving Growth with Business Model Innovation.

Luther William J. Bitcoin and the Future of Digital Payments. *The Independent Review, Winter 2016, Vol. 20, No. 3*

Market Research Future. Global machine learning market research report – Forecast till 2027. *(2021)*

MARKETLINE – COVID-19 Executive Briefing – Updated 16/07/21

MarketLine Case Studies. The Future of Work: COVID-19 is accelerating technological and employment changes that were underway. *(July 2020)*

MarketLine Case Study. Self-isolation and Wellbeing - Brands address consumer health during a global pandemic. *MLCS0001-027, April 2020*

MarketLine Industry Profile. Global Gyms, Health & Fitness Clubs (December 2020)

MarketLine Industry Profile. Gyms, Health & Fitness Clubs in Europe (February 2020)

MarketLine. Digital transformation will be vital for survival in the post-Covid World. *(December 2020)*

Markides Constantinos. Strategic Innovation.

Mazareanu E. Coronavirus: impact on the aviation industry worldwide - statistics & facts. *Statista report, August 2021*

McKinsey & Company. How COVID-19 has pushed companies over the technology tipping point—and transformed business forever. *McKinsey Global Publishing, 2020*

McKinsey & Company. The next normal arrives: Trends that will define 2021—and beyond. *Article, January 2020*

McKinsey Digital. Digital strategy in a time of crisis. *2020*

McKinsey Quarterly. How the automotive industry is accelerating out of the turn. *(July 2021)*

Meiller Y. Digital transformation, COVID-19 crisis, digital transformation. *ESCP Business School, ESCP Impact Paper No. 2020-36-EN*

Mühleisen Martin. The Long and Short of The Digital Revolution. *IMF, Finance & Development, June 2018, Vol. 55, No. 2.*

Namugenyia Christine, Nimmagaddaba Shastri L., Reinersc Torsten. Design of a SWOT Analysis Model and its Evaluation in Diverse Digital Business Ecosystem Contexts.

Nobre H., Silva D. Social Network Marketing Strategy and SME Strategy Benefits.

OECD – Oslo Manual: guidelines for collecting and interpreting innovation data

OECD (2015), Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development.

OECD Economic Outlook – May 2021

OECD Policy Responses to Coronavirus (COVID-19). Rebuilding tourism for the future: COVID-19 policy responses and recovery *(December 2020)*

Oh Wonseok, Pinsonneault Alain. On the Assessment of the Strategic Value of Information Technologies: Conceptual and Analytical Approaches. *MIS Quarterly, Jun. 2007, Vol. 31, No. 2 (Jun. 2007), pp. 239-265*

Perez Carlota. Technological revolutions and techno-economic paradigms. *Cambridge Journal of Economics 2010, 34, 185–202*

Piotrowski D., Piotrowska A.I. Operation of gyms and fitness clubs during the COVID-19 pandemic – financial, legal, and organizational conditions. *Journal of Physical Education and Sport ®(JPES), Vol 21 (Suppl. issue 2), Art 127 pp 1021 – 1028, Apr. 2021*

Pitchbook. European Venture Report (Annual 2020)

Policy Department for Economic, Scientific and Quality of Life Policies. Impacts of the COVID-19 pandemic on EU industries

Porter M. E. The Five Competitive Forces that Shape Strategy. *Harvard Business Review 57 (January 2008)*

Porter Michael E., Millar Victor E. How information gives you competitive advantage.

Porter S. Social media marketing strategies for the post-COVID new normal.

Pucciarelli F., Kaplan A. Force for good: Social media's bright side restored. *ESCP Business School, ESCP Impact Paper No. 2020-33-EN*

Queenan Joe. One for the Books. *Viking Adult, 2012*

Report Grand View (GVR), 2016. Wearable Medical Device Market Analysis and Segment - Forecasts to 2022. *Market Research Report, ID: 978-1–68038-724-7*

Research and Markets. Virtual Private Network (VPN) - Global Market Trajectory & Analytics, 2021.

Ritter T., Pedersen C.L. Analyzing the impact of the coronavirus crisis on business models. *Industrial Marketing Management 88 (2020) 214–224*

Rogers E. M. Diffusion of Innovations. *New York: The Free Press, 1962*

Rose N. L. Will Competition Be Another COVID-19 Casualty? *The Hamilton Project, ESSAY 2020-15 | JULY 2020*

Sanjeev Dewan, Kenneth L. Kraemer: Information Technology and Productivity: Evidence from Country-Level Data, Management Science. *Apr. 2000, Vol. 46, No. 4, Information Technology Industry (Apr. 2000), pp. 548-562*

Schroeder Dirk G. Turn Your COVID-19 Solution into a Viable Business. *Harvard Business Review, July 2020*

Schumpeter Joseph A. Business Cycles *(1939)*

Schumpeter, Joseph A. The theory of economic development: an inquiry into profits, capital, credit, interest, and the business cycle. *1883–1950 (1983)*

Sensortower Report. The State of Food Delivery Apps in 2021. *(March 2021)*

Sharma R. Tesla (TSLA) Plans for Future, Makes Changes to Business. *Investopedia Company News, July 2021*

Solow Robert (1987)

Solow Robert M. - Technical Change and the Aggregate Production Function. *The Review of Economics and Statistics, 1957, Vol. 39, No. 3*

Soto-Acosta Pedro. COVID-19 Pandemic: Shifting Digital Transformation to a High-Speed Gear. *Information Systems Management, 37:4, 260-266 (2020)*

Startup Genome. Global Startup Ecosystem Report 2020

Startup Genome. Global Startup Ecosystem Report 2021

Statista Digital Market Outlook. eCommerce Report 2021 *(June 202*1)

Statista. Online revenues forecast for the eServices Fitness market worldwide from 2017 to 2024 *(2020)*

Taulli T. How Airbnb Beat The COVID-19 Virus. *Forbes, November 2020*

Teece D.J., Pisano G., Shuen, A. Dynamic capabilities and strategic management. *Strategic Management Journal, 18, pp. 509–533 (1997)*

Teece David; Pisano Gary; Shuen Amy. Firm Capabilities, Resources, and the Concept of Strategy. *(1990)*

United Nations. Economic Commission for Africa; United Nations. Economic Commission for Africa *(2021-03)*. COVID-19 Impact on E-Commerce: Africa. Addis Ababa. © *UN.ECA.*

UNWTO. How are countries supporting tourism recovery - UNWTO BRIEFING NOTE – TOURISM AND COVID-19, ISSUE 1 (June 2020)

Vartolomei V. C., Avasilcai S. Challenges of digitalization process in different industries - Before and after. *2019 IOP Conf. Ser.: Mater. Sci. Eng. 568*

Vonortas Nicholas & Zirulia Lorenzo. Strategic technology alliances and networks. *Economics of Innovation and New Technology, 24:5, 490-509 (2015)*

Wetherbe, James C.; Turban, Efraim; Leidner, Dorothy E.; McLean, Ephraim R. (2007). Information Technology for Management: Transforming Organizations in the Digital Economy *(6th ed.). New York: Wiley*

World Bank Group: Global Economic Prospects *(January 2021)*

World Bank. The Global Economy: on Track for Strong but Uneven Growth as COVID-19 Still Weighs *(June 2021)*

World Trade Organization. COVID-19 and global value chains: a discussion of arguments on value chain organization and the role of the WTO.

Wurmser Yoram. An Overview of 5G Technology Worldwide 2021 – Why the New Standards Are About More than Speed. *Insider Intelligence, Mar 2021*

Yeh Shih-Shuo. Tourism recovery strategy against COVID-19 pandemic. *Tourism Recreation Research, 46:2, 188-194 (2021)*

Zaid Bin Mat Yusop. PESTEL Analysis. *COMRAP 2018, 1st National Conference on Multidisciplinary Research and Practice 2018*

Zwanka Russell J., Buff Cheryl. COVID-19 Generation: A Conceptual Framework of the Consumer Behavioral Shifts to Be Caused by the COVID-19 Pandemic. *Journal of International Consumer Marketing (2020)*

WEBSITES

https://blog.trade.gov/
https://corporatefinanceinstitute.com/
https://forrestbrown.co.uk/
https://group.jumia.com/
https://influencermarketinghub.com/
https://investors.zoom.us/
https://moiglobal.com/
https://newsroom.spotify.com/
https://onlyfans.com/
https://www.accenture.com/
https://www.bankrate.com/
https://www.bikebiz.com/
https://www.bloomberg.com/
https://www.collinsdictionary.com
https://www.crowdstrike.com/
https://www.datanyze.com/
https://www.ey.com/
https://www.gartner.com/
https://www.globenewswire.com/
https://www.i-tel.it/
https://www.marketing91.com/
https://www.nio.com/blog/nio-life-three-years-old
https://www.nytimes.com/
https://www.paymentscardsandmobile.com/
https://www.pharmaceutical-technology.com/
https://www.productplan.com/
https://www.reuters.com/
https://www.statista.com/
https://www.unwto.org/
https://www.visualcapitalist.com/

SUMMARY

The digital transformation represents the main cultural challenge of the 21st century, a deep change in the economic and social paradigm of the global population in the new everyday life. What has followed the wave of globalization was the incredible advancement of technology, the need to simplify interactions incentivizing innovation and technological progress as a form of problem solving.

The iconic expression "digital transformation" came out after the definition of the two apparently synonyms "digitization" and "digitalization", with the latter applied to the business context as "the use of digital technologies to change a business model and provide new revenue and value-producing opportunities".

Digital transformation is often referred to as "Third Industrial Revolution": through history only few technological trends have brought such big alterations of the global environment as digital did (e.g., electricity and steam engine). Its value has been evident since the advent of internet, up to modern era, where Artificial Intelligence, mobile technologies, and all the components of the Internet of Things have been a disruptive element in the traditional approaches to work and daily life.

Carlota Perez' theory on Technological Revolutions dismantled previous theories of great thinkers as Joseph Schumpeter and its business cycles framework: TRs are more oriented towards a revolutionary power, with the potential to establish as a new "Technical paradigm" delivering enhancement in terms of quality and efficiency.

Despite IT has been questioned repeatedly over time, for example with the productivity paradox firstly raised by Robert Solow, it was observed its unequivocal effect on productivity and business activities in general. Both process innovation and product innovation benefitted from new technologies, representing in that sense as a stand-alone variable in the standard productivity function, even if its process of diffusion and adoption revealed to be difficult to predict and dependent on many different factors – that many theorists, first of all Frank Bass, tried to model.

Numbers constantly confirm the acceptance of this phenomenon on behalf of global markets and society, but this must not mislead from the relevant degree of uncertainty that it brings with it, together with parallel issues such as the increase of the "digital divide", the crescent number of cyber frauds, and the addicition to social networks.

Digitalization relevantly influenced the field of strategy, traditionally intended as "a general plan or set of plans intended to achieve something, especially over a long period", and applied to define businesses' directions and business model through strategic planning. Classic approaches to internal and external business analysis - Porter's framework, PESTEL analysis, and SWOT analysis – as well as to resources and capabilities, underwent a evolutionary phase thanks to technology, a variable influencing business functions in the ways they are delivered.

The binomy technology-innovation is invested of an undeniable importance in business contexts, and it is when the disruptive potential of these two critical factors meet and combine with strategy, that their admixture can lead to competitive advantage. A disruptive innovation could represent a very different value proposition that is likely to revolution industries and lead big companies to failure.

There must not be lost the sight of strategy as a shield against uncertainty, competitors' actions, and any counter force to potential benefits of technological progress: in that sense the strategic value of innovation has to be seeked in resources (e.g., VRIO framework) as well as in capabalities (e.g., dynamic capabilities framework). Technology plays there a critical role, especially towards business model definition and strategy ideation: having a proper technology strategy, consisting of policies, plans and procedures for acquiring knowledge and ability, managing and exploiting them for profit, represents a fundamental analysis to perform. Business model innovation and digital strategies are trends to be followed through this era, a weapon against emerging mavericks, a new smart way of solving problems.

From Thrid Industrial Revolution to Industry 4.0, goals in terms of technological innovation and digitalization for countries and institutions have historically been driven by: customers' expectations, changes in the competitive landscape, and digital shifts in organization's industry. Digital mastery has then become more important than ever: digital transformation has brought outstanding advances in technologies, creating new and continuosly developing avenues for value creation, so it is necessary to capture these new opportunities in a strategic way.

Firms take TLC curve as a referral point for technology life pattern to be taken into account to properly embrace digital transformation. The preliminary phase requires to focus on the right investments to make, so decision about expenses on current costs (e.g., tech personnel) and capital costs (e.g., equipments and softwares), often orientated towards the creation of a digital platform to provide products and services. Investments on tech R&D are incentivized by countries and national governments, for example by offering tax credits' and lost-in-found

contibutions' opportunities, and this support companies in launching their innovative projects on the market in a sustainable way.

Technology can then be employed to upgrade existing business areas and approach. Operational excellence have been achieved through ERP implementation, and now is enabled by machine learning diffusion in business processes, despite the concerns on human workforce's replaceability. Customers' expectations can be forecasted and anticipated in a simplier way, by adopting analytics tools and advanced data storages to dig deeper into clientele mind and bring customer experience to the next level.

After reaching the market saturation phase, companies try to escape from the declining phase by adopting delaying strategies such as legal protection through patents or licenses, or closing agreements with other players (Strategic Alliances or M&As activities) in order to exploit potential sinergies and maintain stability in terms of performance. When facing the last phase, considering the impossibility of achieving further gaining developments, often the best solution is starting looking around and start focusing on a new project and embrace a new emerging technology.

Business model innovation stands as a peculiar form of innovation, expressing the aim for a company to improve its competitive advantage and value-creation approach by making innovative changes in both its organization and structure and the value-proposition offered to customers. So it is a process that involves moves such as choosing where to operate along the value chain, the cost-model to be adopted and which have to be considered as the structure and organizational capalities critical for success. In that sense, companies are classified depending on their approach to BMI: adapters conservatively take advantage of their brand reputation and their solidity, while mavericks positions at the opposite extreme with a fully disruptive approach towards their core business and actual market conditions and trends; adventurers and reinventors stands in the middle, opting for more "soft" forms of business model diversification (e.g., IBM shifting from computing manufacturing to software and IT consultancy).

Digitalization overturned several industries, offering them new avenues for business evolution through innovative technologies. One of the most representative example is that of e-books: since its introduction, advantages over their paper precedessor (money saving on printing volumes, remote access allowed, and 24/7 availability) came out as evident, even if they established more as a complementar segment than a replacement. Different was the epilogue for music and video sectors, where the advent of streaming led by Spotify (music) and Netflix (video) revealed the weaknesses of the traditional activities and placed these digital giants and

their innovative platform as the new market leaders in entertainment streaming for customers. Even banking&financial sector were heavily invesdted by the wind of novelty of digitalization: digital payments' field has evolved year by year and it is now struggling to fully replace cash payments, while cryptocurrencies headed by Bitcoin are challenging financial institutions offering themselves as the currency for the future.

We are already living in a digital world. Digital transformation have radically modified the environment we live in, in a business sense as well as a social sense, influencing all the traditional aspects of daily routine, and COVID-19 pandemic period has represented an accelerator in that sense. The novel coronavirus (SARS-CoV-2), in just a few weeks has rapidly conquered pages of newspapers, news, web sites, has changed the economic-social, familiar, working world, putting in pause also our relational lives and, in serious problems the global economies. The COVID-19 pandemic has placed itself as far more lethal and brutal than its forerunners, because of its extensive global influence burdening on today's service-oriented economy, and its management has always depended on the unpredictability and mutability that characterizes it, the indispensability of international and national coordination, busy in providing timely, comprehensible and as accurate as possible information and solutions, climaxing up to the final vaccines' administration.

Health crisis is still ongoing and far from being overcomed, despite the numerous attempts made by governments and policy-makers to lockdown social activities and contain the diffusion of the virus. As an initial response to the subsequent economic downturn, governments adopted a series of monetary policies and fiscal measures in order to sustain economic growth and stabilize financial markets, in addition to quarantine and social distancing measures to slow down contagions. Lock-down strategies inadvertently induced a global economic recession, whose depth has been surpassed only by the two World Wars and the Great Depression: global economy in all estimated to have contracted 4,3 percent in 2020; worldwide unemployment rates skyrocketed; more-than-ever volatile financial markets and increased debt levels; lastly, supportive measures usually perceived as not sufficient to survive through the crisis.

Even if prospects for the global economy have improved considerably, the first semester of 2021 alerts us that the near global future is still shrouded in the shadow: downside risks as a slower pace of vaccination campaigns and the emergence of new variants confirms the fear that pandemic effect on potential growth could be longer lasting than expected.

As the pandemic took hold on society, the fallout on the general economy resembled that of a massive disruptor to businesses, with a deep effect on both structural framework of companies

and single strategic choices. This put in front of economic agents a series of complex and hard to face challenges: damages to global value chain structure, changes in competitive landscape and further reinforcement of largest firms' dominance, inadequate strategic approaches and crisis preparedness action plans. Companies need to develop a long-term vision while solving short-term problems, embracing strategic agility as a core skill to be employed in order to retain flexibility without losing efficiency.

Outbreaks like lockdowns and social distancing challenged firms to operate and meet the demand of consumers in a less-than-ever physically interactive environment, fertile ground for a profound acceleration of digital transformation process: in that sense, the pandemic has raised various opportunities to advance technology-based solutions and to push businesses to enter in a "evolutionary mode" towards digitalization. As a result, companies are transforming strategy development from an infrequent, time-consuming process to one that is continuous and dynamic.

The disruptions introduced by the pandemic in the world economic landscape forced an acceleration of both the utilization of the existing Intellectual Capital (IC) in companies and the creation of completely new IC. Key features for organizations during this period have been:

- **Communication and connectivity**: workplace transformation and videoconferencing boom led to skyrocketing volumes of internet traffic and mobile network usage, showing a significant evolution of the telcom sector thanks to 5G implementation.
- **Mobile apps**: the app economy experienced immense growth in 2020 as people all over the world realized the benefits of mobile in many aspects of their lives, moving marketers to focus on customer acquisition and reengagement. Social media are experiencing a new wave of increased usage: they have become the public place for comfort and distraction in an age of social distancing, they serve as a preferred and more credible information source, and being active on social media during a crisis could deliver several benefits for companies, especially in interacting with their clientele.
- **Analytics and customer management**: the key role of big data in a period of isolation and no human conctact as the pandemic has increased creation of information and the application of analytics (through tools like SAS and Salesforce) have assumed an critical function in supporting organizations, especially in the decision support process.
- **Cloud**: COVID-19 has suddenly and dramatically magnified the focus on resilience and the increased need for agility and digital scablity. The experienced disruption over markets and industries has visibly demonstrated the importance of cloud and the

benefits deriving from it: elasticity and scalability of the structure, efficient remote data access and storage, services' providing continuity.

- **AI and Machine Learning**: machine learning models are being increasingly implemented inside organizations in order to support into efficiently discover patterns, reveal anomalies, make predictions and decisions, and generate insights. Currently, AI is already being used to automate routine business processes, saving time, reducing operating costs, cutting out errors, and increasing productivity. The main application field resulted to be the healthcare sector, where ML techniques may be applied for the COVID-19 pandemic to identifiy patient-related risks, as well as to forecasts virus-related upcoming issues.
- **Systems Security, Monitoring and Alerting**: he anticipated growth of smart devices, 5G, edge computing, and artificial intelligence promises to create even more data, connected nodes, and expanded attack surfaces; shadow IT is likely to have dramatically expanded during the COVID-19 crisis, while several public bodies stated that cybercriminality cases raised dramatically. Moreover, in today's digital economy internet services are provided for free, but customers are required to hand over personal data and suffer other non-material costs, including again reduced security and privacy violations. The further importance of cybersecurity across firms and industries requires the adoption of tech solutions to maintain privacy and security compliance, and identify system functionality relative to usage: an interesting approach in that sense is the Zero Trust, basically assuming that cyber dangers are hided both internally and externally.

With the growing importance of technological solutions in the COVID-19 period, even the traditional idea of "working" got engaged into the storm of changes. In particular, the pandemic marks the entrance of the society into the Agile Working Era: thanks to "smart working", commonly defined as a declination of the classic subordinate employment but without constraints of time and place in which to carry out the activities, organizations may optimize the use of physical environments, limit travel, reimbursements and opportunities for contagion, improving lifestyles and gaining organizational well-being - all this, with positive returns also on city traffic, CO2 emissions and the environment. Smartworking allowed workers to relate and coordinate more efficiently as a team, maintaining positive informal relationships from which the worker had strayed and still had to learn the techniques; in addition, the post-COVID-19 work environment will require new skills from the workforce, and the pandemic might have been an important wake-up call for workers. According to economists' expectations, pandemic-related disruptions to labour markets in developed and developing

economies could have long-lasting effects: agile working is expected to be maintained inside firms even after the pandemic recedes and economic activity ramps up, while other innovative proposals as the four-days working week are gaining momentum across the society.

The management of a crisis period in terms of business continuity then represents a crucial strategic process, and the quick transition to digitally-based solutions in response to the coronavirus threat is a reminder that digital technology brings many benefits and can play an essential role in managing and reducing the risks caused by the lockdown. In that sense, "a crisis is a terrible thing to waste", as it can often give rise to new business models that encompass new capabilities, new value propositions, and new value demonstrations, and address new customer needs. It seems that companies that adapt changes more quickly and are able to operate with a development of collective value superior than competitors; in order for companies to be able to react quickly, they must be agile, flexible, equipped with the right resources and above all the right dynamic capabilities to follow new business trends – as the use of digital platforms or the shift to simplified technological processes.

Business model innovation is a powerful tool for companies to achieve resilience and growth, especially in a global crisis and instability context, as well as it is recognized as able to deliver superior return than standard process or product innovation. A first approach to deal with such a task would be the evaluation of a value chain reorganization process, with diversification seen as useful in reducing output losses, lowering volatility and improve firm's resilience to adverse shocks as they epidemic is.

Going further, a complete business innovation could involve the possibility for a process of strategic pivoting, reorienting firm's strategic direction through a reallocation or restructuring of activities, resources, and attention: Slack is an example, as its origin have to be searched in a failed online video game called "Glitch". Going beyond comfort zones requires taking an end-to-end view of the business and operating models; on the opposite side, organizations aiming at minor changes to the edges of their business model are recognized as nearly always falling short on their goals.

The COVID-19 pandemic has presented to the world a new and interesting scenario whereby an unexpected shock provokes acute changes in firms' performances relative to the managers' expectations which were held just a few months prior to the crisis: downward expectations for sales, orders, employment, and investments, problems in accessing to finance, in finding customers, in facing liquidity shortages. The sectors expected to be more in danger were first of all the Travel and Transport one - of course because of strict limitations in physical

movements – while public sector and Banking & Financial Services were expected to suffer less from COVID-19 effects, as well as digital and healthecare industries.

The rapidly-altered business landscape and the changed terms of competition benefitted those who adapt swiftly and risk bold moves: in such a moment, innovation assumes a fundamental role in exploiting the new opportunities engendered by pandemic outbreak and related limitations. Unavoidably linked to innovation concept, targeted, tactical digital transformations will be vital for companies to survive in the new post-Covid world, especially because it has been shown that companies that tech-enable their businesses during a recession tend to become more resilient to future shocks. This is a good news for IT services, infrastructure and application software companies: history tells us how successful tech companies focused on R&D investments have long recognized that spending rather than saving is the way to survive recessions, and companies like Microsoft, Apple, Netflix, and Airbnb are particularly representative example of this statement.

Among the first 50 innovative companies in the world, we can notice global tech giants once again dominating the top 10 in the rankings: the generational shift from "Big Oil" to "Big Tech" led companies as Amazon, Microsoft and Tesla up in the top 10 of the ranking. Many of these tech giants have business models that are tailor-made for a year of social distancing, and in addition government rescues worked best for the biggest companies: Amazon and its e-commerce empire were among the firsts to really benefit from the pandemic, thanks to its aggressive mindset orientated towards pursuing growth at the expense of profits, a strategy that the economics of internet platform markets traditionally encourages. Amazon digital marketplace, together with other strenghts like high committiment to automatized standard process through robots, positioned the American giant as a leader in its market, even if foreigno competitors are still intensely operating in their business and in particular Alibaba in currently the main rival of Bezos's multinational. Although many divergences can be found between their two business models, from the targeted audience (B2C vs B2B) to the fees involved (high vs low-to-zero), Alibaba as well destined a large amount of resources to tech investements, as machine learning to improve network's efficiency, and partnerships with leading AI and software companies.

Despite the apparent primacy of bigger firms in the markets' struggle for survival, young, fast, and tech-savy companies with the right approaches and investments have tangible chances to get closer to market leaders. Despite the funds availability lower than that of giant competitors, the transition to digital solutions and to the overall world of Industry 4.0 brings with it a long

series of advantages for SMEs: increased productivity's potential and additional sources of income, improved insights out of their data, enhanced quality management and cost efficiency. An interesting small cap company's story in the afore-mentioned e-commerce field is Jumia, often referred to as "the African Amazon", which adopted a series of strategic moves to expand as an online marketplace, simultaneously supporting nigerians against epidemic outbreaks and managing to maintain a stable growth along that of the ecommerce sector in Africa.

But when it comes to talk about technologies and digitalization, the real innovative boost is carried by new companies, new digital startups and unicorns that have take advantage of the digital transformation's speed up experienced through the pandemic months. The capability to respond dynamically to adversity allowed startups to still pursue innovation to improve their performance perspectives, even in a condition of resource shortage. Positive trends in the market of venture capital positively contributed to startups' growth as well. Startups' role through crisis would result as particularly relavant in the labour market - high net job creation, lower labour costs, impressive job multipliers – but also in the economic framework as a whole, supporting recovery and playing a key strategic role at 360 degrees.

It is well-known that global crises always accelerate the adoption curve of new technologies, and indeed COVID-19 has wildly increased adoption of relatively young companies such as Slack, Shopify, and Zoom: the latter in particular experienced a boom thanks to society's need for videoconferencing, and thanks also to a proper product strategy orentated to services' quality and ease of use, it received a huge boost and responsibility from the pandemic and achieving exceptional results over the current crisis.

However, coronavirus crisis opened a big opportunities for all the online platforms to show off the unique benefits of the new business model, in particular the opportunities to scale and to maintain business continuity: take for insance the food delivery industry, where mobile delivery apps have been the real solution for consumers and favoured a significant growth in platform-to-consumer delivery compared to traditional restaurant-to-consumer delivery. It is clear that the COVID-19 crisis has contributed to make more visible new forms of competition and business leadership with digital platforms thriving despite the economic hardship.

In this period particularly, social networks appear to be an exceptional tool for companies to implement a sound marketing strategy and to communicate with consumers, especially due to the speed with which information circulates and the low costs associated compared to traditional marketing. The attention in that sense is mainly focused on Facebook, which constitutes together with Google and Amazon the so-called "Big Tech triopoly", especially in

relation to AD spending where the triopoly accounted for more than 50% of the total expenses in 2020. Online platforms and social media are also recognized for content creation activities. Onlyfans has certainly been a pioneer of this trend, embodying the essence of online subscription-based industry and offering to users an appetizing business model guaranteeing around 80% remuneration on the basis of the collected fees.

Pharmaceutical companies played a critical role in research and development of vaccines against the coronavirus. Pfizer, Astrazeneca, Johnson & Johson and other players have invested large amounts of resources and experienced a growth boost, both in terms of performance and social acknowledgement; moreover, their intense activity led to significant market changes by establishing those few big players as an holigopoly industry. The pharmaceutical industry was forced to adopt various digital technologies to overcome the challenges posed by the pandemic: this resulted in improved patient care, cost-effectiveness, greater transparency, improved production, and drug development, while specific technologies such as cloud computing and cybersecurity helped the industry adopt remote working and perform decentralised clinical trials.

Apart from its specific effects on the pharma sector, pandemic has severely impacted the whole healthcare industry: again, the ambrace of digital technologies have represented a primary supporting tools to handle the pandemic outbreak over the last two years, and 5G showed to have many use cases through the emergency, supporting telemedicine in the forms of tactile control communications, remote surgery and patient monitoring. Also smart wearable healthcare benefitted from the pandemic, as the need for detection and monitoring during the crisis has further increased their usage: they have often been associated with apps installed on mobile phones, to check people confinement behaviour and tackle opportunities for contagion.

These developments in wearables and smartphone applications represented a fertile ground for new business ideas across the world, also connected with other sectors such as mobility and transportations, one of the most critically hit by the pandemic crisis. Implemented restrictions over national and global travels have led to a reduction in the workforce in transportations's and most travel-related sectors, together with losses of several billions of dollars from airlines and affiliated industries; in the same vein, the tourism industry suffered its worst year on record in 2020 and even 2021's data from the first five months look worrying. Crisis has been a call to action to governments, at all levels, to respond in a co-ordinated way, and has highlighted the importance of integrated tourism policy approaches to support recovery. Fiscal stimulus packages, complementary specific packages aimed at sustaining jobs, income and livelihoods,

initatives addressed to support the restart of tourism and the promotion of domestic demand: these measures have been adopted by countries globally, and now more than ever sthrengthened multi-lateral co-operation and robust support among them is essential to reactivate tourism.

Therefore, tourism-related organizations need to be well prepared in countering and recovery strategies. Among the most hit companies in tourism-related sectors, Airbnb suffered a sharp decline of its business: despite all the obstacles, the company reacted by strategically modify its business model and its single components in a smart way, starting by focusing on its core-business of the hosting experience, also through technological integration as the creation of a segment for Online Experience.

It is clear that every transport-related industry has heavily suffered the impact of the pandemic, and a dramatic downturn invested automotive industry in particular, an industry historically playing a major role in the economy by generating various business services and influencing a vast supply chain. The pandemic has brought a great acceleration of the trends across the mobility value chain that were building before it occurred: pre-pandemic trends on online selling platforms, virtual experiences, autonomous and electric vehicles. For now, different platforms, both physical and virtual, are existing side by side, simultaneously complementing and competing with one another. it is possible to state that the COVID-19 pandemic is a crisis tailor-made for Tesla, which strategically focused on ecommerce to continue delivering cars to customers and moving further into digital its sales experience by emphasizing an online platform experience over offline sales. Tesla is currently undisputed leader in the industry, but other innovative realities are struggling to emerge: an example is Nio, also referred to as “the Chinese Tesla”, a Chinese electric vehicles manufacturer also involved in parallel activities, thanks to the creation of its “lifestyle platform”.

The COVID-19 crisis seemingly provides a sudden glimpse into a future world, a “new normal” in which digital has become central to every interaction, forcing both organizations and individuals further up the adoption curve almost overnight. The post-COVID era opens a new challenge for sustainable business transition, and strengthen supply chain and production and business system more resilient: Businesses will be judged in real time on how they manage the challenge, their behavior and strategic choices could represent an informed response useful to build trust and brand affinity, whereas poor decisions could pose a real reputational risk, and this fork could represent the key for coming out alive from the pandemic crisis.

Fitprime case study is an interesting example to focus on, regarding the role of digitalization in fitness industry and the role of innovation in approaching COVID-19 crisis. Fitprime is a startup

born with the idea of an innovative wellness solution capable of revolutionizing and "rejuvenating" the world of fitness: the concept of a totally digital sport center is realized through an online platform and a web / mobile app, aimed at positively impacting on people's wellbeing through a flexible and complete experience.

The business started officially with an exclusive B2C focus, founding the immediate support of Lventure Group and achieving its first capital raising. Next year, the extension to B2B segment through welfare market started and led, the year after, to get in contact with big corporations between 2018 and 2019. Over these years, Fitprime continually further developed its products offering, adding to subscription module the Lifestyle nutrition service and creating a Corporate platofrm for corporations' needs: this contributed to enhance company's yearly performance and to attract funding (€250.000 in 2017, €750.000 in 2019), beyond winning some important national achievements in startup field. Thanks to a leadership team with vertical competences in the wellness market specifically, together with a strong propensity to digital environments, and to its business infrastructure is managed entirely in the cloud and making use of different valuable technology stacks, Fitprime managed to position itself as an innovative solution for a large audience of different customers – from single customers, to sport centres, to corporations.

COVID-19 had dramatic effects on the fitness industry, by forcing many structures to close their activities, and as a consequence significantly damaged the main Fitprime competitors, especially Gympass and Urban Sports, but it simultaneously accelerated some emerging trends as that of home-workout and virtual training. Fitprime rode the wave, already followed by big players as Peloton, and launched Fitprime TV, innovative online platform dedicated to home-workout that represented a value added thorugh pandemic and allowed the company to maintain business continuity and even to achieve a last capital raising, this time of €2,5Mln.

Fitprime success has to be searched in its strategic components: sales and communication, product development, financial choices. At a first level, the company operates through 3 different segments: B2C, B2B (further divided in WELFARE and CORPORATE), and Media (Brand&Partnerships), residual category regarding partnership operations with large companies, entering within loyalty programs or prize contests of big brands. Communication is supported by an intense marketing activities, mainly performed through the usage of advertising (social media like Facebook and LinkedIn, but also Google ADS) and SEO optimization processes. Competitive advantage on the B2C side rests on three features: capillarity on national territory, flexibility in terms of entrance frequency of sport centres, and completeness of the offer reached by introducing Fitprime TV. On the B2B side, the creation of a corporate platform

characterized by aderence to Italian welfare regulations, and freedom for companies to choose which module to be activated, position Fitprime as a competence center for wellbeing and corporate wellness with low-to-zero competitors in the market.

Product's side, Fitprime's solution aims to reach all those people showing different needs compared to standard athletes: in order to offer a flexible wellbeing solution accessible to all kind of users, the line of services can be identified in three products:

- Subscription: allows the access, through a single subscription, to the whole Fitprime network, including over 1500 sport centers located in more than 300 cities in Italy and providing different activities for users. Its model allow Fitprime to collect 1005 of users' payments, and entries will be recognized at sport centres in the form of "attendance fees".
- Lifestyle Nutrition: Lifestyle Nutrition gives the opportunity to produce a customized diet plan totally on a remote basis. Fixed price, different between B2C and B2B, and low COGS linked mainly to nutritionists salaries.
- TV: the newborn inside Fitprime, it is an online platform dedicated to home-workout and giving the access to both live-streaming lessons and on-demand contents, classified differently according to the type of activity, the level and the duration. Business model is similar to the subscription's one and the COGS are those related to contents' production: rent of editing studio, equipments, videomakers and department's salaries, trainers, and other expenses.

The first TV's version, launched in May 2020 developed through a serverless platform, using hybrid proprietary components and AWS tools, managed to attract organic traffic of an interesting size already in its first week on the market, thanks to both the legacy of the Fitprime site and its initial availability in a free form. Among its strenghts, n important focus must be maintained on the profiling algorithm which allows not only to enrich the data of the database of client companies, but also to profile in a predictive way the customers with the information that companies lack.

Fitprime TV represents a turning point in Fitprime's business, a smart and innovative product carrying with it a great strategic value which can be exploited from many perspectives, starting from the customers side. Targets are lockdown athletes and categories of athletes "at risk" (e.g., pregnant women), finding into home-workout a solution for their need through the pandemic, but also sport centres, which may introduce live-lessons as a part of their commercial offers – even post-pandemic.

Fitprime TV gave rise to an innovative training method and a liveable experience from anywhere, while allowing Fitprime to consolidate its position as a fitness leader in Italy thanks to a new and unique product on the market. Given the characteristics of profound innovation of the project, especially when compared to the reference sector, Fitprime aims to position itself on the market with a highly competitive and technologically superior product compared to those offered by other players. The competitive advantage that Fitprime aims to acquire with the realization of the project is therefore evident, especially linked to the use of technology as a means to achieve the desired results. Moreover, through the technical development of the platform and the intensive use of the digital channels available to the company, it will be possible to realize the role of the Fitprime TV service as a new and "independent" product within the company's offer, added value in terms of diversification of both business and customer segments, as well as a possible way to internalize the business.

The possibility to integrate TV inside Fitprime Corporate offer allowed Fitprime to focus on B2B business, in order to compensate the forced block to consumer activities (because of sport centres lockdown policies). B2B segment experienced a significant growth over the pandemic, with around 20 new agreements clsoed with big corporations: this was possible thanks to Fitprime TV product on the one side, representing a welfare benefit usable by employees even with COVID-19 restrictions, but also thanks to comprehensive wellness services, as in-company psychological consuelling and webinars cycles, offered as additional tailor-made activities to specific companies.

All Fitprime activities are conducted with the guidance of a sound financial strategy: the cash life generation process implemented by finance department allows to periodically recover the amounts of capital invested – as that, it is critical after capital rasinings – thanks to the extensive use of fiscal incentives (ex. Tax Credit R&D) and subsidized finance (ex. Smart&Start Italia financing for innovative projects), together with other residual supportive measures such as lost-in-found contributions provided by governments and private entities.

The specific situation of COVID-19 and the effects it had on companies, especially in terms of liquidity shortages, has been faced through different financial actions:

- Usage of Government supportive measures: susbsidized finance through Italian Guarantee Fund (total loan of €30.000); postposement of taxes payment due (Decreto Rilancio); Tax credit for office's rent; lost-in-found contribution for turnover losses (Decreto Sostegni).

- Form of support for employees, in particular the Wages Guarantee Fund - a partial wage remuneration assigned by INPS to workers whose employer has reduced their remuneration as a result of a reduction (or radical suspension) of their work activity due to various causes (like the pandemic);
- VAT regime change: Fitprime shifted its traditional quarterly VAT regime to che cash VAT one, in order to align tax payments and liquidity movements on a monthly basis, avoiding to anticipate VAT on invoices not yet collected;
- Advances of invoices: being ther B2B segment still active through the pandemic, Fitprime continued to issue new invoices for them. In order to readily face liquidity shortages, advances of invoices allows to collect anticipately the amount of a number of issued invoices through the intervention of a bank, which will pay the total amount to the company, minus a percentage witheld as a commission fee; the operation is with recourse, so the responsibility for credit collection remains assigned to Fitprime (and not given to the bank).
- Pre-purchases: considering the business model of sport centres' acquisition, Fitprime exploited the large amounts of liquidity collected after the 2,5Mln capital raising to anticipately pay to sport centres a certain amount of entrances: on the one side it allows to enhance margins (lower average price of tokens paid to sport centres), on the other it can improve relationships with centres already in the network (immediate liquidity for structures suffering financial difficulties) and the negotiation with big strategic centres (pre-purchase as an added weapon to close new agreements). So advances of invoices allows to collect money to be destined to pre-purchases, improving efficiency over the long-run.

The last capital raising opened avenues for many initiatives. Most of the resources will be invested in R&D: renewal of Fitprime Corporate, upgrade of TV product (training formats, number and quality of trainers, enhancing of the already implemented streaming system, legal protection of the trademark), improvement of Lifestyle Nutrition service through the collaboration with the online app "Oreegano". Marketing department is in continuous expansion and the implementation of CRM software Salesforce represents another big step ahead in delivering marketing activities to the next level. Commercial segment will prosecute its expansion, both in terms of sport centres' network and corporate clients, and on the B2B side an exploration process across SMEs segment is ongoing through these last months, supported by the adding of additional vertical figures in the department.

Growth prospects for Fitprime are supported by results achieved in 2020: despite the long closure, Fitprime achieved more than a half of the 2019 total turnover, and especially in B2B segment performance revealed as positively unexpected compared to 2019's forecastings (both in terms of revenues and margins). Future outlooks for Fitprime also propose several exit possibilites: apart from the perspective of internationalization, Fitprime's products could be acquired by similar bigger players (as it has been already proposed in past years), or by important realities in the welfare/corporate world.

Fitprime's history and case study must work as a virtuous example to follow through crisis periods: the way out from the pandemic is clearly represented by innovation and digital transformation opportunities. Many companies still struggle to incorporate it into their processes and do not carry out the necessary experimentation: so a change in company mentality and organization is the first necessary step to take, especially by old-fashioned companies with many years of activity behind them.

One of the main outcome of the pandemic has been the starring role of the private sector in driving the global economic recovery, while on the other side the public sector has struggled to keep pace with the private sector innovative sprint. Public administration's sluggishness towards digital transformation has produced delays in standard procedures, a low degree of innovation in essential sectors, and well below expectations forms of support to startups' and companies' innovation; moreover, a lack of international collaboration among countries has contributed negatively to the recovery process of global economy and society. Governments and public organizations must draw a great lesson from the current crisis and should prepare to better deal with large-scale pandemics: private sector must be taken as an example to be inspired from, in order to initiate a reorganizational process, also oriented towards improving forms of support to private digitalization and innovation.

After more than twenty months of pandemic, it is necessary that companies do not lag behind through the "new normal", but they rather prepare to face it, or better, enter the "Next Normal". This requires the preparation and training of "digital leaders", further investments in digital assets and opportunity, leverage on marketing and social media to reinforce the brand and gain trust, create the conditions to make decision-making process more efficient, embrace digital transformation completely. Lastly, a parallel focus on corporate and employees wellbeing is necessary and its benefit have been definitely demonstrated by Fitprime, the Italian ambassador of this trend.