



The Future of the Sectors and the Change of the Firms in the Post-pandemic Period

Halit Keskin

Prof. Halit Keskin

Prof. Dr. Halit Keskin is a faculty member in the Department of Business Administration, at the Faculty of Economic and Administrative Sciences of Yıldız Technical University. Specialized in Management and Organization Studies, he made significant contributions in research areas such as complex adaptive systems, adaptive management systems, organizational capacity for resilience, management of emotions and emotional memory at organizations, emotional capabilities at organizations, collective empathy, technology and innovation management, technological learning, new product development teams, knowledge management, and learning organizations. Dr. Halit Keskin is currently working as the principal consultant to the President, responsible for strategic management, and the chairman of the Committee for Strategic Planning at Yıldız Technical University. He is also a current member of Quality Committee of Yıldız Technical University and the academic advisor and the project coordinator of Technology Transfer Office at Yıldız Technopark.

The Future of the Sectors and the Change of the Firms in the Post-pandemic Period¹

Halit Keskin

Yıldız Technical University

hkeskin@yildiz.edu.tr

Abstract

The COVID-19 virus, spreading from Wuhan city of China to the world, envelops and changes the World. The COVID-19 virus emerged in China is a RNA-based virus like the SARS virus but unlike the SARS, COVID-19 has the possibility to transmit very quickly and easily. The SARS was taken under control very quickly and restrained to spread out of China. COVID-19, on the contrary, has spread all over the world and disrupted both social and economic dynamics. Convincing facts about the existence, emergence and spread of the virus require changes and transformations in the global economy, on macro, meso and micro bases. This situation makes it necessary to consider the transformation in the global economy and foreign trade and the adaptation to the new normal on a macro basis. When it comes to mezo base, focus should be on the rising and falling sectors due to COVID-19, and future plans for these sectors should be drawn. On a micro basis, the business plans of the companies should be rearranged together with their business models, new internal governance practices should be focused on, and opportunities to adapt to the new normal should be evaluated. In this study, these issues are discussed respectively.

Keywords

*COVID-19, Corona Crisis, Organizational Practices, Pandemic, Resilience,
Sector Transformation*

¹ This study is a translation and updated version of the paper previously published in the book titled "Küresel Salgının Anatomisi: İnsan ve Toplumun Geleceği" by TÜBA in June 2020.

Introduction

COVID-19 and The Global Economy

COVID-19 is characteristically similar to the global 1918 flu pandemic called “Spanish flu” and, in the worst case, it is predicted that COVID-19 would affect the global economy in a similar manner as the Spanish flu did (Fernandes, 2020). It is quite wrong to compare the probable effects of COVID-19 with other global economic crises such as crises in 1929 or 2008. These crises occurred in the financial context and reduced household’s income, and wealth in a broader sense, and disrupted the demand for goods and services they generated in the economy. On the other hand, COVID-19 also affects supply side, that is, production. Curfews imposed and increases in requirements for maintaining social distance and working at home, in particular, have greatly disrupted production. It is also probable that the effects of the virus will cause strategic paradigm shifts on the global plane.

It is observable that a number of projections for the probable economic effects of COVID-19 are made (BIS, 2020; McKinsey & Company, 2020; ING, 2020). The first wave of COVID-19 hit the global economy and created enormous damages. For example, in the USA, as many as the number of people the government has contributed to the workforce since 2008 financial crisis with monetary expansion and fiscal policies became unemployed within a few weeks due to COVID-19. The possibility of a second wave for COVID-19, similar to the Spanish flu, makes policy makers become hesitated. Policy makers have responded to the crisis the virus caused by increasing money supply much more and tried to support the sustainability of demand and supply by pulling down the interest rates to the near-zero levels. However, this cannot improve the risk perceptions of the workforce, which is important for both production and consumption phases in the economy. Furthermore, the widespread effects of the virus that will be caused by a second wave, as seen in the Spanish flu, will strictly restrict both production and consumption, and create constrictions at high levels in demand/supply directions.

Particularly, in case of no remedial medicine and vaccine is found during the first wave, it is predicted that global economic recovery period will be U-shaped, of which flatter portion is long. In the best scenario, with the discovery of a remedial medicine or vaccine, it is expected that the economy will gain its performance back, that is, there will be a V-shaped recovery period. The number and variety of scenarios can be increased in this concern. Additionally, Le et al. (2020) expect that a remedial vaccine will start to be used in 2021 at the earliest and point out that a very long time will be needed for vaccination at the global level. Therefore, at the assumption that there will be a second wave, global economic recovery is expected to have a W-shaped of which first bottom portion is long but the second one is shorter.

In a period in which trade wars became intensified and the Chinese economy was in difficult conditions, improper and late precautions taken against previous SARS virus caused other countries to act with suspicion toward the Chinese government. In addition to this, the inability of China, the most important country in the global supply chain, to provide necessary raw materials and intermediate goods negatively affected the producers all around the world. In particular, the producers of medicine, automotive, and electronic devices were negatively affected. All these phenomena point out that the importance of China in production will be decreased. It is inevitable that countries will seek to locate their manufacturing centers in closer environments. Therefore, our country stays one step ahead of other countries in its region, due to proximity to European Union and its low-cost labor. Furthermore, it is considered that the manufacturing of electronic devices will be dislocated to other countries, such as India, that is as populated as China. Because, although China is open to the world in foreign trade, due to the communist regime it cannot have sufficient transparency. To sum up, the center line of international trade will be dislocated from China-centered east to the consumption-intensive West, and become dispersed. As a result, the safety of supply chain will be established, and also, the domination of a single country will be eliminated.

Another significant problem that has emerged with COVID-19 and has been tried to be solved is that monetary and fiscal policies are very ineffective in the economies of the countries and are unable to stimulate the economies. Particularly, the Fed (Federal Reserve Bank), the US Central Bank leading to the global economy, has lost its effectiveness in stimulating the economy due to increasing the money supply and the government has lost its power to stimulate the economy by issuing money to the households in the form of cheques. The assets gained through monetary expansion in developed countries, especially, in the USA, are canalized to the financial markets in general and, stock market in particular, instead of reel sector, and generate financial bubbles. Additionally, consumers in developed and developing countries get rid of saving money, even if it is donated, since they perceive the future as uncertain. All these problems have reinforced the idea of shifting from paper money to digital money. Thus, money will have an expiratory date and its area of utilization can be restricted. For example, government aids will

be only used to purchase staple food and vital goods and services, and these aids will be expired if they are not used after a certain period. Thus, money can be canalized to the desired areas and the economy will be kept lively.

COVID-19: Sectorial Change and Transformation

COVID-19 has different effects on different sectors at the both global and local levels. This impact is especially concentrated on service-based industries and service-oriented sectors have come to a standstill point beyond the contraction. On the other hand, manufacturing sector has also been significantly affected. In general, it is not possible to see any sector on which COVID-19 has positive effects, except a few sub-sectors. The positive effect is only limited with medical devices manufacturing and retailing. The sustainability of these effects is also in doubt.

In this section of the study, the future of some selected main sectors in the new normal period will be discussed.

Agriculture and Livestock Sector

In terms of the sectorial effects of COVID-19 virus, the main sector that should be put into consideration is agriculture and livestock. This sector consists of very critical elements required for people to live on and has become strategic during the pandemic period. Some countries, such as Russia, Romania, and Ukraine, gained awareness for the strategic importance of this sector in this global pandemic period, and limited wheat export to other countries. COVID-19 polished the agriculture and livestock sector that stayed out of the agenda in the last years and displayed the importance of the sector. The increasing demand during the pandemic, in particular, caused the prices in the agriculture and livestock sector to rise. The constraints on export in agriculture and livestock sector imposed by some countries indicate the risk of supply shortages, maybe not in the short-run, but at least in the long-run. Therefore, it is possible that the agriculture and livestock sector will be supported by the countries much more and preserved as a strategic sector with the pandemic. Because countries started to focus on becoming self-sufficient and feeding their people in such an environment, in which foreign trade is disrupted. Declaring curfews and putting elderly people above a certain age in quarantine disrupted especially the agricultural production (Schmidhuber, J., Pound, J., Qiao, 2020). There are difficulties in employment of seasonal workers both in our country and in the world. Livestock sector is, on the other hand, in danger due to the possibility that the COVID-19 virus will mutate and affect livestock. In addition to this, due to the fact that workers in slaughterhouses are heavily infected, the supply and continuity of fresh meat is suppressed. For all these reasons, it is inevitable that the COVID-19 virus will put the agriculture and livestock sector into a more intensely controlled, certified industrial manufacturing mold, where machinery is used more intensively. Thus, meat processing robotic automation, which started long before COVID-19, will continue to be used increasingly in enterprises in the sector. Robot butchers will begin to become a part of the meat processing system, and many meat packaging plants will try

to increase the use of automated machines based on artificial intelligence. It is thought that research on the creation of systems that can make special cuts according to the carcass shape, using deep learning in their algorithms, and become more intelligent as the amount of data related to the new carcasses they encounter will be accelerated.

While the Food and Agriculture Organization of the United Nations draws attention to the fact that there is enough food production in the world, it predicts the COVID-19 outbreak to affect the distribution of food products and to cause disruptions in production such as fruit, vegetables, meat, fish and milk. Curfews and quarantines primarily hit the fresh fruit and vegetable sector, followed by the fishing and livestock sectors. In particular, the lack of demand from the service sector, such as hotels, restaurants, and cafes, caused the customer portfolio to change completely in the agriculture and livestock sector. Logistic restrictions and the implementation of export quotas will increase the prices in foreign dependent countries for food. The first examples of this are observed in poor countries such as Syria and Sudan, according to the data provided by the United Nations Food and Agriculture Organization. This situation reveals the importance of agriculture and livestock sector once again and reminds us the importance of self-sufficient countries in terms of agriculture and livestock.

Tourism Sector

As in the rest of the world, tourism income has vital importance for the economy due to its foreign currency earning feature in our country. “COVID-19 Tourism and Hospitality Sector Involvement Survey” carried out by Deloitte in April 2020 also refers to at least a 12-month period of return to normality for the sector both in Turkey and in the European Union. Thus, the expected profit from tourism for 2020 will be quite limited. Furthermore, the uneasiness, fear (Hoque et al., 2020), and loss of income caused by COVID-19 show that the growth of the tourism industry will be well below the desired global and local growth. Countries will try to replace the income they lost in foreign tourism with domestic tourism for many years, so will foreign currency inflow to the countries will be reduced. Additionally, increase in costs in the sector will shift the concept of vacation and accommodation to a luxury product category in the upcoming years. In particular, hotels will need to make new investments for ventilation, increase the meter of square per person and take steps towards the improvement of hygiene conditions. At the same time, it seems inevitable for hotels that cannot work at full capacity due to social distance concerns and they will have to reduce their workforce. The tourism sector has to adapt to the new normal after COVID-19, decreasing their capacity usage and their dependence on workforce. Because even in America, which is the heart of the world in accommodation and tourism, the American Hospitality and Accommodation Association reports that 7 out of 10 hotel rooms are vacant and 70% of the employees in the hotels are laid off. During this change and transformation, the economic importance of local tourists, which have been given less value until now, will come to the forefront.

The transportation sector is the most associated sector with tourism. The transportation sector is focused on both passenger transport and freight shipment. COVID-19 brought passenger transportation to a stagnation point. Airline companies identified the loss after COVID-19 as \$ 314 billion US dollar globally (Statista, 2020). Countries closed their land, sea and airfields and stopped passenger transfer. For this reason, the transportation sector has evolved more towards freight transportation and the vehicles used in passenger transportation have been modified by, for example, removing seats in aircraft, and used in cargo transportation. Thus, companies of which the main business line is passenger transportation try to cover their losses thanks to freight transportation. However, according to the 2020 projection of the World Trade Organization, world trade is expected to contract between 13% and 32%. Freight transport is also expected to suffer great damage from COVID-19. Transport companies will have to focus more on local passengers while adapting to the new normal led by COVID-19, and the return of the volume of foreign passenger transport to its old levels will vary depending on the discovery of the COVID-19 vaccine. Despite this, with the relative economic recovery, freight and cargo transportation is expected to go beyond passenger transportation and maintain this position for a long time. Especially cruise trips, making holiday transports by sea, are the candidates to be the economic activity in this sector that will have the biggest loss and will be recovered in the very last.

Retailing Sector

Retailing is another sector heavily affected by COVID-19 outbreak. Retailing sector involves a number of products from food to garment and shoe. Pandemic affected and shaped the retailing sector very intensively. First of all, the retail sector, other than food industry, fell into a difficult situation with the closure of stores and shopping malls due to the quarantine conditions applied for COVID-19. Consumers, in particular, avoided of going to stores and shopping malls and tended to meet their needs with e-commerce tools. It is observed that the middle-aged and elderly people who have not used e-commerce before have become familiar with this channel due to COVID-19. However, the purchase of non-standardized products such as clothes and shoes through the internet still poses uncertainties in consumer purchasing preferences. On the other hand, pandemic increased the purchase of food and market products both physically and through the internet, even in the short term. The use of contactless payment systems is rapidly increasing in physical exchanges. Companies that have not developed their global and national electronic commerce channels and have not made the necessary infrastructure investments for these channels have been unable to generate cash due to COVID-19 and have been left with high inventory costs. Reminding the importance of online channels to both consumers and retailers, COVID-19 pushed many retail companies to use and develop online infrastructure equipped with a good inventory management and maximized the availability of logistics service providers as a distribution agent. In “How retail sector should prepare for the period after COVID-19” report published by Deloitte,

it is recommended that the companies in the retail industry make in-store campaigns, especially using communication channels in adapting to the new normal. In this way, besides the hygiene and social distance practices in the store, the importance of taking steps that will return the consumers to their old habits is also emphasized. In summary, while old habits in non-standardized products are maintained with the hygiene and social distance required by the new normal, a structure that focuses on e-commerce and distribution channel intermediaries for standardized products will shape the future of the industry.

Manufacturing Sector

Manufacturing is also one of the sectors that is mostly affected by COVID-19. COVID-19 has particularly affected the automotive, durable household appliances, textile and chemical materials sub-sectors. For example, according to IBISWorld data, new vehicle registrations in the European Union decreased by 55% in March compared to the previous year, while in Germany, the heart of the automotive industry, this decline was 38%. Consumers who cannot see ahead avoid of large expenditures and do not demand for manufacturing sector products, especially automotive and durable home appliances. This situation is not expected to change in the short-run. It is estimated that this situation will push small and medium sized companies which cannot primarily manage cash out of manufacturing sector. Disruptions and interruptions in the manufacturing sector of China, the largest ring of the global supply chain, raise the possibility of shifting the global supply chain to Bangladesh, India, Turkey, and Vietnam. This phenomenon should be expected to occur quickly in the automotive, computer and electronic devices, and textile sectors. COVID-19 has brought vitality to the medical device and pharmaceutical sub-sectors. However, this liveliness is very unlikely to be a driving force especially in global economies, and also in our country's economy. In the study "COVID-19: What does it mean for industrial manufacturing?" carried out by PwC focuses on that the change in the manufacturing industry should happen primarily in production. COVID-19 acted as a catalyst for the rapid change of the structure of the production and pushed production to adapt to Industry 4.0 standards (Seric & Winkler, 2020). The new normal now highlights the requirement for using more workforce in production and the need to substitute automation, robots and artificial intelligence for human workforce. The future is driving the manufacturing industry towards dark factories where daylight is not required since humans are not involved in production and only robots are at work. At the same time, the role of data analytics in the manufacturing industry is becoming more and more evident. It is now a requirement to consider changes in consumer demand together with the results obtained by using large data pools for the manufacturing industry. Another pioneer phenomenon in the manufacturing industry is the widespread use of three-dimensional printers. Troubles in supply chains have forced companies to copy essential components of some products through this technology. Particularly, in the production of ventilators, which are very important in the treatment of patients with COVID-19, countries take advantage of these technologies by choosing the way to produce with their own resources. It is expected that the

capabilities of the three-dimensional printers will be used more intensively in the new normal where the global supply chain will break up and supply chains will be shaped nationally or locally. The period after COVID-19 will open the door to an era where design will gain importance and production will be done anywhere in the world.

Banking Sector

The banking sector is also strategically important for the spinning of the wheels in the global economy as in our country. COVID-19 has deeply affected the banking sector as well as other sectors. In particular, the recession in the economy poses question marks about the reimbursability of the resources that banks issued to the economies. In order to prevent a sudden wave of bankruptcy and collapse, loan payments were postponed, with the help of governments, long-term new loans and even gratuitous grants were given to businesses to provide them life line water. For example, according to IBISWorld data, approximately 20% of housing loan payments in the UK had to be postponed and raised questions about their reimbursability. Despite all these practices, the magnitude of credit risks requires looking for new capital in the sector. Although this situation can be easily overcome for public banks, it creates problems for private banks. Increasing risk is rising up the possibility of a contraction day by day in the banking sector, especially in the context of private banks. The study of PwC called “The effects of COVID-19 on the Turkish banking sector” draws attention to credit risk and suggests that banks shape their customer portfolios according to the new normal. Changing the business models in the banking sector is now a must. COVID-19 is about to start the golden age of digital banking applications, also called branch-free banking, by introducing concepts such as social distance into our lives. Branch banking applications, which are less preferred with the younger generation, have also started to be less preferred by middle-aged and older generations due to COVID-19. Therefore, an expansion in digital banking and a high level of contraction in the number of branches are expected in the sector. Elimination of players who are not strong in digital banking in the banking industry is now inevitable.

Petroleum, Natural Gas and Chemical Industry

Since trade wars are combined with COVID-19, the oil industry is experiencing one of the most devastating periods in its history. Oil prices fell below \$ 20 a barrel and reached their lowest level in the last 20 years. Oil crisis with unpredictable and profound effects led to a global supply surplus in the natural gas and chemical industry, which, in turn, led to declines in energy prices. One of the biggest reasons for this situation is the significant decrease in oil demand of China, one of the world’s major energy consumers. In addition to this situation, the slowdown in industry and travel restrictions with pandemic caused the supply / demand balance to deteriorate even more.

The decline in oil prices from the current level will have negative effects on the world economy. The projections indicate that oil prices may reach to the pre-

crisis levels by 2024 (McKinsey & Company 2020f). It is inevitable that these global trends will be also reflected in Turkey. In the first place, the decrease in oil prices will have a positive effect on fuel prices in the short term, but will have negative effects on commercial partners in the long term. Secondly, labor force losses are expected in the fuel distribution sector (Deloitte, 2020a). Labor losses, which will occur directly or indirectly, will cause problems in finding qualified workforce when the markets are on the rise in the long run.

The COVID-19 crisis can make a positive contribution by drawing attention to the energy transformation processes of the countries. With the pandemic, problems related to the energy crisis and decarbonization process can be accelerated. Countries are expected to develop business models for using solar and wind energy with innovative perspectives.

COVID-19: Change and Transformation in the Firms

In the second quarter of 2020, with the global outbreak of COVID-19, individuals and firms are trying to adapt themselves to an unconventional and foreign environment. In the global epidemic, individuals, firms and societies have faced practices and limitations that they have not encountered before. For example, in order to prevent COVID-19 from spreading globally, countries have closed borders, companies have stopped their activities, and have established rules such as following strict hygiene rules in the community, maintaining social distances, and ensuring individual isolation. In the new normal, these rules will have an impact on individuals' working lives in the short or long term. After COVID-19, short-term business deals in business contracts, different practices in the use of financial instruments, a shift to working-time and location flexibility are expected. The outbreak changed the relationship and interaction of firms and societies. When the new normal comes, it is a matter of curiosity how the firms will react to this different situation and how the reflections will be on the society. In addition to their primary activities, companies try to respond to social concerns in the community. However, companies, like individuals, struggled about how they would face problems that they encountered suddenly in this unusual global crisis, such as suddenly decreasing sales, the disrupted supply chain, and serious problems in employees' and their families' health.

The global crisis has caused a shock effect in the local and global markets economically, in addition to the great health and humanitarian problems. While researchers and scientists in the healthcare sector are trying to find vaccines and new ways to treat for COVID-19, business leaders and scientists are working on economic stagnation and preparing projections to help firms survive in this process with flexibility and resilience.

The priority of some companies facing the COVID-19 crisis is to survive, and companies are planning to continue their lives firstly against this unexpected

crisis. Some companies, on the other hand, plan how their positions will be after the crisis when they return to normal in this uncertain environment. Companies that make the right revisions in the way they do business quickly will be able to survive in the future or exit as a winner from this process. But the question to be asked at this point is the definition of the normal. Because the meaning of this crisis for individuals, companies and societies is still very ambiguous and will remain ambiguous for a long time.

In their report, McKinsey & Company (2020) proposed five concerns that firms should think and act on. First of all, the sudden difficulties of COVID-19 in terms of firms' workforce, customers, technology, and business partners should be identified. Secondly, the recent cash management should be specified and how to provide resistance against economic losses depending on the virus should be emphasized. Thirdly, how to return to work according to the COVID-19 situation should be put forward with a detailed plan. Fourth, how the new normal will be should be imagined and what practices will be required for institutions should be considered. Finally, it is necessary to be clear about how the competitive environment and practices will change in industries. In this context, in line with the proposed opinions, production and supply chain systems in companies and the future of manufacturing companies operating in heavy manufacturing industry will be considered, then customer expectations and responses of firms in terms of sales and marketing functions will be evaluated, and then human resources, management and leadership issues that companies have will be discussed. In addition, an evaluation will be made on the leadership of the firms during the crisis and on the academic world leadership, which plays a role in the future of society. Finally, sustainability and social responsibility, which are among the today's important issues will be mentioned. Leaders of giant firms argue that firms should have a purpose beyond profit. In August 2019, CEOs of 181 firms wrote an open letter on conscious production and consumption at the Business Roundtable, saying that sustainability and social responsibility should be considered (Gatenberg, 2019). This idea emphasizes that there should be more steps taken in this direction with the sudden social and institutional change. For these reasons, in this section, the process of change and transformation of the firms will be analyzed.

Change and Transformation in Production and Supply Chain Systems

COVID-19 affects all sectors and all functions of firms, but firms operating in the heavy manufacturing industry will be further affected. McKinsey & Company (2020f) listed in three articles why heavy manufacturing industry would be more affected. Accordingly, disruptions in the supply chain will cause problems that are difficult to manage, it will be difficult to respond in coordination due to the global chaos and making sales will be difficult or even impossible. For example, a customer who wants to buy an automotive will delay this purchasing transaction since she/he has to stay at home.

Companies will follow a more successful path in the process of change and transformation with the steps they will take in the short and medium term. With the global epidemic crisis, companies realized that they were unprepared for change. In this respect, a warning center should be created at first during the transformation process. This center should coordinate the responses of regions and business units against COVID-19. In this center, which consists of cross-functional teams, rapid decision-making opportunities should be provided. First, with the information processing, the access of the real-time data to the leaders in the warning center should be enabled and the threat map should be prepared so that risks become visible. Then, this warning center should update its data at certain intervals and a plan should be developed for the coordinated operation of all groups. Since the employee safety is taken into consideration primarily, some departments of companies should work below their capacity and remote working should be done in harmony. Third, the supply chain needs to be examined and protected. Today, firms operating in heavy manufacturing industry have hundreds of different suppliers on different continents. Firm managers may not have deep knowledge about the entire supply chain other than direct manufacturers. This indicates that firms should establish stronger relationships with direct manufacturers, evaluate their production capacities and their possible situations together with them. If companies can work in harmony with suppliers in a short time, this will prevent possible disruptions early. Another precaution that can be taken is to continue to respond to customer needs by stocking finished products or parts (McKinsey & Company, 2020f).

It is clear that the production and supply chain activities of the companies should be revised during the transformation process. Firm managers try to respond to the crisis immediately by taking proactive and fast steps when faced with the crisis. Managers must be honest and collaborative towards their employees in order to perform these activities successfully. Managers, as a general tendency, hide bad news from employees, and this actually undermines the first step to success (Edmondson, 2020). Managers are required to share disruptions in production activities, problems to be encountered in the supply chain and their results with their employees transparently and expertly. Then, managers develop strategies along with the crisis. In its report published in April, the World Economic Forum proposed five strategies that will provide flexibility and resilience in production and supply chain activities during crises. The first of these strategies is to adopt differences in supply chain structuring. Firms can cooperate with more than one resource in the supply chain. If companies cooperate with different companies operating in different regions, this will make them more flexible and resistant against risk. Firms start to produce the main resources necessary for their products and have direct control over the supply chain. Apart from this, the corona crisis reminded the company managers how localization is important in the production and supply chain. In Turkey, especially on social media, with the label 'act local' small firms encourage both producers and consumers to localize. As the second strategy, companies need to increase their investment in production technologies. With

the COVID-19 crisis, companies are enjoying the advantage of the resources they allocate for data management through their investments in technology in the past. Thanks to the technology and digitalization used in the supply chain, risk analyzes were made proactively and actions were taken more preparedly during the crisis. As the third strategy, it is suggested that factories should be more flexible in the production sector. Especially, using digital technology as a tool and making digital collaborations and managing digitally established collaborations successfully will make companies more resistant to the crisis. As the fourth strategy, it is mentioned about the importance of strategic partnerships between different sectors by developing a more intense relationship with suppliers. This enables sectors to learn from different experiences and allows them to increase their innovation capacity. Finally, manufacturing companies should review their portfolios and choose lean processes by reducing complexity. Focusing on product lines that will support their strategies, in line with their core skills and competencies, will contribute to their success even in an unexpected crisis.

Change and Transformation in Customer Behavior

When the crisis is first encountered, one of the biggest concerns of the companies is their customers. Regardless of the industry, every company should try to find responses to customer needs. Companies have tried to serve their customers by working remotely. In a survey on customer preferences, it is thought that individuals will prefer online shopping even after the crisis is over. A study conducted by McKinsey & Company on American consumers in April revealed that 75% of the consumers who used digital channels for the first time in the pandemic period will continue to use these channels when they are normalized. The crisis is also expected to lead to changes in customers' purchasing attitudes. It is still uncertain how the customers will tend towards the tourism, travel and accommodation sectors. Y and Z generations may tend to act economically at the individual level and spend less and save more in this crisis that they face suddenly. According to a survey on consumers from 41 countries, consumers spent most for grocery shopping globally (McKinsey & Company, 2020e).

Changes and Transformations in the Career and Professional Orientations of Employees

The COVID-19 crisis has shown that there must be changes in every company in the way of their doing business, regardless of the sector. This situation also made the inequalities between employees' job design structures visible. Although COVID-19 is called "the great balancer" throughout the society, it is an undeniable fact that there are injustices among employees. In his research, Kantemneni (2020) argued that employees with different incomes from different sectors will be differently affected from COVID-19 crisis. For example, Babuji et al. (2020b) show that in the COVID-19 process, four main business categories have emerged according to the organizational responsibilities that firms must fulfill. Jobs that are allowed to be performed remotely are classified as elite works during the COVID-19 process. Elite

works are works that can be carried out using remote access method using the information that employees have. When elite employees do their jobs from home, there is no change in their income or their income changes at a very small proportion. The fact that the income of elite employees is not affected also causes their purchasing powers to be unaffected. Individuals working in elite jobs are considered to be the most supportive group of the society in terms of both economic and general health. Since individuals working from home are at home, they contribute to public health by not getting infected and not spreading the virus. In economic terms; as the income of these individuals was not affected by the general situation, they continued to shop online and were able to meet their compulsory needs. For example, those working in high-tech companies are included in this group. Facebook, Google, Twitter, and Amazon encouraged employees to work remotely and tried to provide the necessary infrastructure for employees to work comfortably at their homes. The second category includes line workers. Some of the individuals working in transfers, markets, and pharmacies lost their jobs and some of them faced with too much decline in their wages. The health of employees in this group is also at risk. Despite being in the high-risk group, they could not take proper measures as healthcare workers do, and this caused them to become more easily infected. In the third group, subcontracting works are included. Some of the subcontracting works continued to be performed with the measures taken with the COVID-19 crisis, while some continued to be carried out despite they threat to human health. For example, in India, which is one of the less developed countries, some subcontractors collected medical waste without protective masks and clothes and then they became infected. One of the least affected business groups from the COVID-19 crisis is the way of doing business that flexible economies have used in recent years. For example, the online service in the food and beverage industry started long before the crisis. Firms providing online food and beverage services continued to their operations and employees continued to provide services online and adapted quickly, even though they were closed during the pandemic process and did not provide customer service at their locations. As in the food and beverage sector, the jobs in which social isolation can be achieved by using remote technology during the crisis were identified. It is expected that firms which can continue their activities with remote access very quickly will successfully carry out change and transformation with the role played by technology in the new period as we call the new normal (Bapuji et al., 2020a).

The COVID-19 process is expected to bring changes in the future career plans of the firm employees. The pandemic process directly affected the career experiences of the employees, evaluation of the emerging opportunities and the direction of their career preferences. For example, healthcare workers worked well over their ordinary working hours, white collar workers were directed to remote work in general, and some of the workers in the service sector lost their jobs. Akkermans et al. (2020) call this situation as a career shock. Pandemic is a very damaging and extraordinary situation and events occur beyond the control of employees. Although most professional groups are negatively

affected by this situation, companies operating in the software industry and individuals providing online sports coaching services became strengthened in their careers. In addition, some groups of healthcare professionals, such as nurses, began to be respected more by the community. This situation can be evaluated as a positive outcome resulted from a negative event. It is expected that new millennium and Z generations make different decisions in the new normal with the effect of the pandemic in determining their career choices.

Change and Transformations in Leadership

The fact that the corona crisis is complex and complicated by its nature emphasizes that the three mechanisms of decision making, which are leadership, management, and commanding should be used together. Grint (2020), in his study, emphasizes the need for the COVID-19 crisis to be adapted, integrated and addressed as a serious problem.

The COVID-19 crisis, so to speak, has turned the world inside out, so little predictions can be made about exactly how the new normal will look like when the situation stabilizes. The global epidemic has also pushed the boundaries of the economic and health systems of developed and egalitarian countries, suggesting the need to make changes in the perspectives of both country and firm leaders. Although individuals are generally looking for a leader who is charismatic and able to motivate them, the pandemic crisis led them to look for leaders, who will share, so to speak, the sad truth with them, will be honest and reliable, and will take the right steps to maintain the system (Grint, 2020). The leader, as a manager, is expected to emphasize that the problem can be resolved over time. Although corona virus is a complex, difficult problem, it is not unsolvable forever. For example, theoretically, it is known how to vaccinate, researchers are working on it, and it is thought that it will be available after a certain period of time. In this case, the problem will be solved spontaneously over time. Secondly, the leader needs to keep the individuals together and make the problem adaptable. When evaluated from this perspective, the corona virus crisis will be seen as a problem that can be managed collectively even if it is not resolved in a short period of time. For example, leaders ensure to work remotely, adapt to working from home, and use the resources correctly by directing the isolation process. Finally, the corona virus crisis is a problem that leaders must make effective, fast and guiding decisions. For example, it is important to suspend the activities of some firms for a certain period of time in the sectors and to reveal this in an irreversible way. In this context, the leader must fulfill the role of commander. Leaders are expected to perform these three roles in a balanced way. Additionally, the academic world has also been affected by the sudden crisis, which has made it necessary to rethink the role and way of doing business in the academia. Empathy, compassion and flexibility are the leadership behaviors necessary to manage the crisis in the academic world (Doraiswamy, 2012). This process provides an opportunity to redesign the educational environment for academia leaders who are goal-oriented, risk-taking and long-term strategic thinking. The suddenly emerging global epidemic creates an opportunity for the world of academia to change

the status quo, organizational norms, and ongoing old behavior. The biggest step taken in this direction is to adapt quickly to distance education. This point, which has been reached after the crisis has been overcome, will provide an opportunity for students who are disadvantaged in terms of physical or learning conditions, and non-students for the proliferation of vocational education (Fernandez & Shaw, 2020). Thus, leaders who take charge in the academy will redefine their corporate responsibilities and develop innovation that will benefit society.

Change and Transformation in Digitalization Processes

The COVID-19 crisis particularly emphasized the importance of digitalization for companies. McKinsey & Company (2020c) states in its report in May that digitalization, which companies are going through rapidly during the pandemic process, will also be essential in the recovery phase. The only thing that is clear in all the uncertainty brought by COVID-19 is that the future requires more digital adaptation. With the pandemic, the digital adaptation process, which was thought to take place within five years by companies and customers, occurred only in eight weeks. To give an example on a sectorial basis, banks are important actors in managing the credit needs of customers with digital banking services, the retail sector responds to the needs of its customers with online order and delivery channels, all educational institutions, including universities, continue their educational activities through online platforms, and the manufacturing sector continues its activities with its “dark factory” model.

While determining their digital strategies, companies not only should focus on digitalization, but also should pay attention to the activities that should be corrected in their operations. They should aim to correctly direct data and digital competencies and turn them into net projects to create new value for consumers. Instead of making big model changes in digital transformation, customers need to use a deep knowledge, operational perspective and the capabilities of the company correctly.

Although many of the managers are satisfied with the fact that the companies adapt to work remotely so easily, remotely working imposes responsibilities on the companies. In fact, the teleworking system will mean more than just providing hardware and software to the employees. Cooperation, transparency, and flexibility that companies try to establish in the office environment should also be provided in a remote working environment. For example, a software company created random virtual video matches to move random matches in physical offices to the virtual environment (McKinsey & Company, 2020d). Companies will also be positively affected by distance work in terms of human resource diversity. People with disabilities or parents will work more efficiently in this system. After COVID-19, companies are required to reorganize their strategies, structures, processes, employees and technology. This enables them to take steps to create value and protect the value they create. In fact, this situation brings to mind the agility. If companies can act agile, they will achieve

high performance with digital transformation against their competitors not only in the short term but also in the long term. Agility based firms are learning companies and they focused on improving their analytical abilities.

The companies are required to have a balance between past works and future steps that the company will take to succeed in the new normal in digital transformation for corona virus. It should be investigated what attitudes and activities firms should terminate, what they should reveal as new activities, which of the existing activities should be expanded.

Sustainability and Social Responsibility in Change and Transformation

Sustainability, environmental management and corporate social responsibility is one of the issues that companies normally need to focus on. Strategies for environmental management went beyond a matter of preference and became a strategy that must be followed. Environmental strategies are seen as a source of resilience and competitive advantage. In this process, companies should rethink their social responsibilities in order to respond to the economic results encountered and to alleviate the effects of the crisis.

Video conferences, shortened supply chain processes, and introduced new production lines that companies have to carry out with the COVID-19 crisis will help companies sustain their environmental sustainability if the crisis continues. Firms realize that they should be prepared for the climate change shocks that may be experienced in the future by taking lessons from the effect of this infectious disease that has affected the whole world and created a shock effect. Because climate change is a situation that threatens the health of all communities like COVID-19. Today, a number of big companies have determined green strategies and have achieved an unexpected saving with the strategies they protect natural resources. Firms will begin to see environmental strategies as a source of resilience and competitive advantage. In this context, a data-oriented approach should be adopted and analytical agile teams should be created. Environmental management and sustainability should be evaluated, managed and measured as an element of the value chain.

Conclusion

In summary, COVID-19 sparked change and transformation in many sectors and companies. Agriculture and livestock sector, which was pushed to the background earlier, now has emerged as a strategic sector. Now countries have grasped the importance of becoming self-sufficient to ensure food supply security and are taking steps in this direction. The tourism sector stands out as the sector that has come to an end in its golden age. In the upcoming years, it is expected that the costs in the tourism sector will increase and the sector will contract. In addition, the understanding of tourism is expected to evolve in the context of hygiene, social distance, and isolation. The transportation sector is one of the sectors that have been hit hard by COVID-19. Especially

in the transportation sector, it has become a necessity to substitute passenger transportation with freight transportation. The acceleration of applications such as e-commerce with COVID-19 has opened the way for, especially, the cargo transportation. E-commerce is a candidate to be the backbone of the retail sector. Although the old business concepts are expected to continue for products such as non-standardized shoes and clothing, e-commerce, with the support of the technology, is a candidate to change these old concepts. The development and radical change in the manufacturing industry is expected to be based on capital rather than the labor force. Adaptation to Industry 4.0 will accelerate more, and dark factories where not-human robots and artificial intelligence undertake the entire production will wait for us in the future. Moreover, big data and data analytics will be used to detect rapidly changing consumer preferences in the manufacturing industry. In addition, three-dimensional printers will be more involved in the manufacturing industry to eliminate the problems brought about by the globally deteriorated supply chain, and component design will be at the forefront instead of component production. Finally, it is inevitable that banking, which has an important place in the service sector as well as tourism, will focus more on digital platforms and grow as branch-free.

References

- Akkermans, J., Richardson, J., Krammer M. (2020). The COVID-19 crisis as a career shock: Implications for careers and vocational behavior. *Journal of Vocational Behavior*. doi. org/10.1016/j.jvb.2020.103434
- American Hotel & Lodging Association. (2020). COVID-19's Impact on the Hotel Industry. Retrieved from: <https://www.ahla.com/covid-19s-impact-hotel-industry>
- Bank for International Settlements. (2020). Macroeconomic effects of COVID-19: An early review. *BIS Bulletin* No: 7.
- Bapuji, H., Bakker F.G.A., Brown, J., Higgins C., Rehberin K., Spicer A. (2020a). Business and society research in times of the corona crisis. *Business & Society*, 1-12. doi. org/10.1177/0007650320921172
- Bapuji, H., Patel, C., Ertuğ, G., Allen, D.G. (2020b). Corona crisis and inequality: Why management research needs a societal turn. *Journal of Management*, 1-18, doi: 10.1177/0149206320925881
- BBC News. Coronavirus: Thousands of North Sea oil and gas jobs under threat. (2020). Retrieved from: <https://www.bbc.com/news/uk-scotland-scotland-business-52446555>
- Food and Agriculture Organization of United Nations. (2020). Q&A: COVID-19 pandemic – impact on food and agriculture. Retrieved from: <http://www.fao.org/2019-ncov/q-and-a/impact-on-food-and-agriculture/en/>
- Business Insider. (2016). The world's biggest meat producer is planning to test out robot butchers. Retrieved from: <https://www.businessinsider.com/jbs-meatpacking-testing-robot-butchers-2016-10>
- Deloitte. (2020). COVID-19 Turizm ve Konaklama Sektörü Duyarlılık Araştırması. Retrieved from: <https://www2.deloitte.com/tr/tr/pages/consumer-business/articles/COVID-19-turizm-ve-konaklama-sektoru-duyarlilik-arastirmasi.html>
- Deloitte. (2020). Perakende sektörü COVID-19 sonrası döneme nasıl hazırlanmalı? Retrieved from: <https://www2.deloitte.com/content/dam/Deloitte/tr/Documents/consumer-business/perakende-sektoru-COVID-19-sonrasi-doneme-nasil-hazirlanmalı.pdf>

- Deloitte. (2020a). COVID 19'un Sektörel etkilerini anlama. Retrieved from: <https://www2.deloitte.com/content/dam/Deloitte/tr/Documents/energy-resources/covid-19-un-petrol-sektorune-etkileri.pdf>
- Doraiswamy, I.R. (2012). Servant or leader? Who will stand up please? *International Journal of Business and Social Science*, 3 (9), 178-182.
- Duffy, C. (2020). Big tech firms ramp up remote working orders to prevent coronavirus spread. CNN. Retrieved from: [google-work-from-home-coronavirus/index.html](https://www.google.com/search?q=google-work-from-home-coronavirus/index.html).
- Edmondson, A. (2020). Don't hide bad news in times of crisis. *Harvard Business Review*. Retrieved from: <https://hbr.org/2020/03/dont-hide-bad-news-in-times-of-crisis>
- Fernandes, N. (2020). Economic effects of coronavirus outbreak (COVID-19) on the world economy. Retrieved from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3557504
- Fernandez, A.A., Shaw, G.P. (2020). Academic leadership in a time of crisis: The Coronavirus and COVID-19. *Journal of Leadership Studies*, 14, 1.
- Gartenberg, C. (2019). 181 Top Ceos Have Realized Companies Need a Purpose Beyond Profit. *Harvard Business Review*. Retrieved from: <https://hbr.org/2019/08/181-top-ceos-have-realized-companies-need-a-purpose-beyond-profit>
- Grint, K. (2020). Leadership, management and command in the time of the Coronavirus, *Leadership*, 1-6.
- Hoque, A., Shikha, F. A., Hasanat, M. W., Arif, I., Hamid A. B. A. (2020). The Effect of Coronavirus (COVID-19) in the Tourism Industry in China. *Asian Journal of Multidisciplinary Studies*, 3, 52-58.
- IBISWorld. (2020). Coronavirus Update: Industry Fast Facts. Retrieved from: <https://www.ibisworld.com/industry-insider/coronavirus-insights/coronavirus-update-industry-fast-facts/#accommodationandfoodservices>
- ING. (2020). Four scenarios for the global economy after COVID-19. THINK Economic and Financial Analysis. Retrieved from: <https://think.ing.com/articles/four-scenarios-for-the-global-economy-after-COVID-19>
- JBS and Robot Butchers. Retrieved from: <https://digital.hbs.edu/platform-rctom/submission/jbs-and-robot-butchers/>
- Le, T.T., Andreadakis, Z., Kumar, A., Román, R. G., Tollefsen, S., Saville, M., Mayhew, S. (2020). *Nature Reviews*, 19, 305-306.
- Kantemaneni, N. (2020). The impact of the COVID-19 pandemic on marginalized populations in the United States: A research agenda. *Journal of Vocational Behavior*, doi.org/10.1016/j.jvb.2020.103439
- McGrath, R., McManus R. (2020). Discovery-Driven Digital Transformation. *Harvard Business Review*, May-June
- McKinsey&Company. (2020a). Oil and gas after COVID-19. Retrieved from: <https://www.mckinsey.com/industries/oil-and-gas/our-insights/oil-and-gas-after-covid-19-the-day-of-reckoning-or-a-new-age-of-opportunity#>
- McKinsey&Company. (2020b). Beyond coronavirus: The path to next normal. Retrieved from: <https://www.mckinsey.com/business-functions/risk/our-insights/covid-19-implications-for-business>
- McKinsey&Company. (2020c). The COVID-19 re-recovery will be digital: A plan for the first 90 days. Retrieved from: <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-covid-19-recovery-will-be-digital-a-plan-for-the-first-90-days>
- McKinsey&Company. (2020d). From thinking about the next normal to making it work: What to stop, start and accelerate. Retrieved from: <https://www.mckinsey.com/featured-insights/leadership/from-thinking-about-the-next-normal-to-making-it-work-what-to-stop-start-and-accelerate>
- McKinsey&Company. (2020e). Consumer sentiment evolves as the next 'normal' approaches. Retrieved from: <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/a-global-view-of-how-consumer-behavior-is-changing-amid-covid-19>

- McKinsey&Company. (2020f). A response framework for advanced industries companies. Retrieved from: <https://www.mckinsey.com/industries/advanced-electronics/our-insights/coronavirus-a-response-framework-for-advanced-industries-companies>
- Meat processing Automation Robots. Retrieved from: <https://www.robots.com/applications/meat-processing-automation>
- PwC. (2020). COVID-19 krizinin Türk bankacılık sektörü üzerindeki etkileri. Retrieved from: <https://www.pwc.com.tr/tr/sektorler/bankacilik-sermaye-piyasalar/yayinlar/COVID-19-krizinin-turk-bankacilik-sektoru-uzerindeki-etkileri.html>
- PwC. (2020). COVID-19: What it means for industrial manufacturing. Erişim adresi: <https://www.pwc.com/us/en/library/COVID-19/coronavirus-impacts-industrial-manufacturing.html>
- Schmidhuber, J., Pound, J., Qiao, J. (2020). COVID-19: Channels of transmission to food and agriculture. Rome, FAO. <https://doi.org/10.4060/ca8430e>
- Seric, A., Winkler, D. (2020). Managing COVID-19: Could the coronavirus spur automation and reverse globalization?. Industrial Analytics Platform. Retrieved from: <https://iap.unido.org/articles/managing-COVID-19-could-coronavirus-spur-automation-and-reverse-globalization>
- Statista. (2020). Airline passenger revenue loss due to coronavirus outbreak worldwide in 2020, by region of airline registration (in billion U.S. dollars). Retrieved from: <https://www.statista.com/statistics/1106679/coronavirus-airlines-passenger-revenue-region/>
- Statista. (2020). COVID-19's impact estimate on passenger revenue of airlines by region 2020. Erişim deresi: <https://www.statista.com/topics/6178/coronavirus-impact-on-the-aviation-industry-worldwide/>
- World Trade Organization. (2020). Trade set to plunge as COVID-19 pandemic upends global economy. Retrieved from: https://www.wto.org/english/news_e/pres20_e/pr855_e.htm
- World Economic Forum. (2020). How to rebound stronger from COVID-19. Resilience in manufacturing and supply systems. Retrieved from: <https://www.weforum.org/whitepapers/how-to-rebound-stronger-from-covid-19-resilience-in-manufacturing-and-supply-systems>