

DIGITAL TRANSFORMATION AND POST-CONFLICT COUNTRIES

Sedat Aybar¹

INTRODUCTION

The world is going through testing times. Global challenges are everywhere. Poverty is persistent. Income inequality is widespread. Environmental degradation is stinging. Migration and security concerns are rampant. Global warming is unabated. We are all experiencing that sinking feeling. The old world is going down. It is however taking such a long time for it to be buried once and for all. This is mainly due to the absence of a rising “brave new world”. Ideas that would shape the forthcoming new world is nowhere to be seen. We are obviously in between the two worlds. One is refusing to go and disappear into the past one is refusing to be born. One of the difficulties imposed upon the analysts of social change today relates to the determination of harbingers of underlying elements and circumstances upon which forthcoming “new world” might rise.

We readily accept that the new world will be rising upon the existing embryonic formations of certain set of developments. At the highest stage of analytical abstraction, we identify these components to be the segments of technological advances, specifically in the form of digital revolution. Hence, this piece hereby aims to explore these primary drivers dominating the change in the modern world. We have particularly used the background of post-conflict societies. This we expect would enable us to explore what would ensue after a society is destroyed akin to the destruction of our global social and natural environment. Although this may be an extreme statement it is safe to assume for argument’s sake that what is befalling upon us is hammering us to extinction globally.

This paper proceeds by first looking at the digital transformation as we experience in recent years. We particularly refer to the so called 4th Industrial Revolution as its use is widely accepted, though keeping certain disclaimers about the concept.

I. DIGITAL TRANSFORMATION AND THE 4TH INDUSTRIAL REVOLUTION

The 4th industrial revolution was first spelled out in 2011, by the German government. The concept highlights that the use of digital technologies now will fundamentally change the way production is done since the original Industrial Revolution of the 18th century. Industry 4.0 accordingly will also change businesses, markets and the global economy. Since it portrays a new industrial era, it will have a major impact upon how contemporary societies live. Information and information technologies being the main drivers of change will re-define social and institutional existence of human beings by imposing upon them new hierarchical governance structures and decision-making mechanisms. Underlying fundamental advancement that will make this possible is characterized by hyper-connectivity.

It is a curious phenomenon. Although some fundamental changes were introduced with the 4th Industrial revolution, it did not specify as to what extent individual lives would be affected and altered. Hence this was not the end of the story, that everyone lived happily ever after. In the 10th anniversary of the 4th Industrial Revolution, in 2021 the European Union announced its Industry 5.0 strategy. This strategy singled out sustainability and human-centered advancements of digital transformation. Accordingly, these were harmonized with the United Nations’ Sustainable Development Goals (SDGs), accepted in 2015. The SDG’s stated that “... seventeen interlinked objectives designed to serve as a ‘shared blueprint for peace and prosperity for people and the planet,

¹ Prof. Dr. Bahçeşehir University, Department of International Finance, sedataybar@gmail.com

now and into the future". These harmonized targets would aim to commit governments to tackle with the problems they are sharing with the international community while helping to the rise of new world. Hence, we talk about a dual process interlinked, i.e. burying the old world while helping the birth of the new.

Put it differently, there has been an implicit agreement that the drivers of the rising new world will be generated from within the digital sphere. The new technologies revolutionize the way in which social relations are formed which will be pro-poor, environmentally friendly, gender bolstering, education specific, democratic and market driven. Although, it has been carrying in itself some weaknesses such strategies have been accepted to be better than nothing. Now we shall examine whether such policy measures help us to produce much needed guiding principles to sort out some of the problem areas that we are facing today. critical setbacks that may come about with these applications.

II. DIGITAL TRANSFORMATION: A FRIEND OR A FOE

It is possible to interpret digital transformation, Industry 4.0 & 5.0 as the upgrading of means of production. Users of these new production tools ought to develop new skills. On the other hand, digitally informed production practice is labor intensive. In other words, the use of digital technologies is not necessarily going to provide extra leisure time for workers to improve their abilities. Workers as we are more frequently witnessing more recently are much more readily at the disposal of their bosses. End result is automation and prolonging of working day and this is not necessarily worker friendly. Add to this another fact: an important new phenomenon known as precarious job practice that came about much more robustly with digitalization and robotics. As a result working people are now experiencing more and more severe job insecurity and them developing a sense of worthlessness. Adopting to and mitigating of the negative effects of these new occurrences will take much time for the working people.

Automation, which develops with digital technologies, directly concerns employees. In 2018, 71 percent of the effort made in doing a job came from people and 29 percent from machines. By 2022, the share of humans is expected to decrease to 58 percent, and the share of machinery to 42 percent. (WEF Future of Jobs) We need transformation for human and automation to add value together. Digitization needs to be blended with human skills. With digitalization and automation, some jobs will be lost and reduced. On the other hand, new jobs will emerge. Such as digital ethics officer, industrial big data scientist, robotics expert, digital mentor. By 2030, the most sought-after profiles in the manufacturing industry are; They will be robotic engineers, big data experts, artificial intelligence programmers, IOT experts, multi-channel software developers and cyber security experts.

New working methods such as rotational work, invoice-based work, collaborative work, and on-call work are emerging. For the first time in business life, there are 4-5 different generations at the same time. A multi-generational workforce (with Baby Boomers, Gen X, Millennials, and Gen Z working together) increases productivity. Artificial intelligence is added to human intelligence. With artificial intelligence-based systems, faster execution, operational capability and accuracy are achieved. Before the pandemic, 65 percent of businesses thought existing skills needed to change. Now this rate has increased to 94 percent. 1 billion people will join the labor market in the next 10 years.

As individuals and societies, we are now under pressure to change our role (up-skilling) and gain competencies (re-skilling) in order to acquire new professions. For instance, 23 percent of the workforce in Turkey, 27 percent in Japan, and 20 percent in China have to do some kind of up-skilling and re-skilling. According to McKinsey (2020) report for Turkey, 7.6 million jobs will be eliminated if we reach 20-25% automation level in production processes by 2030. On the other hand, it is stated that 8.9 million new jobs will be created. Digitization will also bring with it 1.8 million jobs that did not exist before.

On the other hand, some of the new companies are preparing long-term business plans to limit the use of polluting materials such as plastic, and to zero their carbon footprint by 2050. During the epidemic,

85% of the companies accelerated their digitalization, 67% automation and artificial intelligence studies. For instance, digital transformation rate of businesses is around 60 percent. Now, digital transformation of industry and working life is not a choice; has become a necessity.

With the epidemic accelerated and irreversible digital transformation and technologies such as groundbreaking artificial intelligence and the internet of things, production is also transforming. The future of production is shaped by these dynamics with an unprecedented speed. Robotics, artificial intelligence, machine learning and big data have become a part of our business life. It is estimated that by 2025, approximately 75 billion devices will be communicating with each other. (Approximately 10 times the human population).

III. DIGITALISATION AND POST-CONFLICT COUNTRIES

In advanced economies, the manner in which individuals learn, live and work today is significantly determined by the technological advancements associated with Industry 4.0. Using existing connectivity through the use of internet and considerable quantity of accessible information, the manufacturing systems are increasingly able to independently direct and improve themselves, with minimal human involvement (Bonekamp and Sure, 2015). Generally, industry 4.0 involves the blending of all the real world's services and products, with new technologies, in different domains. This includes the domains of 3D printing, robotics, biotechnology, and nanotechnology.

As is customary with previous industrial revolutions that “the fundamental and global nature of this revolution too, poses new threats related to the disruptions it may cause, affecting labour markets and the future of work, income inequality, and ethical frameworks”. (as mentioned by Karl Schaub at the World Economic Forum in 2016 at Davos, Lanvin and Evans, 2018). Be it as it may, being indifferent to the social issues that will unfold with the 4th Industrial Revolution and beyond, growing income inequality, widening of skills gap, massive dislocation of jobs and talent shortages seems to have severe consequences for businesses, societies and individuals.

This is particularly true when we consider some of the areas of application most conflict ridden countries do not have, like a cost-effective rapid manufacturing processes for high-quality goods production. The challenges these societies are facing is enormous. It is not always negative though. The nine pillars of technological advancements associated with industry 4.0 that make accumulation and analysis of data through machines, possibly can help identifying problematic areas for post-conflict societies too.

Currently, skills, expertise and work organization are essential elements for managing new economic and social conditions. This requires human capital management to generate dynamic capabilities. However, this can only be made possible by offering an environment conducive to innovation and effective learning (Shamim, Cang, Yu, and Li, 2016) which does not exist in many post-conflict societies.

For instance, the structure of present-day educational systems, online infra-structures are deemed inappropriate for competitive labour markets in most of the developing and post-conflict countries. As such, it is essential that educational establishments stay abreast of technological advancements, so as to close the gap between formal education, and the labour market needs. In the meantime, many post-conflict countries would have “cold feet” towards implementing speedy advancement of technology since this may create “technological unemployment”, using Keynes’ dictum. This would create a fundamental problem that needs to be dealt with or at best avoided in the developing world and post-conflict countries.

World Economic Forum Report of 2017 indicated to the discrepancy between expertise and job requirements, with regards to the Middle East and North African region. Accordingly, in these regions, the growth of 40% of businesses is hampered by the lack of required skills. Business leaders in general, regret the fact that many countries are still groping in the dark, when it comes to the recruitment of employees with the required skills.

On the other hand, things are not always gloomy. For instance, challenges and opportunities related to the realities of modern world should be considered while engaging with them further. Importance of technology which brings together strengths of civil society organisations and private sector contributions to the socio-economic growth problems requires a careful co-ordination for successful resolutions. As evidenced with real world examples, employment in digital technology sector has a unique advantage of working from whatever location.

The Middle East and North Africa (MENA), constitutes an important geographical entity for it has rich oil and natural gas reserves. Be it as it may, it has been also both the cradle of civilizations and Abrahamic religions as well as hegemonic conflicts throughout history. Especially over the course of the last two centuries, the region turned into a microcosm of all sorts of cultural, sectarian, ideological, geo-strategic, geo-economic and distributional conflicts. Today, as the major global powers continue to compete across the Atlantic, Eurasian and Pacific axes for unrivalled technological competitiveness and sustained supremacy in the knowledge economy, the Middle East continues to resist the flow of history amid existential conflicts, civil wars, terrorist attacks, human tragedies, forced migrations and a truly neo-medieval order (Aybar, 2022).

In the context of education, the emphasis should be on a system that meets the immediate requirements. Decisions regarding the objectives of educational reform, are generally in the hands of the current institutional stakeholders. For the past fifty years, researchers have devoted much time and effort, into studying the progression mode of industries, and the effect of environmental movements, on the structure and operations of institutions. Towards the close of the twentieth century, among the main concerns, was the incapability of educational establishments, to raise their productivity levels, and fulfil manpower requirements.

UNDP research suggest that people can be more productive, flexible and innovative by investments in human capital. Since the speed and measure of changes introduced by the Fourth Industrial Revolution will bring about shifts in power, in wealth and knowledge, such process can be successfully managed by investing in education for higher skills. For instance, Iraq is one of the Middle East's most underbanked countries, yet 95% of the population has a mobile phone and 50% has access to the internet. Using these two channels, Iraqi citizens are now accessing valuable information and services. The availability and access to networking technologies like the internet and mobile phones, has laid the foundation for a digital economy and opened the door towards financial inclusion. Most governments now has a bold and ambitious vision for sustainable development and is on the path to deliver wide sweeping structural reforms. They require full spectrum of digital services and is a prime market for international companies specializing in digitization and e-government.

IV. TURKEY'S TEST WITH DIGITAL TRANSFORMATION

Looking from the perspective of this gloomy regional order, Turkey's quest to join the ranks of leading global powers in economic and technological advancement and human development becomes even more fascinating. As an emerging economic power, Turkey stands in the midst of a volatile geopolitical time with substantial industrial, financial and human capacity displaying massive potential for expansion (Aybar 2017). In a way, Turkey is in a critical conundrum between the old and brave new worlds, between the fourth industrial revolution and medieval-style existential wars, a desire for rapid economic and technological advancement and grave concerns of national security.

Turkey is keen to catch up with global competition in high-tech areas exemplified by national defense industries, digitalization, genetics, nanotechnology, biotechnology, robotics and other main sectors of the new economy.

Yet the unwavering national determination for development has constituted the backbone of the respectable economic and technological performance in recent years that has produced concrete outcomes in several technology-intensive sectors.

Turkey stands to diverge positively from its volatile region and relentlessly pursue the fourth industrial revolution with respective contributions from a new generation of private sector and civil society initiatives such as the Turkey Technology Team (TTT) Foundation. As far as the country's long-term strategic goals are concerned, this is not a preference but a critical necessity since acting as a stabilizing force in a volatile region requires constant economic and technological prowess.

CONCLUSION

It is widely accepted that the main challenge most developing countries are facing with regards to catching up with Industry 4.0. is the skills gap. This is particularly much more strongly emphasized around youth unemployment. The issue of skills gap needs to be properly managed, to enhance economic and political stability. Promoting youth employment and improving the standard of education, remains the most prominent stumbling block to economic development and technological advancement, this is much more severe in post-conflict societies. This can be attributed to the disagreement between the skills promoted by the education system, and the skills required by the labour market.

Creating a network of innovation centres that crowd-source, co-create and test solutions to the world's toughest humanitarian challenges are extremely important. These makerspaces and incubators for humanitarian innovation will be stocked with advanced manufacturing equipment (e.g., 3D printers, CNC routers, precision milling machines, laser cutters). They will be physical platforms for STEM education, workforce development, entrepreneurship training, co-working space, knowledge exchange, social cohesion and psychosocial support through interactive art.

Additionally, Data Analytics space can play a crucial role by turning the potential of the digital space to the advantage of all affected fields. Digital space can contribute to the lasting and inclusive resolution of conflicts of interest by addressing needs on the ground. Business community can be called upon to develop such solutions. International institutions moving away from traditional models of funding can help designing sustainability of digital interventions.

REFERENCES

Aybar 2020, Short Notes On Capacity Building Workshop in Post-Conflict Regions, Florya Chronicles of Political Economy, No:7, Vol: 1, İAÜ Publications, İstanbul.

Aybar, (2017), Tek Kuşak, Tek Yok İnisiyatifi Bağlamında Türkiye-Çin İlişkileri, TASAM, https://tasam.org/tr-TR/Icerik/45102/tek_kusak_tek_yol_insiyatifi_baglaminda_turkiye_-_cin_iliskileri

Shamim, Cang, Yu, and Li, (2016), Management approaches for Industry 4.0: A human resource management perspective, 2016 IEEE Congress on Evolutionary Computation (CEC), DOI:[10.1109/CEC.2016.7748365](https://doi.org/10.1109/CEC.2016.7748365)

Lanvin and Evans, (2018), The Global Talent Competitiveness Index 2016, Talent Attraction and International Mobility; Growing Talent for Today and Tomorrow, INSEAD, Fontainebleau, France,

World Economic Forum Report of (2018),
<https://www.weforum.org/publications/annual-report-2016-2017/>

Bonekamp and Sure, (2015), “Consequences of Industry 4.0 on Human Labour and Work Organisation”, Journal of Business and Media Psychology (2015) No: 6, Issue 1, 33-40, available at:
https://journal-bmp.de/wp-content/uploads/04_Bonekamp-Sure_final.pdf

WEF, (2023), Future of Jobs, Insight Report,
https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf

McKinsey report for Turkey, (2020), Future of Work, Turkey’s Talent Formation In the Digital Era,
https://www.mckinsey.com/tr/~/_/media/mckinsey/locations/europe%20and%20middle%20east/turkey/our%20insights/future%20of%20work%20turkey/future-of-work-mckinsey-turkey-full-report.pdf