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Deficit Problem with the Fourth Industrial Revolution

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ABSTRACT: The Fourth Industrial Revolution, defined by Klaus Schwab, founder and CEO of the Future Economic Forum, envisions a world in which people travel between digital domains and offline reality by using technology linked in order to allow and control their life. The first industrial revolution transformed our lifestyle and economy from an agricultural and artisanal economy to one dominated by industry and machinery. In the second industrial revolution, oil and electricity enabled mass manufacturing. In the third industrial revolution, IT was utilized to automate manufacturing. Every industrial revolution is typically seen as a distinct event, but collectively they may be better viewed as a sequence of events based on inventions of the previous revolution and progressing to improved forms of production. The main characteristics of the four industrial revolutions, the possibilities of the 4th industrial revolution and the difficulties of the 4th industrial revolution are discussed in this paper. It is described in this opinion piece, which is centered on the opinions of some consultants, the most sensitive publications submitted to and discussed at the Davos World Economic Forum in 2016 upon that subject of this popular uprising, and some predictions about the negative consequences of a few really of the most short tenure in global industrialization.

KEYWORDS: Economic, Employment, Fourth Industrial Revolution, Technology, Vehicles.

I. INTRODUCTION

The Industrial Revolution witnessed various stages or milestones that facilitated the shift from an agricultural which began in the half century with the introduction of steam engines. The literature classified the Industrial Revolution into three phases or cycles: the first, second, and third, each with distinct characteristics information relating to the predominance of specialized energy resources, technological breakthroughs with significant economic ramifications, and developed or modernized modes of public transportation. This year's World Economic Forum in Davos included a lot of talk regarding the fourth industrial revolution. However, several well-known authors, such as Jeremy Rifkin, previously felt that the third and fifth rapid industrialization were approaching [1]. This new cycle is founded on the Internet and renewable energy, whether that be the 3rd and 4th Industrial Revolution, the first of which allows simple access for products and services to information and the most recent energy impacts on the environment. In Jeremy Rifkin's perspective, the combination of these leads to the distinguishing features the so growing industry: first, a move from natural gas to renewables; second, transforming each continent's building stocks into green micro plants for the collection of renewable energy on-site; The idea is very remarkable, but it belongs to the future and may be realized in three or four decades with a wide international collaboration. The European Parliament had issued a formal statement supporting its deployment in the EU, as well as expressing interest in and worry about the realization of a connected and interacting system in other countries in Asia, Africa, as well as America. Significant synergies are designed to develop a new economic framework that has the potential to transform the world for the better [2].

Even David Cameron agreed with Rifkin that perhaps the country is on the dawn of the new industrial age, in which commonplace objects would be able to connect with one another thanks to the Internet. The Nation's enabled gadget can normally communicate and obtain material from other technology or humans, which is a significant advantage, the so-called Internet will change society by increasing labor productivity, making transportation more efficient by reducing electricity needs, and supporting a greater response to climate change. Individual-to-domestic-goods relationships, as well as vehicle-to-numerous-home-appliance relationships, having the ability to make a significant difference in people 's existence. A technological breakthrough like artificial intelligence (AI), the Online world, 3D printing, and regenerative medicine, among other things, Banning Garrett contends, will underpin the new revolution. These technologies will have significant implications for industrial input - outcome ratio, but also on social relations, on how people relate to production and its outcomes. The issue is whether technological development and the high increase in productivity would generate greater riches or unemployment and social inequity. We have a lot of poverty throughout the world and a few millionaires. Both 3D printing, which can quickly execute a broad variety of products and components, innovative robot manufacturing, nanotechnology, and genetic modification and biological technology are capable of delivering products and services at extremely cheap cost [3].

Yves Smith, a philosopher, feels that history has many lessons to teach us, and that the great errors of mankind must not be repeated and five foundations identified in order to provide a stable society: food, safety, health, prosperity and knowledge. There is a transitional phase

between two industrial revolutions and Prosperity is under danger at the conclusion of every transition, connected to rising unemployment, which might culminate to World War after the first two industrial revolutions. Now that mankind confronts an approaching food crisis, many health and safety problems, significant unemployment rises and the collapse of the cornerstone of prosperity will almost certainly result in a new industrial era. Prosperity Pillar of human civilization is at risk. Although sceptics and alarmists who anticipate World War III, mankind must escape such a conflict and choose a new industrial revolution and a sustainable economic growth based on the Pillar of Understanding, bearing in mind that there would be no secure future without excellent knowledge of the past.

A. Fourth Industrial Revolution

The 4th industrial revolution was a prominent subject at the 2016 Davos World Economic Forum, where numerous authors addressed various aspects of this next era or cycle of industrial growth. As per WEF Chair Hans Schwab, who coined the name and topic of a 4th Davos industrialization, this era of industrial growth is already underway, and is "characterized by the more ubiquitous and mobile Internet, smaller and more powerful sensors, more affordable, and artificial intelligence and machine learning." Many of the discussions at Davos focused not on their good benefits but on the negative consequences of new technology [4].

Judith Magyar has discovered breakthrough technologies like 3D printing and genetic engineering from SAP Community Networks, providing excellent possibilities for industrial growth and also some significant dangers. In September 2015 she submitted a number of predictions for 2025 which were featured in the Technology Tipping Points and Societal Impact Report. SAP Community Networks here seems to be concerned about technological sustainability, with the Internet, and via hyper-connectivity as well as the Internet of Things, playing a key role in establishing a new multinational companies cycle focused on effective practices that can help lower the high reliance on fossil fuels. Progress of science allows for the reduction of industrial waste, the restructuring of purchasing and supply systems to be much more resource efficient, as well as the loss of employment as a result of automation or other technological advancements The internet allows for rapid learning and communication, as well as the creation of many opportunities for the extension of professional knowledge. According to Gary Coleman of Deloitte Consulting, the industry 4.0 should not be treated as a theoretical concept because it has a significant influence on society and commerce, and the digital revolution of manufacturing makes for widespread access to exponential advances in artificial intelligence, intelligent systems, sensors, Nanotechnology, and quantum computing. Virtually produced prototypes and the placement of sensors on cars may speed up innovation cycles, especially in the automotive industry. Developing innovative business models that enable scientific analysis and forecasting, as well as the sharing of information from producers and distributors, is made possible via the use of computers. The potential for artificial intelligence-based innovations to cut labor costs has been noted, but Gary Coleman argues that there will not be enough specialists to implement exponential technologies in the near future [5].

Technical advancement, according to Mary Barra, CEO of General Motors, is not a seamless process, but one that occurs at a rapid pace. Major manufacturers are now producing cars that are more efficient, green, safer, and smarter than they used to be 20 years ago, and technological advancement in the next ten years will be quicker and more dramatic than in the preceding 50 years. One can observe a shift from self-contained, mechanically controlled, petrol-powered, diesel-powered and electronically controlled vehicles that are fueled by various energy sources. Besides the electric motor, manufacturers may also add cameras, radars and advanced sensors, which enhance safety on many levels.

General Motors is a pioneer in 4G wireless connection that enables the vehicle to operate as a Wi-Fi hotspot that can simultaneously link up to seven devices. The link may be established to other cars and even gadgets on the roads so that the V2V system (vehicle-to-vehicle communication on a specific Wi-Fi frequency) allows critical information exchange. The next stage will be the V2I (Vehicle to Infrastructure) connection which prevents traffic bottlenecks. The latest technology enables autonomous cars (without driving) such as the Cadillac Super Cruise system to be introduced and traffic safety and speed to be increased. All new innovations that significantly alter industrial production may endanger employment for Xavier Mesnard, AT Kearney partner. The fourth industrial revolution reduces demand for workers and imposes new schooling requirements. In the United States, the proportion of jobs in total employment in the manufacturing sector fell from 25% in 1970 to approximately 10% at this stage. In the next several years, robots will replace numerous professions in industrialized nations, particularly in the administrative and office sectors where employees are usually female. Michael A. Osborne and Carl Benedikt Frey estimate that 47% of US occupations are under severe distress due to computer introduction, and comparable conditions are seen in other developed and developing nations [6].

In contrast to previous industrial revolutions which also helped the economy, the fourth opens up the possibility of a tough period of the Schumpeterian generous spirit (school of thought of technical change) as not quite the same viewpoint, but the certainty one which occupations will start changing in a way that is difficult to comprehend and accept. The accelerating nature of internet age must be considered, such that Moore's law would control in real time the omnipresent connections between people and machinery and data that would shape the Fourth Industrial Revolution. This enormous change is not restricted to the industrial sector, but may encompass all work linked to information and services and therefore provide a much greater problem for society.

As Alan Blinder, a professor at Princeter College, contends in his essay Schooling for the Third Popular uprising, students need a learning that is not only quantitative, but specialized and qualitative, as well as focused on today’s modern demands, in order for them to be prepared to thrive in the information age. Therefore, customized education is essential, because we speak

about far higher and more complicated requirements that need innovation, interdisciplinary schmoozing.

The five key variables that impact labor markets and shape future working conditions are technology, economics, demographics, sociological trends, and government regulations. Because of the hyper-connectivity of businesses and employees, location of work is no longer an issue, and employees have complete control over their schedules and working environment. Mobility isn't any longer just about individuals moving about; it now encompasses a wide range of new possibilities made possible by cutting-edge technology and creative management practices [7].

Talent attraction will be essential both for companies and countries to boost expertise, based on their commitment to meritocracy, while it is important for workers to seek professional and personal growth, new and challenging employment possibilities, and chances to relocate to locations where there is a lot of talent, it is also necessary for them to go to places where there is a lot of talent. For regulators as well as governments, the removal of barriers and bureaucracy is a priority, simplifying regulation, lowering taxes on employment, promoting education and training, and encouraging entrepreneurship and start-ups are key structural changes in labor markets. The workplace will change as a result of automation, becoming more complex and requiring more expertise, particularly inventiveness. New skills for transport means are needed, personalized preventive health workers will be needed, the need for big data analysts will grow significantly, as will the requirement for specialists who safeguard and promote online activities such as fraudulent activity in new networks and reputation management. The conclusions of the Future of Jobs project, which anticipated the abilities required in the future workplace, were published in the journal Science, are more important than the personal opinions of some of the forum members [8].

B. The Effect On Policy of Economic

A wide range of long-term and disruptive ramifications for the labor market would result from technological advances in the fields of digitalization, networks, robots, and big data. Because of the financial crisis, personality, summary deals, erratic and part-time work have become more popular, particularly in the U.S. as well as the United Kingdom. If robots and digitalization disrupt jobs, tax revenues and tax revenues will decrease in the long term and public pension funds will also be impacted and social costs of taxes on job losses and lower GDP would most certainly rise. Online shopping, the free movement of goods and services with internet assistance and retail sales digitization may influence tax collections, such as VAT. In order to effectively address or adapt to technological problems, education and rehabilitation must be focused, because income distribution is influenced, and low-income sectors are disproportionately impacted, income would become more uniform, and medical insurance for seniors will become more difficult to supply. Tax erosion hence the need for increased spending would jeopardize fiscal policy's long-term viability, which would require drastic cuts in social security expenditure, a quick solution to young people's employment, and a solution to huge social challenges for the large numbers of refugees and migrant people. While deflation is now threatening economic development severely, in the context of strong digitalization impacts on retail sales and an apparent tendency towards better products and services quality, this Fourth Industrial Revolution poses significant difficulties relating to price stability and inflation. Competition levels, unemployment, rises in wages, Prices will have an effects on consumer prices and the pace of rising and, indirectly, the central banks' monetary policy. Digitalization processes may have various impacts on currency appreciation and depreciation. The fourth industrial revolution will clearly improve productivity in labor, which showed poor growth after the crisis as a result of low use of resources. When more capital is utilized per employee, Productivity is increasing as a result of the close relationship between resource consumption and productivity, but the state of all supplies must be accounted. Low interest rates are now part of monetary policy, and they may remain that way for a long time as currency loses in value and deflation and high inflation are overstated [9].

The Fourth Industrial Revolution would assist in the achievement of global objectives. When it comes to the effect on labor, robots will remain to replace humans in production and blue-collar sectors, while artificial intelligence may do the same for workers in high-skilled occupations, according to the World Bank. Rapid technical improvements may result in the creation of new jobs, the majority of which we should even imagine today in the aviation industry. Digitization would amplify the present disparities in a world where many nations and areas have yet to experience the 2nd and 3rd industrialization. The "dehumanization" of humans may lead to robotics and artificial intelligence, which affects distinctive qualities such as empathy, sensitivity, creativity and inspiration, as well as moral and ethical problems. Although technical development is inevitable, it is clear that the bad, unintentional results of technological change must be avoided or addressed [10].

II. DISCUSSION

A big issue at Davos in connection with the fourth industrial revolution is to prioritize technology developments that have the most positive effect on society and the economy. It was adopted by all nations and areas in bid to "end poverty, protect the environment, and ensure everyone's prosperity." The 17 Development Efforts (also known as global targets) are divided into seven categories: poverty and food security; health; education; energy; water and sanitation. Each of the goals is tied to a specific target or targets. The advancement of technology may contribute to the fulfilment of these global goals. Technologies are difficult to prioritize for the achievement of global objectives and policies must be drawn up and economic incentives to encourage the appropriate kinds of technological development. Governments and the private sector should concentrate in a new way on technological progress that meets these objectives, but many private enterprises also require the energy and imagination to improve the condition of the world. Beyond economic returns, innovation and technological development should be directed to the

benefit of the entire world. The optimal route of capitalism development is the satisfaction of humanity's global needs, not an anti-capitalist attitude. Klaus Schwab, the founder but also executive chairman of the World Economic Forum, believes we are on the verge of a revolution that will fundamentally disrupt our way of life, work, and interaction. The industrial revolution must be integrated, comprehensive, and multilateral, with participation from government, business, academia, and civil society. Steam was used to developed and implemented the automated global production of electricity in the first industrial revolution, mass manufacturing in the second, and electronic and information technologies in the third to automate production. According to Schwab, the current developments are not only a continuation of something like the third industrial revolution, but the beginning of four revolutions with distinct characteristics: speed, scale, and systemic impact. The fourth revolution develops at an unparalleled pace of change with exponential and not linear development. The final order of every industry in every nation is shattered and all methods of production, administration and management are transformed greatly.

Through the Internet millions of individuals may access unlimited knowledge and collect, process, store information, and contribute substantially to discoveries such as artificial intelligence, Internet of Things, 3D printing, nanotechnology, biotechnology, energy storage, quantum computing, etc. Artificial intelligence enables vehicles to drive themselves, to use drones in different operations, to provide virtual help, to use translation programmes, trading software and to promote investment. In recent years, artificial intelligence has seen a remarkable increase in computer power and amount of data and information.

Today, digital manufacturing technologies interact with the biological environment with the participation of numerous specialists. To now, consumers have been the primary beneficiaries of the fourth industrial revolution, and have benefitted from the digital world, which offered new goods and services. In the future, technological innovation will strengthen the supply side and provide long-term efficiency and productivity benefits. Automation will replace workforce in many tasks, yet new, more secure, higher paid employment may emerge and compensate for the loss of employees. There are two fundamental possibilities and the prevailing scenario is difficult to predict. Klaus Schwab thinks that talent is the essential element of production, more than money. The labor market will be increasingly divided into sectors with high and educational wages. Today, the greatest issue is high social inequality and its negative economic and social consequences create significant concerns. At the cost of employees, capital suppliers, whether intellectual, physical or financial, seem to be advantaged. Is technical development the cause of social disparities, as Klaus Schwab believes, or is the middle class already impacted by the deindustrialization process by a perverted income distribution? An economy, which eliminates the middle class on the basis of winner-take-all economies and each carries it out how big social upheavals may lead.

III. CONCLUSION

Revolutionary occurrences may impact society and economy seriously: b) many new, innovative producers/competitors have a rapid access to digital platforms for research and development, marketing, sales and distribution and can quickly improve the quality, price and distribution of their products/service; c) consumers are becoming more and more involved in social-media platforms. In its influence on customer expectations, product quality, collaborative innovation and organizational structures, Klaus Schwab considers 4 major consequences on the corporate environment. On the other side, there are a number of difficulties to overcome as a result of the fourth industrial revolution. From economic inequality to cyber-security there are difficulties to exploit, address and overcome in the fourth industrial revolution, such as income disparity, cyber security and ethical issues. Technology and advances in science are driving worldwide change. They have devastating impacts on communities, institutions and economy.

They are going to change the way we live, work and interact. Understanding the disruptive potential of these emerging technologies is important to all governments and particularly poor ones. The fourth industrial revolution may have a number of effects on society and the economy. First, a significant number of individuals worldwide are expected to utilize social media platforms to connect, study and alter information. Secondly, many inventive manufacturers and rivals have easy access to digital marketing, sales and distribution channels, thus increasing the quality and pricing of products and services. Thirdly, customers are becoming more engaged in the manufacturing and distribution networks. The major impacts of this revolution on the corporate environment are its influence on customer expectations, product quality, the drive to collaborative innovation and organizational innovations.

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