

Globalization 4.0 and Challenges for Global Governance

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Abstract

Processes of interchange and interaction between people, goods and services have always existed in human civilization. Though Globalization is a highly contested term, yet one cannot ignore its influence over every realm of human activity in its journey of evolution. The scale and nature of Globalization and its dynamics have been unprecedented in contemporary times. In the present parlance, when populism critiqued the ethos of establishment and institutions, which were driving forces of global interdependence, there were debates that why and how Globalization is irreversible regardless of all thorns. The paper presents an analysis of the idea of Globalization 4.0 when digital technologies and disruption have become the hallmark of global governance challenges. It attempts to underline the nuances of this idea with a focus on its likely impact on mechanisms of Global Governance. There is a need for better engagement with these new realms in order to factor in nuances of the changing contexts in a holistic way. The right approach to deal with the emerging situation on part of states with due comprehension of the policy challenges shall be useful for the sustainable future of the global arena also.

Keywords: Globalization, Governance, Populism, Interdependence, State and Technology.

Introduction

The industrial revolution along with digital technologies has transformed the industries with rapid inventions. This transformation has given a number of promises regarding freedom from poverty as well as inequality. This assignment is going to discuss different facts of Globalization 4.0 and its relationship with industries. Moreover, it has an impact on the global world that will be discussed in forms identifying some issues related to new power dynamics.

It has been epitomized by the World Economic Forum that Globalization 4.0 has undergone a transformation in terms of integrating 'Artificial Intelligence' and 'cutting-edge advanced technologies. However, a rapid and prompt digital transformation in the name of the industrial revolution proposes an explicit approach that entirely impacts the existing business administration

that results in the perceived adverse implications. In this way, Globalization 4.0 creates unprecedented adverse implications on business administration in the national and international context. Due to these adverse implications, the global economy has deteriorated severely and this economic fluctuation weakens the resilience and capacity management of business organizations. Globalization 4.0 can be elucidated as the recent transformation of social, economic as well as environmental contexts (Pezzuto, 2019). At the initial stage, people across the globe are harnessing digital technologies immensely in order to generate more power for operating diverse industrial and organizational systems with greater convenience. Hence, the first change is digitalization that has made this huge revolution. In the process of germination, Globalization 4.0 is the creator of different heterogeneous innovative digital technologies such as artificial intelligence, machine

learning, robotics technology and many more. These newly innovated digital technologies are being widely harnessed in different industrial sectors. In comparison to globalization 1.0, 2.0, 3.0, 4.0 is going to take action directly on people working in service sectors. Global and international manufacturers passionately capitalize on Globalization 1.0, 2.0, 3.0 and 4.0 in order to enhance production facilities for operating the business practices in the wider context.

However, it can also be remarked that Globalization 4.0 is a subset of Industry 4.0 and hence, Industry 4.0 is purposefully internalized in order to scale up the data connection and transition processes. In this context, artificial intelligence coordinates the process of Industry 4.0 that simultaneously results in enhancing the speed of data connection. Different jobs such as architectural contexts and accounting services are executed in terms of harnessing the power of artificial intelligence to the broader context. Various migration systems existing in business organizations have facilitated business functions in the way of deriving technological advantages from the fast network connection. Financial sectors in the developed countries receive the privilege to restrain their business services in the form of diversification. As suggested by Philbeck and Davis (2018), the industrial revolution is the biggest prospect of globalization 4.0 that includes successful information technology. Furthermore, certain challenges are vividly expressed in the name of political crisis, national conflicts, economic fluctuation, and lack of human resources. One of the major challenges that are encountered in the implementation of Globalization 4.0 is that effective handling and operations of digital technologies are only possible for effective developed and emerging industries and therefore, the resurgence of global conflicts can everywhere easily be witnessed. It can lead to unemployment in industries and competition will become tough. Industries can also face infrastructure-related challenges that may oppose the advantages of globalization 4.0. Furthermore, developing countries such as North America along with some Asian countries may not be able to take advantage due to less productivity and growth.

Globalization 4.0 & Industry 4.0

Globalization 4.0 and industry 4.0 are interrelated to each other that has transformed every industry throughout the board. This correlation of these emerging technologies has sharpened the path of flourishing and integrating different organizational aspects in order to increase organizational resilience. In this light of the discussion, it can highly determine that artificial intelligence is instrumental to the 'fourth industrial revolution' that has brought out flexibility within various manufacturing

grounds. Additionally, extensive utilization and usage of digital technologies reduce the manpower and therefore, the market capitalization can easily be achieved in the attainment and wider generation of digital technologies. Despite creating lucrative opportunities, Globalization 5.0 and Industry 4.0 have unintentionally generated different unknown challenges such as improper allocation of capital and unequal distribution of money. It is going to change an industry completely on electronics based in which only cyber-physical systems and big-data analytics along with the internet of things are included. As mentioned by Erboz industry 4.0 is an effective and current trend of valuable automation systems for increasing manufacturing effectiveness. The introduction of different innovation management is conveniently gained in the process of harnessing the platform of Globalization 4.0 and Industry 4.0 with promptness. In the words of Esmailian *et al.* (2020), Industry 4.0 is an advanced technology that frequently increases supply chain resilience to improve organizational performance with a sustainable approach. Being a subset of Globalization 4.0, Industry 4.0 has the potential to improve marketing approaches in a wider way and hence, governance practices are sincerely diffused to generate expected business outcomes. Artificial Intelligence (AI) or the fourth industrial revolution is a lucrative digital technology that ensures organizational sustainability in the way of increasing the high volume of production across the workplaces. As determined by Wisskirchen *et al.* (2017), artificial intelligence, machine learning and deep learning are exponentially used within workplace environment that increases organizational efficiency and resilience. In regards to this scholarly aspect, it is also admissible to opine that artificial intelligence brings and increases the flexibility of autonomous functions to contribute to the popularity of business organizations. Through this globalization 4.0, industries are opting for individual software systems that enable them to detect invoices thoroughly. Artificial Intelligence completes the entire work instead of finishing any specific work systems. In the field of technological advancement, artificial intelligence is ahead of human intelligence and therefore, minimization of using AI is inevitably required for industries to attain manpower globally.

The utilization of the 'Internet of Things' is another revolutionary form of industry 4.0 that is directly connected to globalization 4.0. Without fast connectivity, globalised platforms will be impossible for industries. It is because, during the completion of activities in the supply chain, fast internet connection has helped maximum industries to transfer information regarding product designing and many more. The possibility of running complicated software has become smooth by having IoT. Some specific reasons behind the

relationship between industry 4.0 and globalization 4.0 are improvement of projections, decreasing uncertainty among any collaborative function. In order to enhance international activities such as cooperation between two leaders of the same industry, this revolution has fulfilled requirements regarding technologies.

Report of 'World Economic Forum's has formulated three main global risks including extreme events related to weather and ineffectiveness of recognizing natural disasters. It means an indirect relation to globalization 4.0 is apprehended with lack of advanced artificial intelligence, that industry 4.0 is regarding. For example, indications of risk from Allianz 2019 are found as tariff issues as well as trade issues. Moreover, the Brexit factor has also brought out certain changes as well as challenges in the form of regulation that deregulates the UK from the EU and therefore, Globalization 4.0 along with Industry 4.0 is increasingly used in the nation of the United Kingdom.

(Royslance, 2019). Growth factors can be analysed through the development of many IT businesses as well as the protection of intellectual property. Information technology sectors exponentially utilize the latest digital technologies in order to enhance creativity and innovativeness for running business operations across the globe with remarkable intensity.

sustainable business management are intercorrelated to each other and their cooperation has significantly brought out worthwhile business productivity within different operating industries. The revolutionary transformation of advanced digital technologies is the key way to create global opportunities for enhancing the productivity of organizations and industries. These opportunities are related to the easy movement of materials, capital as well as labour. AI-oriented opportunities benefit the operating industries in terms of resolving the problem of high rate calls. Every IMF Research Development centre is inherently benefited in terms of deriving opportunities from political elites and macroeconomic divisions. As a result, historic growth in GDP of 30% has been indicated by goods exporting and importing (Barghini, 2020). 3D Printing Technology facilitates additive manufacturing processes to help industrial sectors in enhancing organizational growth (Marr, 2018). Optimizing logistics as well as the supply chain has been adjusted during passing any information. A progressive impact related to System safety and cost savings has been recognised during this assessment. For example, National Electrical Code (NEC), National Fire Protection Agency (NFPA) and Occupational Safety and Health Administration (OSHA) requirements have revealed their execution plans to stick to this compliance of industrial revolution in the context of gaining the high advantage of protection. They have analysed that companies can get better protection for their existing workers in terms of 'power circuit breaker'.

Global textiles companies are positively impacted in the way of harnessing effective digital transformation. Globalization 4.0 has also made improvements in customer-driven organizations in the way of increasing supply chain productivity, retail practices and communication processes. In the viewpoint of Kozyk *et al.* (2017), innovative technologies are exponentially being used to help businesses in increasing organizational capabilities. This scholarly aspect clearly throws light on the efficacy of innovative digital technologies in terms of digitally shaping organizational components and aspects. Due to the effective and proper utilization of Globalization 4.0, customer-driven business organizations, manufacturing businesses and production businesses are vehemently aspiring in developing an internationalization strategy to expand the business services broadly. According to this context, the associated digital technologies of Globalization 4.0 play a remarkable role in increasing the efficiency of organizational resource management in different categories such as tangible resources and intangible resources. As mentioned by Mahmoud (2021), artificial intelligence is the key technology that is adopted and resourced within different organizations in order to enhance organizational productivity. Besides AI, the manufacturing and distribution industry along with other

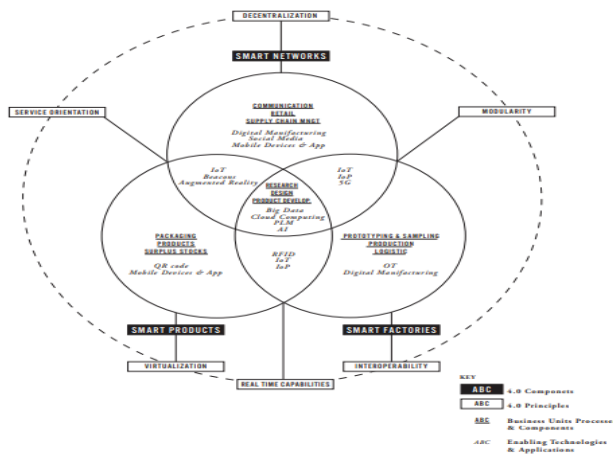


Figure 1: Components as well as principles within business units

Source: Bertola and Teunissen, 2018

Based on the above process, fashion retailing is completed in terms of having all excellence of technologies.

Impact on Global World

The impact of both the industrial revolution and globalization 4.0 is partially effective for individual organizations. Advanced digital technologies and

industrial sectors have adopted machine learning, deep learning and other technologies in order to strengthen productivity that contributes to business development. In this way, different business approaches can also be restored to harness them in conducting future works through effective handling of digital transformation. In this way, the broader capitalization of innovative digital technologies has enhanced organizational resilience that can also increase the efficiency of organizational components in order to deliver seamless customer service with high quality. In this way, customer goods companies can easily meet the basic and market needs of heterogeneous customers.

Internalization of high quality of work into organizational approaches has introduced innovative marketing strategies such as digital marketing and influencer marketing in the realm of leveraging facilities and benefits of Globalization 4.0. The research paper of Singh (2018) reflects that the digital marketing concept is used by business organizations in order to attain customer satisfaction for the wider context. The concept of digital marketing is associated with the wider capitalization of digital technologies that have the potential and accessibility to reach and meet customer needs accordingly. In this regard, Globalization 4.0 has been widely incorporated in terms of creating the options such as social media platforms, digital networks and online platforms. These digital resources are incredibly utilized to work as the major components and cognitive marketing instruments for digital marketing and influencer marketing. In future, the business organizations can also feasibly harness automation and artificial intelligence technologies in order to foster the creativity of current marketing approaches in the broader context.

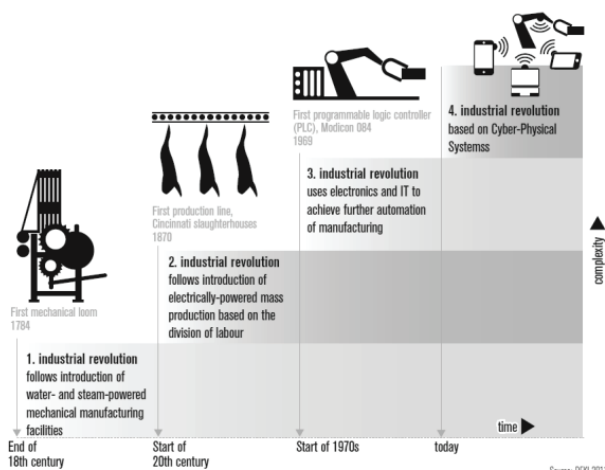


Figure 2: Stages of the industrial revolution

Source: Bertola and Teunissen, 2018

Based on the above figure, the cyber-physical system has increased the value of the competitive market and introduced the concept of ‘Smart marketing’. In the viewpoint of Savastano *et al.* (2018), advanced human-machine interfaces and big data technologies have facilitated manufacturing practices that inevitably supports organizational sustainable growth in the competitive industry. The concept of ‘Smart Marketing’ can be correlated with the wider utilization of core digital technologies such as AI and Big Data in order to foster the creativity of marketing campaigns in the establishment of prototyping processes and methods. In this regard, the term ‘digital manufacturing’ is coined in the process of integrating digital technologies into marketing campaigns and approaches. Hence, the industrial revolution has sharpened the path of deploying digital technologies in the wider way across business organizations to run operations digitally in order to generate revenue.

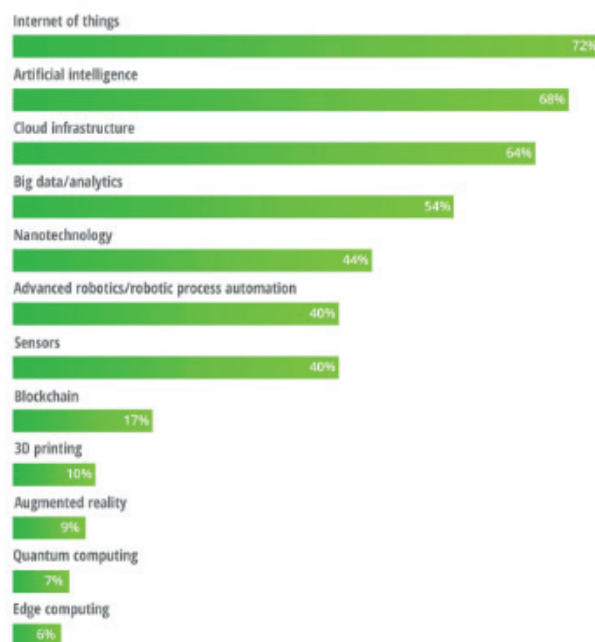


Figure 3: Impact on the global world

Source: Deloitte, 2021

The growth value of technologies through globalization 4.0 has increased transportation systems, selling of products and manufacturing essentiality. Due to this, global trade is benefited as per the annual survey report of Deloitte and it has found that government agencies respond to the incredible changes in industry 4.0. In the words of Sangwan and Bhatia (2020), Industry 4.0 is the digital solution that helps business organizations in developing trade relationships. Apart from this, Industry 4.0 is effectively and widely used by business administrations in terms of leveraging global trade benefits to sustain in the competitive job market and industry.

Technology & New Power Dynamics:

a. Technological issues for globalization in companies

Significant developments are made in the field of technology that enhances the globalization of businesses in multiple ways. In association with the benefits that can be acquired, the use of AI, augmented and virtual reality, biotechnology, and quantum computing processes majorly enhance the development of brands to spread across global destinations. However, there are some serious challenges and issues in association with deriving competitive advantage from these strategic technological implementations. The security risks and ethical issues are the first problems that marketers deal with while moderating ethical considerations. It is not wholly possible for business administrations in handling and implementing digital technologies without receiving any challenges. Security risks are entirely related to the implementation and smooth handling of digital technologies in global companies as some technologies such as artificial intelligence, machine learning, deep learning, augmented and virtual reality need the assurance of a secured workforce environment. In the research paper by Mohanta *et al.* (2020), it is mentioned that the implementation process of machine learning and artificial intelligence faces security challenges while conducting different computing and monitoring approaches. Ensuring the confidentiality of the gathered data is the core security challenge of the implementation of digital technologies within the workplace environment in the age of globalization. Apart from this, companies can also face certain ethical issues in terms of facing unemployment. Excessive usage of digital technologies such as artificial intelligence, machine learning and deep learning reduces the growth of employment opportunities and hence, *staff shortage* is identified as an issue. In the words of Abdeldayem and Aldulaimi (2020), effective skills of staff require in order to implement artificial intelligence within workplace management. In regards to this aspect, the staff shortage issue can be regarded as an ethical issue in the implementation of artificial technologies and other digital technologies within workforce management. These issues arise from inefficiency in mentioning rights and authentic verifications associated with the business entity. Moreover, companies must also maintain legal considerations in order to avoid issues with abiding by the government rules and regulations. In accordance with the ongoing geopolitical tensions

across various global destinations, the internet and technology implementations are witnessed as the most predominant threat in maintaining ethical security within the company. In association with the arrival of such issues, the government access to private information about the business unit cannot be controlled or diminished. Another issue in association with the globalization of companies lies in the selection of strategic tools and technological methods (Hopwood, 2019). The wrong implementation of technological strategies can lead to the generation of negative results and outcomes.

b. Power Dynamic issues in globalisation for companies

One of the major challenges that globalization faces from power dynamics are in association with societal changes of tastes and preference patterns. Cultural and linguistic dynamics play a huge role in acquiring customer affinity. Thereby, in order to be globally acclaimed, companies must aim towards constantly satisfying customer demands by efficiently mitigating their needs. In the viewpoint of Udofia (2019), customer satisfaction can easily be achieved in terms of enhancing the practices of quality management. In association with this academic context, it can be conceptualized that the development of quality management is the core processor method to gain customer satisfaction in terms of producing innovative products through the integration of digital technologies. This must be implemented by the strategic implementation of technological tools. The wrong implementation of strategies can also disrupt this process of the performance and accessibility of the business across global destinations. The economic changes in the political territories of operation also cause the economic conditions of the population. Any changes in association with the internal availability of monetary sources will change the productivity of the businesses as customer purchasing power will be adversely affected. In association with this, economic issues such as recession, inflation, increasing government, and legal control can wreck the development strategies for globalization within business organizations. According to this context, the deterioration of economic inflation and recession can be an inevitable threat towards the implementation and development of strategies in the genre of globalization within workplace management. It also causes unemployment, which is another social issue that needs to be controlled along with aiming for globalization in order to gain

sustainability. Business organisations must develop sustainable goals for enhancing their accessibility across the global market. It has been determined by Durst *et al.* (2019), organizations responsibly manage the risk factors in order to operate the business with sustainability in the market. This is in association with the rising global demand for sustainable and renewable products and services in order to restore the hazards from the depletion of natural resources.

c. Cyberspace and Sovereignty

The world system of interaction is changing dramatically at an unprecedented speed. We are in the midst of an information revolution. The traditional power structures are being replaced by new ones. Today, cyberspace has emerged as a venue of unprecedented opportunity, a source of vulnerability, a game-changer in the classical international order, and a potential threat to national security. It is reshaping contemporary international politics. It transcends constraints of territory and penetrates the nation-state's boundaries. Cyberspace bypasses the responsibility mechanism of the nation-state. The accessibility of cyberspace has already influenced the Westphalian state-based international system in different ways. There are some of the following notable impacts: The new aspect of national security is identified as cyber security emanating threats from unknown sources. It needs to broaden *cyber cooperation* among the nation-states by framing global cyber norms. A leading Neoliberal philosopher Joseph Nye made an important observation in the following words:

Power transition from one dominant state to another is a familiar historical event, but power diffusion is a more novel process. The problem for all states in today's global information age is that more things are happening outside the control of even the most powerful states

American Diplomat Richard Haass noted that "the proliferation of information is as much a cause of non-polarity as is the proliferation of weaponry". Some scholars glorified this new emerging trend which has undermined the power of the sovereign state which has been the dominant global institution since the Peace of Westphalia in 1648.

They argue that the information technology will undermine bureaucratic hierarchies and replace them with network organizations. Liu *et al.* (2020) opined that Industry 4.0 is an innovative digital technology that increases organizational functioning in the broader context in order to help organizations to gain sustainability within the market. In association

with this scholarly concept, it can also be remarked that Industry 4.0 is the key information technology provider that helps business organizations in increasing resilience, efficiency and productivity in order to enhance organizational performance. In this light of the discussion, the excessive utilization and maximization of information technology can strategically undermine bureaucratic organizational hierarchies. Therefore, it is transparently clear that the globalization aspect is inherently internalized within workforce management in terms of integrating digital technologies in order to produce innovative products and conduct digital marketing campaigns for generating higher market capitalization. In addition, more state functions will be managed by private stakeholders and non-profit entities. New emerging virtual communities will communicate beyond the territorial jurisdictions and develop their own form of governance. In this web-based society, modern nation-states will no longer be a primer institution to people lives. People will lead their life by multiple voluntary contracts only with the click of a mouse. These new emerging cyber-based crosscutting communities will become a more civilized analogue to the feudal world which existed before the emergence of the modern state. Under this backdrop, Neoliberal Thinker Robert Keohane rightly defined as "complex interdependence". Multiple channels of interaction exist among pluralistic societies and war is excluded as a means of policy. Historically, the notion of sovereignty has gradually gained a status as the defining principle of international politics since the peace treaty of Westphalia in 1648. Analyzing the impact of the technological revolution on nation-state, Walter Wriston (1997) noted that:

"Sovereignty, the power of a nation to stop others from interfering in its internal affairs, is rapidly eroding. Perhaps more than any of the other globalizing forces, it is joining the assault on sovereignty and will, contribute to relegating sovereignty and its traditional trappings to the ash heap of history". Wriston further pointed out, "Information technology has demolished time and distance The information revolution is thus profoundly threatening to the power structures of the world".

More recently, the notion of sovereignty has been explained as "... the claim to be the ultimate authority, subject to no higher power as regards the making and enforcing of political decisions. In the international system, sovereignty is the claim by the state to full self-government. Ewans (1998) argues that a state's sovereignty implies autonomy in foreign policy and

exclusive competence in internal affairs. Scholars consider the Treaties of Westphalia as a source of sovereignty. The treaties established "... a secular concept of international relations replacing forever the medieval idea of a universal religious authority acting as the final arbiter of Christendom." Since 1648, the particularistic interests of states became paramount both politically and legally. Over time, erosion of sovereignty has been steadily accruing over the centuries.

Rosecrance (1986) argues that there is a free flow of information across territorial boundaries which have produced weapons of mass destruction that preclude the state from protecting its own people or territory. However, Gilpin (1987) does not accept the overriding impact of technological developments on the State's sovereignty. The Nation-state still has a profound influence on international politics. The territory is still the symbolizing factor in the era of 'Global Village'. Economic interdependency and free flow of cultural value across the world do not undermine the territorial sovereignty, merely influence it. Sovereignty as the autonomy of a territory within the international order is still secured. The concept of sovereignty was propounded by Jean Bodin and Thomas Hobbes in the 16th and 17th centuries. It aims to establish the legitimacy of a single hierarchy of domestic authority. To maintain domestic order was the top priority for both philosophers. Justice could not prevail without the presence of supreme power which Thomas Hobbes defines as Leviathan.

The concept of territory was explained by Jim Gottmann. Being the core element of the state, territory symbolizes the state's sovereignty. It strengthens the feeling of patriotism and a sense of belongingness among the citizens of a state. Territory, therefore, is more than a piece of land, i.e. Identity of belongings. To protect the territorial integrity has been the prime concern of the modern State. British philosopher Harold Laski pointed out that "The territories of a State are the regions over which it can exercise its sovereignty". Some technologists viewed the internet as a "lethal" instrument for states' sovereignty. The technologist perspective viewed the Internet as an effective and seamless global information network, which transcends nation-state borders. The authority of the nation-states has been dramatically curtailed. Currently, the cyber world is in an anarchic state of nature. Due to the current technological revolution, the nature of the powerhouse has become changed; the idea of technology dominates over extensive material resources. In his lecture on "Two Cultures",

C.P. Snow pointed out that scientists and humanists are ignorant of each other's knowledge and are content to stay that way.

In addition to that, the author of *The End of the Nation-State*, Jean-Marie Guehenno defines the Information Age as "imperial," He says that "virtual society too vast to constitute a political entity—a world that is at once unified and without a centre. Power bases are shifting from territory and material wealth to "accessibility," that is, constant access to a vast global electronic network". The power of information technology, therefore, has evolved new global relationships. Territory, as the major centre of power in the Westphalian order, is a no longer political entity. Since the 1990s, events across the globe have demonstrated the changing nature of communication in relation to conflict, human rights and state sovereignty. A leading authority on the internet, Henry Perritt (1998) argued that "totalitarian regimes could no longer create a secure and unchallenged environment for themselves. It was impossible for them to control newspapers, television and radio stations, as they had done before because the internet was beyond their control and manipulation (Perritt, 1998). Similarly, Kofi Annan, former Secretary-General of the United Nations, noted that

"State sovereignty, in its most basic sense, is being redefined – not least by the forces of globalization and international co-operation. States are now widely understood to be instruments at the service of their people and not vice versa"

It is fairly safe to assert that the Internet threatens traditional political institutions and perhaps even the very concept of sovereignty itself. Endorsing the role of the Information age, Walter Wriston noted that "sovereignty, the power of a nation to stop others from interfering in its internal affairs, is rapidly eroding"



Figure 4: Images of Westphalian Treaty

Source: <https://www.cnas.org/press/in-the-news/back-to-1648-the-treaty-of-westphalia>

Conclusion

After the successful completion of this research paper analysis, it can be concluded that it has suitably highlighted the meaning and definition of globalization. Furthermore, this paper has also elucidated the impact of the global world and the shift of power dynamics after World War II. Along with that it also highlights the importance, and the issues are associated with technological implementations for deriving a competitive advantage over other brands in a similar domain.

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