Changing International System: The Role of Technology in the 21st Century Global Power Relations

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Letter of Recommendation

I certify that this dissertation entitled "Changing International System: The Role of Technology in the 21ˢᵗ Century Global Power Relations" was prepared by Jagrit Poudel under my supervision. I hereby recommend this dissertation for further examination by the Research Committee Department of International Relations and Diplomacy, Tribhuvan University, in fulfillment of the requirement for the Degree of MASTER'S IN INTERNATIONAL RELATIONS AND DIPLOMACY.

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Professor Khadga K.C. PhD

Supervisor

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Letter of Approval

Declaration

I hereby declare that this dissertation is my original work and that it contains no materials previously published. I have not used its materials for the award of any kind and any other degree. Where other authors' sources of information have been used, they have been acknowledged.

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Abstract

The Contemporary international system is changing and the rise of Asia and the need for greater global governance are both apparent. Technological revolutions in the recent decades, the use of big data and artificial intelligence, in cooperation with automation has led to social, political and economic transformations globally. Emerging economies and technology is transforming the global power relations of the 21st century. Technologies and mass communication medium such as twitter has distributed the power of influence to individuals. While automation strives to displace millions of workers who may not be able to retrain for the 21st century workforce. In a society where big data and artificial intelligence dictate most aspects of daily life, the tech multinationals stand to benefit from the digital revolution. The research aimed to answer what kind of global transformations and changes in global power structures have occurred through technology as catalyst. Further, the research aimed to examine and identify different trends of the 21st century that are transforming the contemporary international system.

Key words: International System, Role of Technology, Global power relations, Nationalism, Globalization

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Introduction

1.1. Background

"And in today already walks tomorrow." – Samuel Taylor Coleridge

As said by an English poet and philosopher Samuel Taylor Coleridge (1875-1912), this statement surpasses the speed of time to hold true today and will hold true tomorrow. In terms of International Relations, the global future in micro level, tomorrow, is set forth by the actions of the actors today. Similarly, global trends can help determine the future trends, such that actors in the international arena can study these trends and act rationally. Whether it is the trends of economic growth, trends of dissatisfactions amongst the citizens of non-democratic nations, trends of global south rising out of poverty, trends of inactions against the threats of climate change, trends of migrations and trends of cultural integrations, they have all already set forth the path for the society as a whole to walk tomorrow.

Although accurate predictions about the future may not be conceivable, studying the trends of the past, that shaped the decisions and directions of the future, especially during the 20th century can help better predict the course of the future. The impacts of both World Wars, the emergence of the "American Century", the Cold War and the fall of Soviet Union, creation of the international body of global governance and forums for international cooperation and coordination all came from the trends of decolonization in 20th century, integration of global economy and global migrations. Early 21st century saw rise in cross border terrorism, where non-state actors presented another challenge, which emerged from the trends from the latter half of the 20th century.

Andrew Heywood, in his book Global Politics (2015) highlights the concept of image versus reality, in relation to predicting the course of the global future. "Images are nothing more than the construct of our mind," (Heywood, 2015a pp. 508). However, images do play an important role in understanding the current state of the International arena, as well as to determine the possible course for the global future. As human beings are naturally drawn towards noticing and creating patterns in order

to better understand the surroundings, these images help determine the outlook of the world to an individual. A pattern of violence in a country shows an image of violent surroundings to its citizens, while a pattern of growth and opportunities shows an image of prosperity and endless possibility to its citizens. However, it is important to understand that images are not predictions.

As Donald Rumsfeld, former US Defense Secretary explained in 2002, "There are known unknowns; that is to say, these are things we know we don't know. But there are also unknown unknowns; these are things that we don't know that we don't know. But there are also unknown unknowns; these are things that we don't know we don't know" (Heywood, 2015a pp. 508). This explanation by Donald Rumsfeld highlights the complications in predicting the global future, as there are trends that are seen and trends that are not seen, limiting the knowledge of the present and displaying inability to determine the global future with trends which in itself can diverge from its pattern at any given moment for any number of reasons.

Considering the thoughts mentioned above, the global future will undoubtedly be paved by the trends of the current reality. 21st century presents trends of new challenges, new innovations, growth and evolution of technology, production in a massive scale to satisfy the global demand of record number of individuals rising out of poverty, new means to disturb state sovereignty and territorial integrity, cultural integrations and mass migrations, challenges posed by climate change, sustainable use and distribution of resources, the rise of global south, particularly emerging nations to compete with the historically dominating global north, and the means for communication and dispute settlement in an international scale.

The international system is changing, and the trends that are examined in the future will not be the same trends that are examined today. Today's events can easily shift the course of the global future. One of the main drivers of change, paving the future has been the waves of industrial revolutions, along with the current digital revolution in many aspects of global reality. The course of the global future will also determine the shift within global power relations. Global power is a complex entity, that is always in flux to fill the vacuum that may arise within the international system. Globalization, technology, rise of new nations and uncertainty permanently remains about the future have influenced the current structure of the global power relationship.

Global power structure is changing and that will in turn directly impact the global future.

However, states are considered a rational actor, driven by their self-interest. Globalization has compelled states to think about the global future with regards to other states. The image of the global future will no longer only be determined by any one state alone. Instead, the global future of the 21st century will without a doubt be shaped by the actions of state actors in coalition with the international community in an arena that cannot be restricted by borders. Traditional understanding of power within the past few centuries of the unipolar and bipolar world is becoming irrelevant due to varieties of factors.

1.2. Statement of the Problem

The world is changing rapidly and along with the change; the global power structure has shifted. Emerging nations, global governmental bodies, multinational corporations and technologies are the biggest stakeholders of the global power relationship in the 21st century. Technologies, especially disruptive innovations have historically shifted the course of the global future. Similarly, technology is now at the forefront of a massive global transformation, which stands to restructure the global power relations in the 21st century.

The global south and various emerging nations are also one of the biggest stakeholders in the international arena, as their decisions now can determine whether their future ambitions can be accomplished. Whether it is to challenge the hegemonic rule of the United States or to provide for the growing population in the global south, disruptive innovations can give the historically disadvantaged south with the boost needed to not only catch up to the west, but also to surpass them and challenge the global power relations.

This research aims to identify the existing theories and images of the global future, regarding the global south, the technological advancements that are impacting the growth and the future of the international systems and the social transformations that are occurring in relations to the technological advancements. In specific, this research aims to study the impact of artificial intelligence, big data and technology's influence in social, political and economic dimensions. The growth in the Artificial

Intelligence (AI) sector and its impact on geopolitics, the use of data as an ammunition to the weapon that is AI are also examined in detail.

1.3.   Research Questions

Following are the research questions in regards to this topic 'Changing International System and its effects on Global south'

a) What are the contemporary international systems that are impacting the global power relations?
b) How has the changing societies and technological advancements influenced the images of global power relations?
c) What kind of global transformations can technologies influence?

1.4.   Research Objectives of the Study

General Objective

a) The general objective of this research is to identify the global trends and technological advancements that are influencing the image of global power relations.

Specific Objectives

a) To examine the changing trends, occurring in the world, such as increased connectivity through technology and migration, evolution of technology.
b) To assess the traditional image of the contemporary international system and its relationship to global power
c) To explore what kind of transformations technologies can create in global power relations?

1.5.   Organization of the Study

The introduction included general background information related to the topics and the research questions. It includes the statement of the problem, objective of the study, research questions, significance of the study, definitions of key terms, organization of thesis.

The second chapter reviewed the existing literature regarding this topic. It has identified the gap in the research that the study attempts to fill.

The third chapter examined the design of the research, the methods used to collect data, research instruments, methods used to analyze the data. The research also provided detail about who, how, when and why.

The fourth chapter discussed the existing international system and how it relates to the topic of technological advancements impact and the global power relations.

Chapter 5 discussed the technological revolution and how the digital age is transforming the society. More particularly, chapter 5 discussed the role that AI and big data are having on global power relations.

This chapter discussed the current and future of the social, political and economic dimensions of the transformations that are occurring as a result of the digital revolution.

The fifth chapter presented a re-statement of the research problem, the results, discussion of what was found in relation to previous research on the topic, limitations of the study and implications for further research.

1.6.   Delimitations

As the proposed research dealt with the global power relations, this paper limited itself to the areas of artificial intelligence technologies, which would also refer to tech giants that venture into AI capitalization. More importantly, this paper examined the impacts of artificial intelligence in terms of economics, social media, development, governance, production, manufacturing, education and workplace. The paper did not focus on the military aspects of AI but touch on some topics regarding this matter. This dissertation also analyzed the impacts of these AI for global citizens and its relations to the existing and future global power relations. Further it examined the changes to society that these trends are bringing about and the potential change in the livelihood of individuals in the future. AI has the potential to unemploy the masses, potentially creating massive inequality, but this also gives individuals the

freedom to utilize their time towards self-actualization and towards pursuing individual passions and hobbies, considering that the basic needs have to be met regardless. Such social impacts, amongst others, are also included in this thesis.

This research did not focus on the traditional theories of international relations, rather seek to lean on the critical theories. The research mainly focuses on new disruptive technologies, innovative people, race of the 21st century, the potential for global governance, social movements and cultural impacts. The theories to be examined are critical theories specifically, social constructivism, cosmopolitanism, globalization and green theory.

Chapter Two
Review of the Literature

Background

Let us start with a popular saying, "Imagination is more important than knowledge." Although importance and the value of the scientific process increased during the 20th century, the image remains to be the primary driving factor before any scientific process can take place. In international Relations, it is important to understand the image of actors in the international arena. It can shape how an individual in a nation perceives an individual from another nation. According to Andrew Haywood (2015), the importance of which can be observed from the theory of nationalism, and the role of national image. National image, however, is not permanent; as with trends, images can also alter and the behavior of individuals and collective can affect the image of a nation on a global stage (Heywood, 2015a). For example, the election and the behavior of President Donald Trump since 2016 has altered the image of the United States in the global stage. Positively or negatively remains debatable.

One of the driving trends currently is the increase in the research and development of artificial intelligence and usage of big data to drive the potentials of artificial intelligence (AI). However, trouble remains. AI is not regulated by governments, as it's still fairly new. It is further troubling at the fact that many governments do not completely understand AI, its applications or even the language used to discuss these matters. This was apparent during the discussion that Facebook founder and CEO, Mark Zuckerberg, bad with congress in 2018 (Greene, 2018).

Ian Hogarth (2018) put this trouble into perspective when he said, "There are perhaps 700 people in the world who can contribute to the leading edge of AI research, perhaps 70,000 who can understand their work and participate actively in commercializing it and 7 billion people who will be impacted by it."

2.1 Contemporary International System

Primarily, the global trends focused on the thesis could be changes in societies led by technology, changes in the practice of International Relations and Diplomacy

among other changes that can influence the path of the future and impact the image of the global south. The global landscape in terms of trade, demographics and strategic decision making are being affected by these global trends. These trends have a potential to disrupt the status quo. The social impact of trends can be seen historically and a few could be examined.

Francis Fukuyama called the victory of capitalism over communism, making the US the architect of the new world order, however the western built system has also created prosperity in previously poor nations, changing the global structure of power. Emerging economies have been able to increase its power through the benefits of globalization by its contributions and importance towards the free market principles that it adopted.

The 21st century is predicted to be the "Asian century" as Asia consisting of 4.6 billion people, has shown tremendous GDP growth and has become the world's largest manufacturing hub and consumer market. Asia is becoming self-reliant in every aspect, even as to insure its continuous growth through internal markets. The Belt and Road Initiative remains at the heart of the potential for Asian century, as will be discussed in further sections. Newly built alliances, partnerships and increased cooperation in Asia is restricting the power relations of the cold war from importance on security towards mutual benefit and growth. Asian nations benefit more from unity in commonality than division through competition and differences. The trend will continue, as US influence declines, regional influence will increase. A positive trend towards a multipolar global order is gaining momentum and an economic shift is evident.

2.2   Technological Advancements

The term 'technological advancements' focuses on artificial intelligence, big data and social media advancement that continues to be disruptive in the global arena. The role of Facebook during election and the interference on the democratic process by social media is discussed (Kornbulh, 2018). Further, potential involvements of AI, that is affecting the global trends, such as the impact of Google and Facebook in business and politics through advertisements, targeting specific groups of people based on complex algorithms are also discussed. A common problem that has been

raised is about the legality of data uses and data collection of the users and the right to own and share such data (Nilekani, 2018). In terms of technology, disruptive technologies, including software, such as the rise of Netflix for the DVD company, impact of cell phone industries with new release trends, the determination of spaceX and Tesla in disrupting the space and vehicle market. Further, the rise of Artificial Intelligence (AI) and automation which is disrupting the labor market and unemployed millions will be examined in its trend and the capacity to change the society.

Vladimir Putin addressed a group of Russian students on their first day and stated, "Artificial intelligence is the future, not only for Russia, but for all humankind. Whoever becomes the leader in this space will become the ruler of the world" (Maggio, 2017).

There are certain aspects of AI that are yet to be comprehended by the general global population. The fact that in 10 years, Central Processing Units (CPU) will have enough power to surpass the human mind and the fact that in 15 years, majority of the current existing jobs will be obsolete due to innovations in AI. These are some of the existing images in relations to artificial intelligence. The concern, however, remains at the questions: How will AI be regulated by the government? Will AI have the reason to act in high stake situations?

These remain to be questionable, especially when visualizing the image of a future, dominated much by the decision-making algorithms that will guide AI. This has a direct impact on the existing structure of global power relations.

One of the greatest changes in society, guided through the trends and technological advancements such as the capacity to automate a business or create multiple streams of passive income through the use of the internet has allowed many middle upper classes young to pursue self-actualization and self-development (Harari, 2018).

This has disrupted the labor economy as well and the value of the existing system of graduating from a University and finding a job has decreased. Learning can be done with ease on the internet and information and education that would instead cost thousands are available free on the internet.

Further, perhaps most importantly, it is projected that in 15 years, the majority of the current jobs will be obsolete. For example, delivery trucks, taxies, farming, harvesting, printing and publishing, cashier and bank tellers, travel agents, manufacturing workers, bartenders and fast food workers all risks losing their jobs to the complex algorithms, which, after one-time investment of ownership, will work for the company without the need of salary (Alux, 2017).

All of which have direct social, political and economic impacts. They also contain certain dimensions where nations, corporations and ambitious individuals can garner more power through different dimensions of the changing international structure.

Changing nature of International system

Due to the nature of the changing society and the changes in global value system, the methods of International relations are also changing. In terms of AI and data driven society, computers have become the means of personal interactions through social media. Further, a society that is becoming increasingly hooked on these technologies has led to the gathering of trillions of gigabytes of data that can be analyzed to impact market behaviors by understanding consumer psychology and choices better than the consumers themselves (Zuboff, 2018). Further, various disruptive challenges are also arising such as the interference in elections by the use of AI to target voters, distribute wrong information and promote materials that further advance the goals of those with the powers to build these algorithms and use the data available. Elenore Pauwel points out in the World Economic Forum 2018, "AI driven technologies will tend to undermine, rather than enforce, global governance mechanisms. The UN faces a sweeping set of interrelated challenges" (Pauwel, 2018).

The idea of state sovereignty and the Westphalian system of government may also be an aging political philosophy in the 21st century. An establishment of a global governmental body will require states to transfer away a fraction of their sovereignty and authority to international or regional organizations. Since the impact of technology can extend geographical borders, the regulations would require cooperation across state lines. The power that a state holds over its citizens will have

to be reconfigured to account for the increasing cross cultural and cross border interactions through technology.

As Joseph Stiglitz (2008) stated, "Globalization is global governance without global government." The challenges of the 21st century require global cooperation. With many new nations emerging in the world stage, many other nations are being left behind in terms of development and growth. Global economic governance is the main area of global governance that exists, to regulate trade and relations amongst nations to ensure economic growth.

Neoliberalism principles, promoted by Reagan and Thatcher, paved the way for globalization through the Bretton woods system. The system influenced developing nations to liberalize their market and adapt the free trade principles. Those who joined and compiled saw immediate benefits, whereas those that did not faced sanctions and isolation. For the west, open markets in developing countries meant access to cheap resources and labor. Neoliberal principles, however, have failed to prevent economic crises since the 1980s.

Security in trade and resources becomes vital for steady economic growth, therefore the influence of emerging nations within world governmental bodies such as the United Nations and its organs is increased. Emerging nations, united by mutual interest further create a coalition or alliance to unite against the power of G7 countries. G20 is an example of such unity. It is also an example of the acceptance by G7 that the global structure was changing and it was crucial for emerging nations to also be included, in order to ensure the stability of the global financial market. Thus, a transfer of some power from G7 to G20. However, there are competitions and disagreements even within G20 countries. Even within G20 relevant nations are disproportionately represented and neglected. For example, relevant countries such as Bangladesh, Indonesia and Egypt, are regionally represented by India and South Africa respectively do not represent the interest of the region. ASEAN, Association of Southeast Asian Nations, has emerged as an effective regional group of smaller nations.

Global governance in some sense is already a reality. However, rather than an already created entity, global governance is a process. As the world becomes more

interconnected, and the requirement for rule and structure presents more cross border challenges, new forms of global governance may arise. Bretton woods system remains to face criticism, thus the possibilities of continuous changes to global economic governance will remain in discussions within the international community further distributing power away from the hands of the creators of the system.

2.3 Future of the International System and 21st Century Global Power Relations

Global trends and International Relations seem to have a direct connection, especially for developed countries. Developed nations and International Organizations have the resources to follow the trend, or even lead a global trend. Collectively celebrating events such as "International Women's day" on social media creates a unique community online. Discussions and friendly competitions on social media are also used to project soft power and gain publicity. For example, the friendly competition displayed by the US and European ambassador to Nepal regarding a Rugby game was a friendly display of competition that projected the nature and character of these ambassadors to the Nepalese population.

The growth and increased use of AI in tangents with big data will sure to have an impact in governance. Use of AI in campaigning, addressing public grievances, messages and events going viral are all a modern-day phenomenon. The knowledge of how this AI processes information and being able to manipulate these algorithmic processes which teaches artificial intelligence could build a monopoly on the use of AI features. This can lead to control over which materials the individual will be able to access, and which contents are targeted to the consumers in the hands of a very few who control these algorithms. Regulations in these technologies are yet to be agreed upon. Globally, these information and news can be used, either truthfully or with the intention of spreading misinformation. It can be used to manipulate the masses and wage an information war with the general public.

As some democratic governments have lost their grip on power due to social media and technological advancements, Chinese government has adapted Artificial intelligence as a means of maintaining domestic stability. As the west resists adapting to AI technologies, Chinese have remained relaxed regarding privacy and adapt at a

faster rate. Free western nations debate over online privacy and use social media to organize, while the Chinese use AI to keep an eye on its citizens in order to maintain the status quo.

The traditional leadership of the United States within the International arena has decreased significantly, especially during the four years of Donald Trump presidency. The decision to step back from international agreements has left a vacuum in the global power structures. During the heights of the Corona virus pandemic in 2020, the lack of US leadership will be remembered by the rest of the world. Such vacuum in global leadership has allowed for other countries such as India to pursue vaccine diplomacy in order to meet the global demand for the Corona virus vaccine and to stand out in the international stage.

The era of great power competition through military buildup is becoming obsolete, as maintenance of a big army is not conducive to economic growth. Hard power has taken a back seat to the appeals of soft power as corporations across cultures and borders became crucial for growth. Multinational companies, and entrepreneurs have become some of the most powerful entities in the world. In 2018, Chinese President Xi Jingping was considered by Forbes to be the #1 most powerful man in the world while the Chinese entrepreneur Jack ma was #21. Similarly, Donald Trump was rated the 3rd most powerful man in the world, while Amazon Founder Jeff Bezos, Microsoft Founder Bill Gates, Alphabet co-founder Larry Page and facebook's founder Mark Zukerberg were ranked, #5, #7, #10 and #13 respectively. Pope Francis of the Roman Catholic Church was ranked #6 (Forbes, 2018).

Similarly, Tim Cook of Apple and Elon Musk of Tesla were ranked 24th and 25th respectively, while Benjamin Netanyahu, Prime Minister of Israel, Antonio Guterres, United Nations Secretary General were ranked #26 and #31 respectively (Forbes, 2018). Majority of the most powerful people in the list are founders and entrepreneurs. While politicians still make up several of the top most powerful people, the entrepreneurs not only have more influence over the public, but also have accumulated a great amount of wealth. While politicians have gathered their power from the structures of democracy, entrepreneurs have tapped into the mechanisms of capitalism in order to generate wealth and power.

Chapter Three
Research Methodology

3.1. Research Design

The methodology of this research involves mainly qualitative research methods.

The design of this research is guided by descriptive research, where the identified variables are used in comparison to formulate a conclusion. The identified variables are the changes in contemporary international systems and technological advancements impacting the global power relations through social, political and economic transformations.

3.2. Sources of Data

Sources of data include existing information, including books, articles and research in related topics. The research does not include surveys or experiments that do not already exist.

The major sources of data in this thesis are from secondary sources which were obtained through various publications, authorized documents, annual reports, previous research, articles, books and various credited journal and news websites. Some of the major sources of information included the books *Global Politics* by Andrew Heywood, *The Future is Asia* by Pranag Khanna, *The Age of Surveillance Capitalism* by Shoshana Zuboff, various books and articles by Yuval Noah Harrari are some of the sources. Similarly, several articles from the Foreign Affairs Journals, Forbes Magazine, Business Insider, Harvard Business School press, Washington Post, several documentaries, YouTube short documentaries and data from International organizations such as United Nations, World Economic Forums and others are also referenced.

3.3. Interpretation and Method

The method of analysis consists of content analysis, where various sources are analyzed and examined. It also consists of thematic analysis, where sources are examined to identify patterns and themes in relation to the proposed research. It also

contains logical reasoning, involving both inductive and deductive methods of analysis.

Analysis was made based on various types of data accumulated from different resources as mentioned above. Comparative methods were also used as the historic data were referenced in order to show a shift in global trends. Quantitative methods were used to show growth of different nations, in order to draw a conclusion of a growing trend of global power shift to Asia. Furthermore, case studies were also used to analyze the changing social aspect of the global community, thus qualitative methods were also included. Several of the datas were presented in forms of figures and tables for ease in comparison and interpretation. Finally, several theories of International Relations were also included in order to analyze different concepts and trends that can be explained by relevant theories.

3.4.   Conceptual Framework

Figure 1: Conceptual Framework
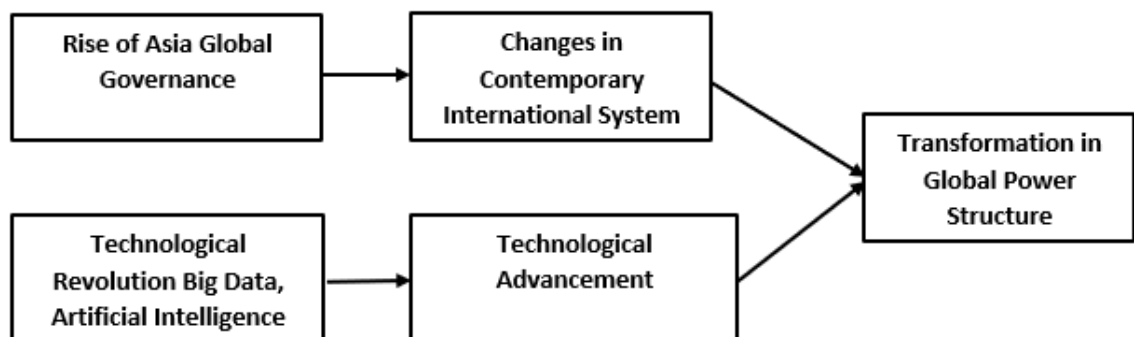
This conceptual framework demonstrates that Rise of Asia Governance and Technological Revolution (Big Data and Artificial Intelligence) are independent variables whereas, Changes in Contemporary International System and Technological Advancement are dependent variables. The situation of rise or fall of Asia brings changes in the international system, this framework shows that Changes in the contemporary International system is dependent on Rise of Asia, Global governance and unknown futures as the independent variables.

Similarly, the revolution and innovation of technology such as big data capacity and higher capacity of artificial intelligence leads to greater technological integration, technological advancements are dependent on technological revolution, big data and artificial intelligence. In addition, all of these components describe whether the global power structure will change or not. Therefore, the transformation in global power relations is further dependent on all of these variables, along with the changes in contemporary International system and technological advancements making it an independent variable.

Chapter Four
Changes in the Contemporary International System

4.1. 21st Century Global Power Relations

The modern history of global power relations is guided by the events of the 20th century. Realism was a dominant theory during the 20th century international relations, as figures such as Hans J Morgenthau published works such as *Realism and Politics Among Nations* (1948). His book provides principles of political realism, such as an emphasis on society governed by law, guided by power towards a national interest. Political realism doesn't concern itself with morals, rather it is based on examination of how certain decisions or policies impact the nation's power and interests (Morgenthau, 1978 pp. 4-15).

Morgenthau was amongst one of the leading realists in the post-World War II period. Mainly the events of the Cold Wars, dominated by the bipolar power relations between the USSR and the United States of America. However, after the end of the Cold war, Francis Fukuyama proclaimed the End of History and the victory of Democracy over Communism with the United States coming in the world arena as the sole hegemonic power to lead the future of the global political and economic ambitions. The United States became the architect of the globalization movement, wielding much power and influence in the international structure (Buzan et.al., 2003). The same globalization that the United States championed has led the conventional understanding of power to shift from the military might that the US held during the Cold War to economic might that emerging nations such as Brazil, Russia, India and China (BRICs) have garnered in the years after the Cold War. Further, the growth and accessibility of technology has even more dispersed power between individuals and communities that would have traditionally otherwise been powerless.

Power in politics can, in essence, be summed up by the title of Harold Lasswell's book, "Politics: Who Gets What, When, How?" (1936). Power is the means to accomplish such political goals.

The debate on the nature of power has led most scholars to agree that there is a shift occurring in the power relations from military and ideological power to

economic and pragmatic relations. This shift has occurred especially after the Cold War and during the onset of the New World Order, where previously held realist theory for survival in a self-help system has now been challenged by the neoliberal ideology of security through "growing trade links and increasing interdependence [which] makes interstate war costlier and so less likely" (Heywood, 2011 pp. 228). Therefore, the declining significance of military power can be argued further by observing how states are now choosing the carrot and stick approach through economic sanctions and global isolations. The suspension of Russia in 2014 from the Group of Eight nations, G8, following the invasion of its neighbor, Ukraine and the annexation of the Crimean Peninsula can be seen as an example of the changing nature of states exercising its power.

Further, power has become decentralized in many dimensions since the United States took the prize as a post-Cold War global hegemon (Buzan et al., 2003). Agreeing to and following the guidelines of the New World Order, the democratization of many countries and the open market principles of neoliberalism, led those countries who abided by the fundamentals of capitalisms to be rewarded with economic growth and were fast integrated in the new global order. The rewards became rapid development, (example of India and China further in the chapter), decrease in poverty and increase in citizen's lively hood with increased opportunities. Further, states who previously held very little to power were given space in various international organizations and regional organizations. This inclusion provided further cooperation and mutual benefits; small state's challenges were able to be discussed in multilateral forums (Kee, 2018). Due to this, states were able to use their natural resources and population in the means of production and become integrated into the growing networks of the global market. Their contribution into the global GDP began directly correlating with their increased importance in The New World Order, thus further solidifying their power in the international system. However, economic growth and power did not make states complacent on the importance of military power. As such, many emerging economies have also begun increasing their military capability as per the inspiration from former US President, Theodore Roosevelt's foreign policy: "speak softly and carry a big stick" was adopted by the majority of the emerging economies (Miller, 2012 pp.7-44).

In addition, the rise in disruptive innovations have also contributed to further decentralize power from nations, to its citizens. Foremost, the idea of disruptive innovations were the principles of small businesses that, through use of technology was able to displace the existing business ecosystems. These innovations are initially created by entrepreneurs in startups, however through the business cycle, these technologies have the power to alter existing business practices within the neoliberal market system. The term disruptive technologies were introduced by Clayton M. Christensen and co-writer Joseph Bower in their 1995 article, *Disruptive Technologies: Catching the Wave,* from the perspective of business, focusing on industrial equipment (Bower, 1995). However, this can also extend to the field of international relations in terms of garnering more citizen involvement in the events of domestic and global politics. For example, the disruption caused by growth in ownership of smart mobile devices along with applications such as Twitter led to a series of uprisings, armed rebellions and anti-government protests which spread across various parts of the Arab world in 2010, known as the Arab Spring (Khamis et al., 2012 pp.1-30). An event that began in the early 2010s from a protest in Tunisia, it spread to Libya, Yemen, Syria, Bahrain Egypt, Iraq, Algeria, Lebanon, Jordan, Kuwait, Oman and Sudan. There were other minor anti-government demonstrations in other Arab nations. This led to the toppling of regimes and major uprisings that led to riots, civil wars, and insurgences, all as demonstrations against authoritarian regimes in the Arab world (Costello et al., 2015 pp.90-100). Following the Arab Spring, power struggle immediately ensued in many of these nations and the support for democratic government began to grow. Global power relations is shifting in some aspects to regular people, and the power of individuals in groups and masses have thoroughly increased especially due to mediums such as social media and improvements in communication technology (Heywood, 2011 pp. 512).

It starts to become abundantly clear that the power dynamics have already begun to change since the end of the Cold War. Further in this chapter, other factors of the contemporary International systems that are not only guiding the disruption in the existing global power relations, but also shaping the global future in unprecedented and unimaginable ways are examined.

4.2   Asian Century

The primary strength of Asia lies in its 4.6 billion people. A territory that covers 29.4% of earth's land is home to almost 60% of the world population. Although China and India being the most populous countries, 1.43 billion and 1.37 billion respectively, the entirety of Asia should not be neglected. Almost 2 billion of Asian population are not Indian, nor Chinese (UNESCAP, 2016). In addition, Asia is also home to about 60% of the world youth with a population of over 750 million. Infact, a 2020 data showed that over 50% of Asia is urban population while, during the beginning of the century, only 35% were considered urban populations (UNESCAP, 2016).

However, it can be argued that the primary strength of Asia is not actually the population, but it actually lies in the "wave of mutually reinforcing growth," as stated by Parag Khanna in his book, The Future is Asian (Khanna, 2019 pp. 18). The growth that the Asian continent has seen has been termed in various ways, most exceptionally, The rise of Asia and the 21st century being the "Asian Century". As can be examined by history, the 19th century could be considered as the Europeanization of the world, the 20th century, Americanization and the 21st century, Asianization (Aboitiz, 2020). The data and current trends would only back that theory as more than half of the global population reside in Asian nations. Asia contributes to about 50% of the global GDP. 70% of the world's largest 30 cities are in Asia. Asia is considered to be the world's largest manufacturing hub and not too far from now, Asia could also become the largest consumer market in the world (Relo Network Asia, 2019).

Parag Khanna describes what is happening in Asia as the 'Asianization of Asia'. The author is pointing out the fact that prior to four centuries ago, Asia was very vibrant and rich. Their trade links, political system and the management of social and cultural ties were very formidable. However, currently, Asia is "rediscovering itself after centuries of colonization" (Khanna, 2019 pp. 130-134). This rediscovery is being shaped in the form of China's ambitious infrastructure project, the Belt and Road Initiative (BRI), also known as the New Silk Road.

4.2.1   Rise of the Rest of Asia

Khanna mentions in his book that British Economist Angus Maddison demonstrated that, "until the mid-1800s, China, India, and Japan together generated a greater total GDP than the US, UK, France, Germany and Italy combined. But with the industrial revolution, Western societies modernized their economies, expanded their empires, and subjugated most of Asia" (Khanna, 2019 pp. 119). Further, the author states that, "As the West was fighting and winning the Cold War, Asia began to catch up. Over the past four decades, Asians have gained the greatest share of total global economic growth… a trend driven by the rise of manufacturing in Asia" (Khanna, 2019 pp. 74-76).

In order to argue the rise of the rest of Asia and the coming Asian century, it is important to look at the rest of Asia that is not only mainland China. Asia was not immune to the western conquest of the world through colonialism and imperialism. A continent that hosted two thirds of the world's population and more than half of GDP at the beginning of the 19th century had become one of the poorest continents in the world, following the end of the second wave of decolonization after world war II. However, Asia's modern-day success and growth story begins with the example of rapid industrialization and modernization of Japan that followed the destruction at the hands of the allies' power.

Japan

Japanese modernization story has influenced the growth of other Asian nations. From the rubbles of WWII, Japan embarked on a democratization and demilitarization quest. Both of which, in parallel with the existing Japanese culture and discipline, is what drove the Japanese economic miracles of the 1950s-1990s (Takada, 1999). They implemented several economic power changes. They promoted the free market while empowering the middle class Japanese. They had a massive land reform policy where the government began to purchase and sell lands to independent farmers and they strengthened the labor unions. Further, Japan began to copy the institutions of the United States while promoting equal gender rights within its societies (Hamamura, 2012 pp.3-24). Further, this was driven by several cultural tendencies of the Japanese people. For example, the culture of saving that Asians are

engraved with increased investments within the country. The creation of a universal primary education system and the promotion of universities and research went on to be ranked as the number two best education system today. The capacity and the willingness of Japanese people to work long hours became the driver of Japanese economy. In fact, the term, Karoshi, death from working too much, was seen as an honor (Visualpolitik EN, 2018).

Four Asian Tigers

Following the Korean War, the Asian Tigers began investing heavily in industrialization and compulsory education of the youth. As they became industrialized, the highly educated youth paved the path for the continuity in economic growth centered around financial services and exports. The tech boom of the 1980s and 90s came as an advantage for these nations as they had an advantage in production and export. Further, the government policies have also helped fuel their growth, as anti-corruption, strong regulation and avoidance in building up public debt through conservative economic plans have allowed them to ride through financial crises with little effect on the market, while recovering at a faster pace afterwards (Berger, 2017).

The Asian tigers are considered as "economies [that] have been fueled by exports and rapid industrialization, and have achieved high levels of economic growth since the 1960s [joining] the ranks of world's wealthiest nations… Hong Kong and Singapore are among the most prominent world financial centers, while South Korea and Taiwan are essential hubs for global manufacturing of automobile and electronic components, as well as information technology" (Bloomenthal, 2020).

Singapore

Singapore's rapid economic growth since its independence in 1963 has led it to become a country with one of the highest GDP per capita in the world (Chen, 2020). Singapore has become one of the most important financial centers in the world, especially having a large foreign exchange trading market, while the economy depends heavily on foreign trade with exports focusing on electronic circuit boards, petroleum products, and turbojets (Chen, 2020). It is also seen to have one of the

friendliest business friendly environments in the world, which has helped Singapore become one of the highest foreign direct investment recipients in the world.

Singapore's population is relatively low, 5.6 million, however it has a growth rate of 3.6% with a GDP of $527 billion in 2019. It also has one of the most transparent regulatory bodies with an emphasis on securing property rights, making it a valuable place of investment for the private sector (Bloomenthal, 2020).

Figure 2: Economic Growth of Japan and Asian Tigers
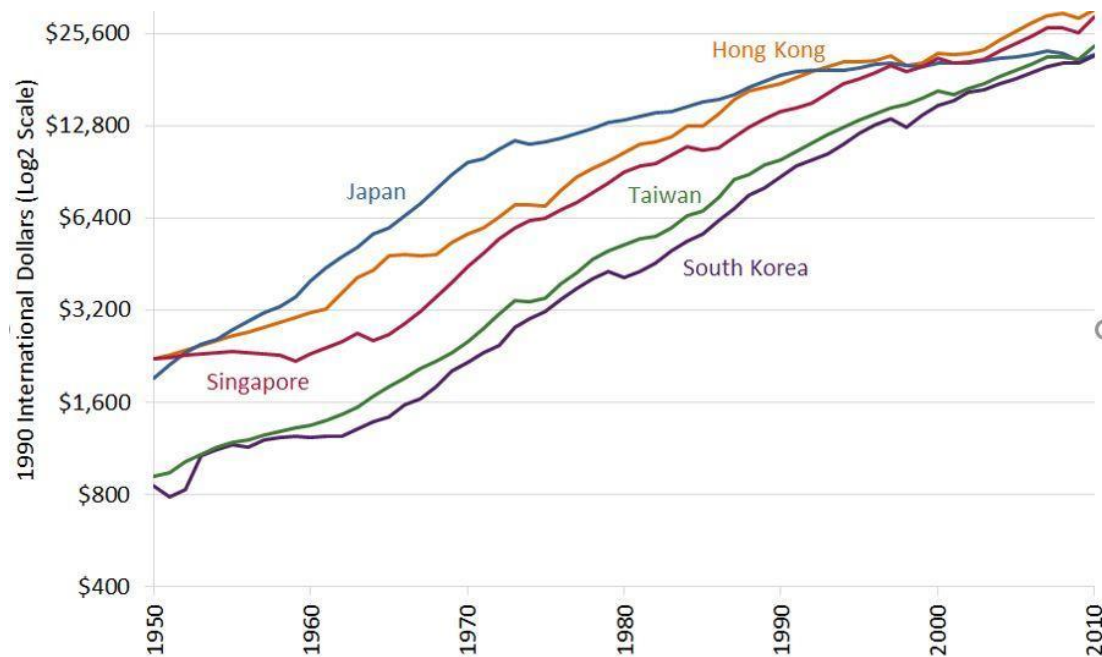
Source: Maddison Project Database, Federal Reserve Bank of St. Louis

The growth of these economies is exceptional. The GDP per capita were $850 in South Korea and $2,220 in Hong Kong and Singapore had at least tripled by 1980s, and grew even further to $21700 in South Korea and $30,720 for Hong Kong by 2010. "For comparison, output per capita in the US was $9,560 in 1950, $18,580 in 1980 and $30,490 in 2010" (Restrepo-Echavarria, 2017).

Asian Cubs

Asian cubs, referring to the economies of Malaysia, Thailand, Philippines and Indonesia began from a similar economic status in the 1950s in terms of per capita income and maintained a less rapid but constant growth. Most of the Economies in the cub economies have also gradually gone from low income to middle income, becoming an important factor in the world economy. In fact, China's GDP Per capita in 2010 was $8,030, a figure similar to Thailand and Malaysia in 2010 (Restrepo-Echavarria, 2017).

Figure 3: Economic Growth of Asian Tiger Cubs
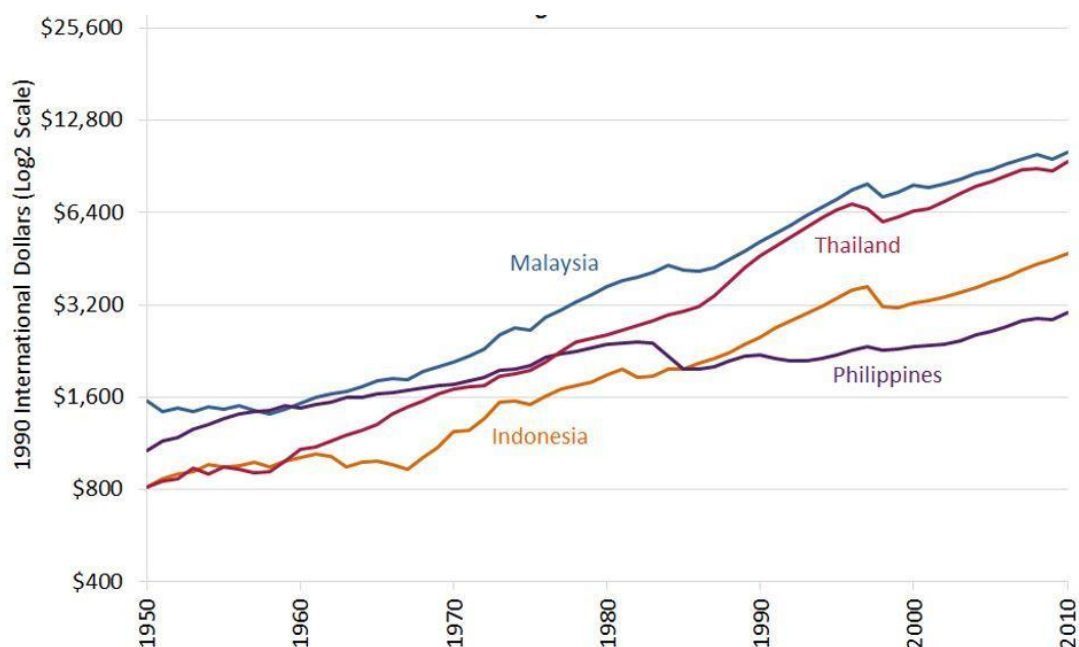
Source: Source: Maddison Project Database, Federal Reserve Bank of St. Louis

The cubs followed the footsteps of the tiger economies, emphasizing on technology and export-based economy. Although the per capita income of Indonesia reached per capita income of only $3,500 in 2016, it has become one of the largest economies of the world, exceeding $1 trillion in GDP in 2017 (Chen, 2018). As Indonesia exemplifies one of the fastest growth in terms of GDP in Asia, so it is worth looking at this South Asian country in more detail.

India

India currently stands as a 5th largest economy on the globe, however, its economy has been seen to slow down with the IMF having to reassess its growth prospect after 4.8% growth in 2019 (Bajpai, 2020). India, being a developing country with independence of only 83 years, and the path to economic reform started comparatively late, after the Cold War. As stated by Bajpai in his NASDAQ report, "India's growth has been impacted by country specific issues such as stress in the non-bank financial sector, decline in credit growth, cooling private consumption, slowing industrial activity and stagnant investments… a lot needs to be done to revive its economy, especially in areas such as labor reforms and infrastructure to ensure that India is recognized as a strong contender in the global supply chain" (World Economy News, 2020).

India remains a challenge in South Asia, as they do not have the same work ethics of Japanese, nor the same rapid development potentials of the Chinese. However, India has been fermenting important alliances around the world, increasing its military potential and even becoming an arms supplier in the world stage. It is "working closely with Israel" and has very strategic relations with "Vietnam and other Asian Middle powers… [however] India's relationship with its neighbors, especially Pakistan, will be the most important factor in determining whether it emerges as a great Asian power" (Cohen, 2000).

According to liveMint, "India's economy is likely to grow two and half times to $7 trillion by 2030… making India the world's third largest economy… The sharp slowdown in recent years, despite Indian economy's promise over the last decade, is not indicative of what is in store for the next decade, Deutsche Bank said" (Guha, 2020).

Sino-Russia Relations

During the Cold War, China and the Soviet Unions were allied against the US, however when President Nixon opened the world to China in 1972, the balance had shifted. The former friends in communism had become enemies for supremacy, however, the collapse of the Soviet Union in 1991 also meant that the alliance between China and the US, to contain the rise of the Soviet, had also collapsed.

The end in US China relations is what began paving the path to the renewed Sino-Russia Relationship. According to Joseph Nye, "With the collapse of the Soviet Union, the de facto US-China alliance ended, and a China-Russia rapprochement began. In 1992, the two countries declared that they were pursuing a 'constructive partnership'; in 1996, they progressed toward a 'strategic partnership'; and in 2001, they signed a treaty of 'friendship and cooperation" (Nye, 2015).

Sino-Russia relations have now become "complex" and it has even become a "blueprint for how major powers can cooperate while simultaneously pursuing individual and mutual interest. This has followed a natural progression influenced by experience at the Cold war and its aftermath… Documents underpin [their] relationship... and long-term strategic goals, the 2001 'Treaty of Good Neighborliness and Friendly Cooperation' and the earlier 1997 'Joint Declaration on a Multipolar World and the Establishment of a New International Order'" (Panevin, 2019).

According to Panevin, during President Putin's address in The Second Belt and Road Forum for International Cooperation, Putin spoke to the audience stating that Russia seeks to "assimilate its Eurasian Projects with the Belt and Road Initiative" in order to build on trade and cooperation between the EUEU and China. Both President Xi and Putin maintain a close relationship, having met over 30 times since 2013, while both awarding each other with the highest state awards in order to signify their friendships. Rather than an alliance, Sino-Russian relationship is based on "strategic partnership", as Panevin states, "an alliance would be costly, unnecessarily complicated, and ultimately force the parties to become overly-involved in each other's individual interests" (Panevin, 2019).

Recently, Russia and China have also worked closely in the UN Security Council, taking similar positions, while being involved in organizations such as BRICS and Shanghai Cooperation Organizations to strength their involvement in the world economy. The 'Energy Diplomacy' that these nations engage in also show the strength of their ties where "shortly after the annexation of Crimea, Russia announced a $400 billion deal to supply 38 billion cubic meters of gas to China annually for 30 years, beginning in 2019" (Nye, 2015).

However, it can be observed that their strategic partnership is not only economic, but also to stop the United States from gaining Global hegemony and to limit the involvement of NATO in Eurasia. The increase in arms trade between the two nations and joint military exercises such as Vostok 2018 are another example of their strategic partnership and can be defined by a statement in the Treaty of Good Neighborliness and Friendly Cooperation: (Panevin, 2019).

The Contracting parties shall energetically promote the consolidation of stability of the surrounding areas of the two countries, create an atmosphere of mutual understanding, trust and cooperation, and promote efforts aimed at setting up a multilateral coordination mechanism…

When a situation arises in which one of the contracting parties deems that peace is being threatened and undermined or its security interests are involved or …the contracting parties shall immediately hold contacts and consultation in order to eliminate such threats.

Furthermore, Sino-Russian relationship being "unified by strategic, long-term interests, designed to withstand short-term turbulence …and on changing what is seen to be an unfair and subsequently failing world order," can be seen on the 1997 Joint Declaration on the Multipolar world: (Panevin, 2019). Very profound changes in international relations have taken place at the end of the 20th century. The Cold War has ended and a positive trend towards a multipolar world is gaining momentum.

4.2.2 Global Power Shift to Asia

If economic power is the true measure of potential power in the 21st century, then Asia emerges as the clear victor.

Table 1: IMF Data for Nominal GDP (2019) and IMF Projected GDP growth (2020)

Country	GDP (2019 Estimates, In Trillions)	Projected Growth Rate (2020)
United States	$21.44	2.0%
China	$14.14	6.0%
Japan	$5.15	0.7%
Germany	$3.86	1.1%
India	$2.94	5.8%
United Kingdom	$2.74	1.4%
France	$2.71	1.3%
Italy	$1.99	0.5%
Brazil	$1.85	2.2%
Canada	$1.73	1.8%
Russia	$1.64	1.9%
South Korea	$1.63	2.2%
Spain	$1.40	1.6%
Australia	$1.38	2.3%
Mexico	$1.27	1.0%
Indonesia	$1.11	5.1%

Source: Nasdaq; Published: January 22, 2020

As seen above, out of the top 5 largest economics of the world, 3 of them are Asian countries. Further, countries with the 3 highest projected growth rates are China, India and Indonesia with 6.0%, 5.8%, and 5.1% respectively. The next highest being Australia with projected growth of 2.3%. The existing western power of the United States, Germany and the United Kingdom have projected the growth of only 2.0%, 1.1% and 1.4%. Even Asian economy of Japan, the most important western ally in the west, has only projected a growth rate of 0.7% (Nasdaq, 2020). There is a clear economic shift happening in the 21st century, where the Asian nations are playing catch up at a rate faster than the non-Asian nations can keep ahead. Inevitably, if the trends continue, the United States will cease to become the dominant economic power

in the world and the shift will not only put China ahead of its global competitors, other Asian nations will also benefit mutually.

The shift towards Asia is evident, only because of the existing capabilities, resources and the very capable population of Asia. In fact, the historical dominance of the west can be argued to have been the result of colonialism and exploitation of resources, from the new found Americas to the Asian nations. The post WWII wave of decolonization has given other nations the chance to become involved in the global market with little to none interference. For nations that choose inclusive policies to empower its citizens while also having the richness of resources, the primary asset of these emerging nations have been the capability of the population, armed with ample knowledge combined with the technical know-how, along with the vast resources of these nations. As Yuval Noah Harari pointed out in his book, Sapiens, the days of powerful nations capturing territories for their resources are over, as this will not be sufficient moving forward. The most valuable assets of any cities or states such as Silicon Valley, Beijing or Mumbai are the brain and the talents of individuals (Harari 2018). For this reason, Asia in the 21st century is warranted to grow into a dominant collective economy without any consequential resistance. The fear of Mutually Assured Destruction (MAD) will keep major military confrontation at bay and any kind of US-China trade war or US and its allies sanctioning Russia will not be able to limit the rise of Asian century. As will be shown further that Asia is more dependent on trade within Asia and Europe, not the United States and this relation will only expand further with the connectivity projects of Belt and Road Initiative.

The intraregional trade, connectivity and growth in Asia is also very alarming. As stated above, in terms of growth, the economies that have outperformed the United States and have projected to have the highest growth rate in the world are in Asia. According to Kevin Sneader, a global managing partner of McKinsey, "Asia is on track to top 50 percent of global GDP by 2040." Sneader points out that China may be the "horsepower," but other Asian nations will play an important role. The disruption from globalization in the past 30 years have brought about remarkable changes in Asia. For example, the volume of South-South trade, "in other word, trade within Asia – has gone from being about 8 percent of the trade in that part of the world in 1995 to 20 percent now." Further, the impact of technology, which will be more

discussed on the later chapters, have also given nations such as China and India a bigger role as global disruptors (Sneader, 2019).

Comparatively, the Intraregional trade can be observed through various countries. For example, the largest export partners of Saudi Arabia are located in the east with UAE, China, India, Singapore and then Belgium being the main ones. Even for India, about 47.8% of its exports were within Asia, while 19.3% exports to European importers and only 18.8% of the exports being shipped to North America (Workman, 2020a). Asia accounted for 57.3% of Japan's export in 2019, while North America only accounted for 22.7% (Workman, 2020b). Even for South Korea, Asia accounted for nearly two-third (64.5%) of export in 2019 while only 16.6% of the exports were to North America (Workman, 2020c). In fact, according to the World's Top Exporter, about 49% of Chinese exports in 2019 were within Asian countries while only 20.1% export was with North America (Workman, 2020d). Even the industry of outsourcing virtual assistance, call centers and other telecommunication businesses have all remained in Asia.

In addition, connectivity between Asia has been growing. Intra-Asia trade, tourism, and travel has made Asia some of the busiest skies in the world, increasing demand for more flights and more airports. As stated by Khanna, Asia consists of the world's busiest skies. "Nine of the ten busiest international airline routes are in Asia. While these are either within the Gulf Cooperation Council (GCC) or within East Asia, the number of daily long-distance connections between Asian sub regions is growing each year" (Khanna, 2019 pp. 132).

As far as the whole of Asia goes, it can best be partially summarized as follows:

Asia has pursued a policy of free trade, but much work is necessary still. Asian goal has become, 'development of free trade,' which implies, 'free trade if possible, state intervention if necessary (Sugihara, 2019).

4.3   Towards Global Governance

The dialogue for the call for an establishment of a global governmental body has come up time and again throughout recent history. The 20th century presented

various multinational conflicts and challenges, and following the industrial revolution, globalization was gaining rapid momentum. As the cold war ended, a wave of decolonization, breakup of Soviet Union led to creation of new democracies around the world. As global economic growth was brought about by the onsets of globalizations, the north south divide, the unpropercenate rate of development between various developing countries and economic dependency of developing countries on the aid programs and "on the multinational companies from the industrialized countries…neokolonialismus, [referring] to the economic exploitation of these countries, which [resembling to] the conditions in the colonial age…" (Yilmaz, 2008 pp.44-58). Emerging nations, such as Brazil, India, China, the Asian Tigers have all adjusted to the new world order and are even predicted to be competing with existing economic powers in a few decades (Mathews, 2009 pp.5-32). The cooperation between the developing countries in mutual economic growth has gone into the formation of regional groups, trade partnerships and systems of interconnected grid that will only expand in the future. The hegemonic power ideas that once dictated the aspirations of conquests, the exploitation and extractions of resources from colonies have been slowed down by the ideas of cooperation and mutual assured growth and security.

However, these are just the continuation of the challenges and/or the consequences of the domino that have fallen since many major events of the 20th century. The rapid momentum that globalization was gaining was carrying millions out of poverty while advancements in technology was changing the lives of people from all walks of lives; Increased accesses to new technologies, the fruits of mass production and global supply chain networks, and increased connectivity through newly built, state of the art airports that acted as passenger hubs (Bloomenthal, 2020). Through both, came the tree of cooperation and connections between government officials and businessmen, students and academics, health workers and social workers, and especially between entrepreneurs and dreamers.

The darker side of this increased connectivity also exists. For example, the risk of a global pandemic is higher than in the past. New threats such as bioterrorism and cyberterrorism have emerged. Existence of non-state actors and multinational companies and organizations have led to challenges of regulation and governance

between actors whose activities are not confined within one state borders. Challenges of the 21st century that needs to be addressed such as cross border terrorism, environmental issues, refugee crisis and climate change have emerged (Green et.al., 2019 pp.2-13). In addition, the merge of social media with commerce, leading to the issues of data collections and personal privacy, as well as the questions about the ethical and proper use of those said data remains to be answered. Many more questions and challenges such as the ones mentioned above exist and these are issues that cannot be addressed through the prism of isolation or as popular with national governments, alone behind the shield of sovereignty.

These challenges, along with inevitable increase in demand for global cooperation in the future justifies the conversation about a global governmental body. As Joseph Stiglitz put it, "Globalization is global governance without global government" (Stiglitz, 2008 p.312).

However, as much of a necessity it is, the idea of global governance has only been able to manifest in various types of alliances and treaties, only regulating, the rules that dictates only some aspects of the responsibility of a state, such as mutual security and trade and commerce. Intergovernmentalism, referring to interaction among states through treaties and agreement, within leagues and confederations such as League of Nations or Organization of petroleum exporting countries (OPEC) has been a preferred form of global governance (Haywood, 2011).

Global economic governance has taken precedence and as the wave of globalization and the lives of over 7 billion human beings are dependent on the opportunities, security and livelihood provided by economic activities, it is justifiable. And although many of the other areas that require cross border cooperation have resulted in formations of various regional, international and issue-based organizations, the argument that many neorealist scholars present is that the International System is in itself permanently anarchic in nature. Therefore, the International system lacks a "superior authority, and [neorealist] believe that all the units, or states are functionally alike" (Griveaud, 2011). From that sense, all states have the right to do whatever they want, as there is no oversight, lacking order within the international system, thus making the system permanently anarchic. However, as Griveaud points out, "the distribution of power in the international system is far from a perfect equilibrium,"

thus giving different states different capabilities to act its will, whether aggressively or not, in a "hostile global environment." Therefore, survival becomes the prime instinct or the principal motivation of a state, leading to various strategies such as military growth, creation of alliances and economic partnerships as a means to apply the concept of 'balance of power' in order to again, ensure the survival of the state.

The states, whose principle motivation is survival becomes vulnerable to the exploitation of their resources and the socio-political and economic influence of more powerful states. Through this means, in the anarchic international system, an industrialized powerful country can as easily trap developing nations into dependency, leading to what scholars would refer to as neocolonialism.

As pointed out by Sandra Halperin, a Professor of International Relations, neocolonialism first emerged in European policies, as a means to "maintain control of African and other dependencies." With this objective, European leaders in 1957 "agreed to include their overseas territories within the European Common Market under trade arrangements that were seen by some national leaders and groups as representing a new form of economic domination over French-occupied Africa and the colonial territories of Italy, Belgium and the Netherlands. The agreement reached at Paris was codified in the Treaty of Rome, which established the European Economic Community (EEC), or Common Market" in 1957 (Halperin, 2020).

The scheme of creating a dependent, independent state as a source of raw material and cheap labor was an effort of special importance during the Cold war. The US foreign policy known as the Truman Doctrine provided an umbrella of protection for developing countries which promised their survival against the evils of communism. As taken from the playbook of neocolonialism, Truman Doctrine persuaded developing countries into the capitalistic economic system, whereby aid provided for development and assistance could in the long run benefit multinational companies while trapping the foreign government into debt, dependency and unfavorable policies. Mentioned above are the continuity of the patterns of exploitations that dominate human economic history. The 19th century brought about an evolution of colonialism. Previously, a nation would physically have to be present in a foreign land and extract the resources and rely on the labor of slaves or indentured servitude, while maintaining a system of oversight.

4.3.1 Global Economic Governance

As states began to recognize the role that unemployment and economic insecurity played towards the rise of fascism along with various other events that led to WWII, the United States, United Kingdom and 42 other states came to an agreement to create a post war international financial and monetary system in 1944. The discussion was held during a UN Monetary and Financial conference in Bretton Woods, New Hampshire (Cai, 2020 pp.40-67). This led to the creation of three new bodies, known as the Bretton Woods System.

- The International Monetary Fund (IMF) established in March 1947
- International Bank for Reconstruction and Development (IBRD) or the World Bank, established in June 1946
- The General Agreement on Tariffs and Trade (GATT) was established in 1948, later replaced by the World Trade Organization (WTO) in 1995.

However, this post war structure of economic governance was guided by anything except altruistic motives. It is important to remember that the United States emerged at the end of WWII as the dominant economic and military power, the US led the negotiation and was largely guided by two national interests. First, the US had "massively increased its industrial output through rearmament and the expansion of exports in the run up to and during the war years… The USA needed to ensure that domestic growth levels could be sustained in the postwar period." Second, the "US thinking was shaped by a growing awareness of the threat posed by Soviet Union and the need to contain the spread of communism" (Heywood, 2010).

Thus, the guiding principles of the Bretton Woods System were to create an open and stable global economic system while promoting reconstruction and recovery while containing the spread of communism.

Table 2: The Bretton Woods System

International Monetary Fund (IMF)	IBRD (Later, The World Bank)	GATT (Later WTO)
- Seeks to maintain stable exchange rate - Assistance in International transactions between countries and citizens - All Currencies fixed to US Dollar as Anchor 'reserve' currency	- Provide loans for reconstruction and development - Assistance for developing countries in reducing poverty	- To ensure smooth, predictable and free flow of goods - Keeps nation's trade policies within established agreements - To Establish global norms and rules of trade - To resolve trade disputes

Source: Haywood, A. (2010). *Global Politics*

Looking at it from the perspective of International theory, we will examine the stance on the global economic perspective of realists, liberals and critical theorists.

Table 3: Theoretical View of the Bretton Wood's System

Realist View	Liberal View	Critical View
- World economy is an area of competition for states to maximize power and wealth - Driven by state egoism and international anarchy - Cooperation is limited since new hegemon alters the system to favor itself	- Faith is based on the market and competition - Accept the need for economic governance that promotes free and open trade - Views this emergence as states willingness to cooperate and recognition of economic dependence - Mutual interest in upholding norms and rules	- Social constructivists: institutions have been shaped by historical and sociological factors - Thus Bretton woods is a manifestation of the changing nature of society amongst industrialized states - Neo-Marxists challenge the liberal assumption that the system reflects the interests of all groups or states – rather it is constructed with capitalist interest.

Source: Haywood, A. (2010). *Global Politics*

4.3.2   Neoliberalism

Neoliberal values have shaped the global economy since the end of 1980s. The promotion of the belief that goods should be able to be transported with as little regulations as possible. Andrew Heywood in his book, The Key Concepts in Politics and International Relations states that the neoliberal theme is "market fundamentalism, an absolute faith in the market…belief that the market mechanisms offer solutions to all economic and social problem [and] unregulated market capitalism delivers efficiency" therefore a belief that "market good; state bad" with promotion of policies that "include privatization, low public spending, deregulation, tax cuts (particularly corporate and direct taxes) and reduced welfare provisions"(Heywood, 2015 pp. 143-144).

This helped businesses and corporations in matters of financial globalization. Reformers such as Ronald Regan and Margret Thatcher promoted these doctrines, which has changed the course of time and led the path of globalization to its current status. This included terms such as economies that accept the loans from the world bank would have to comply with the value of neoliberalism and liberalize their economy to the global market (Gittins, 2017). Noncompliance would result in blocked loans, diplomatic isolation or even wars and invasions. During the cold war, this forced countries to privatize their corporations and give corporations a free market to work in. This benefited the corporations of the west, who could enter poor developing countries to use the cheap labor markets. This created a hegemonic system where the west could essentially get richer by exploiting developing countries, thus creating a pattern of transfer of wealth from the rich to the poor (Gittins, 2017). Since corporations are prioritized over the poor, banks and corporations would be entitled to bailouts while the workers were left to fend for themselves.

One of the main concerns of the neoliberal economy is its failure to prevent an economic crisis since the 1980s. The Asian financial crisis of 1997 and the dot.com bubble of the 2000s were seen as the failure of the global economic governance system leading scholars such as Susan Strange, Paul Krugman and George Soros to raise warnings about the fundamentals of free market and neoliberal globalization that could lead to a worse economic crisis (Lim, 2015). Similarly, the 2007-09 economic crisis was considered to be the worst crisis since the 1930s, where the impact was

global and the origin of the crisis was the United States, again, calling for the reform of the entire Bretton Woods system. However, there remains many obstacles for reform, particularly resistance from countries where neoliberal principles have become dominant, ensuring the continuity of the system with some improvement, but without any major reforms.

International Groupings

G7 are considered the groups of most powerful economies, France, Germany, Italy, Japan, United Kingdom and United States. However, it can be argued that G7 has also lost significance. G-20 has become the leading platform for global economy discussion, especially after the global financial collapse of 2007-2009 (Cooper and Helleiner, 2010).

The 1973 meeting created the grouping of the most advanced democracies and industrial nations with the primary objective of economic cooperation and consensus in creating financial policies so that any further financial crisis can be avoided or managed. However, by the 1990s, their discussions had expanded to include a wide array of topics, ranging from security to global affairs. Since these informal groupings do not have a permanent secretariat, the annual summits are organized by "sherpas," the representatives of each of the member nations, who contact and plan amongst each other the objectives and agendas of the next meeting while preparing the topics of discussions and agreements to be signed. (Saar Concept, 2018).

The economic landscape began to change dramatically in the late 1990s, as globalization was on full swings, nations such as China, Brazil, and India were growing to become major economic powers. During that time, G7 was increasingly facing accusations that the establishment only aimed to protect the old order while only working to promote the interest of the western developed nations. The Asian Financial crisis of 1997 and 1997 led to the realization that many of the growing relevant economies were not a part of the 'informal' mode of global economic governance, thus in 1999, the G7 Finance ministers invited the Central bank governors and finance ministers of Argentina, Australia, Brazil, China, EU, India, Indonesia, South Korea, Mexico, Russia, Saudi Arabia, South Africa and Turkey for a conference in Berlin, officially launching the G20 (Cooper and Helleiner, 2010). "It

was crucial to include emerging economies since leaders needed collectively to agree to stimulate domestic demand, and not to use protectionism. Without the cooperation of China, India, Brazil and others, the G7 countries could have found themselves agreeing to row against a tide which would overwhelm them" (Woods, 2010).

The group however did not begin having their annual meetings until 2008, when both G7 and G20 became more active. Being an informal organization, like the G7, many of the structures of G20 also remained similar, with "sherpas" from each nation planning the annual G20 meetings. According to Alexander et.al (2016), "The agendas of the two clubs overlap, with the G7 generally engaging in more political and security-related issues than the G20, which primarily focuses on global economic and finance governance."

According to Woods (2010), "The G20 leaders also agreed to work towards a new global financial regulation. The 2008 agreement by the G20 leaders set out a work plan more detailed and practical than any G8 communique…" The work plan set up "detailed instructions for international organizations," plans that could not have been done by any of the formal organizations such as the World Bank, IMF, UN or WTO because of the limitations within their formal structures. "The G20 highlighted both the need for an informal forum (such as the role played by the G7) and the need to broaden representation in such a forum."

After the 2008 summit, reporter Parnohadiningrat reported on the Jakarta post that "during the November 2008 summit in Washington D.C., the leaders of advanced economies stood on an equal footing with their emerging nations' counterparts addressing the global economic and financial issues candidly." The summit between these world leaders was seen as a reassurance to the global market during the midst of the financial crisis. Towards the end of the summit, US President George Bush stated that "both IMF and World Bank should modernize the structures [and] consider extending voting power and presentation to developing nations. Particularly those who increased the contributions to the institutions" (Economist, 2009). However, the question of fair representation for different still regions remains in question, as India is the only country from South Asia, while South Africa is the only nation representing the continent of Africa in G20. It can also be observed that although the EU is a part of the G20, the African Union was excluded from the grouping. In 2009,

when G20 declared itself, "the premier forum for our international cooperation," it attracted more criticism as many of the smaller emerging markets such as Thailand and Chile, along with smaller economies complained that they were being forced to comply with decisions without their representatives. (Economist, 2009).

Furthermore, a DIIS report by researcher Vestergaard (2011), points out three reasons why G20 is the "wrong format" when it comes to aiming for effective global economic governance. First, the author points out that "the elevation of the G20 to a Leader Forum continues and reinforces a troubling trend towards 'plurilateralism of the big" where majority of smaller nations (over 173 excluded countries) lose the platform where they can voice matters that affects them, such as smaller island nations that are vulnerable to rising sea levels. Second, "the G20 undermines the existing system of multilateral cooperation in institutions such as the IMF, the World Bank and the United Nations, increasingly causing resentment" between the G20 and non-G20 countries (Economist, 2009). Third, the author argues that current challenges, "such as global imbalances, climate change, and rising poverty," should be addressed through "binding deliberations in a multilateral framework" rather than through "an informal Leaders Forum." Although the author points out that in response to the criticism that some regions are underrepresented, in the past, G20 has invited observers from various regions, for example Vietnam from ASEAN and Ethiopia and Malawi from the African Union.

At the turn of the century, conferences of these groupings of countries, especially the G8 would also attract anti-globalization protests throughout the years, sometimes even resulting in violence and protests around the venues of the highly guarded summits. (France 24, English, 2018).

The year 2014 saw another turn of events when Russia was barred from the G8 over its annexations of Crimea, and Russian President Vladimir Putin's continuous support for Syrian President Basaar Al Asaad against the wishes of the rest of the members, returning the group to seven countries as was before 1998. Recently, the loss of power out of the hands of the G7 can be observed. Increasing terror in the middle east, disagreement over climate change, migration crisis and the withdrawal of US leadership in the global arena has created a chaotic and turbulent world, questioning the capability of G7 alone to cooperate on global issues (Sarr

Concept, 2018). Therefore, the importance of the emerging G20 economies and their cooperation is crucial in the current international system to deal with existing and upcoming global challenges. Regardless of the debate on whether these types of groupings should be considered legitimate or not, keeping in mind that neoliberalism considers international system to be permanently anarchic in nature due to the absence of superior authority, their actions and impacts and their collective GDP seem to demonstrate their power and their ability to make real change on global financial decisions. In comparison, as of the previous decade, G7 countries represented 50% of the world GDP, whereas 70 years ago they represented 70% of the global GDP. While the G20 countries account for 80% of the total global GDP and consist two-third of the world population.

Dr. Jakob Vestergaard and Professor Robert Wade (2012) have been a proponent of 'Global Economic Governance 2.0' where G20 will shift to a formal Global Economic Council, by altering the existing Bretton woods system, to tackle the "representational gap" with explicit membership criteria, and with modes to alter the system that can keep in pace with changing times. They argue that it would "embed a leaders' council within the institutional framework of the existing Bretton Woods Organizations, give better representations and create a "system [that] responds to the rise and fall of nations and regions through transparent, automatically updated system of weighted voting (based on GDP), while ensuring at the same time a certain level of inter-regional legitimacy and stability by means of the proposed balanced allocations of chairs to all of the world's regions." (Wade and Vestergaard, 2012).

As George Bush stated after 2008, participation of other economies is equally important to avoid and to manage any financial crisis. This change in rhetoric demonstrates shifting the power from the G7 during the 20th century, towards nations including the G20 countries.

4.3.3   Global Governance: Myth or Reality?

In regards to global governance, the question can be raised on whether global governance is just an idealism, an ambition that can be moved towards but never quite achieved or is it actually a reality. Both can be said about global governance. In some sense, such as economics, what seems to be the most relevant, global governance is a

reality, but whether the reality is fair or not can remain a topic of discussion. On other aspects, such as security, protection of the liberal world order or treaties such as Strategic Arms Reduction Treaty (START) and other nuclear disarmament treaties, the discussion can still remain between whether this was an outcome of an attempt at global governance or whether this coincided with the interests of nations engulfed in the cold war arms race.

Amitav Acharya, during his lecture in Jindal Global University in India, discusses four main points when it comes to global governance, whether it is a myth or reality. Acharya, as many International Relations IR scholars have said 2008 to be the "paradigm shift" in the discourse of global governance (Jindal Global University, 2015). The four main points from his lecture will be addressed below.

First, "despite academic debate and attempts by scholars to define this, the post 2008 concept of global governance has been aligned with power and hegemony." He argues that the power has shifted from the G7 to the new multilateral forum, G20, especially after 2008 reform to the global financial architecture along with the call for reform of the UN Security Council, which in itself has created another dimension of power politics. G20 incorporates some of the most powerful economies in the world, and through various reforms to recover from the 2008 financial crisis, the G20 has also become "the premier institute for global economic policy making – more than IMF or WTO at this point" (Acharya, 2015). The hold on to power and hegemony can be seen within the membership of the G20 countries, where most of the member states are European, the selection process is completely dominated by the US treasurer and German Bank and there exists criticism of representation, especially of only South Africa representing the entire continent of Africa.

Second, Acharya discusses the impact that G20 is having in North-South relations. During the cold war, the existing north-south divide, where most "south" nations were considered to be relatively poor or underdeveloped did not have a major impact on the global economics or decision making, as the second half of the 20th century is seen as a bipolar world with competition for global hegemony between the United States and USSR. However, the end of the cold war and the emergence of more significant economics in the global south demanded a more intimate cooperation between the previously divided economies, thus the G20 succeeded in bringing

together the emerging economies of the south with the developed economies of the north, in order to theoretically solve problems of the world. The questions remain though, who leads the G20 and can the global south actually be considered represented by G20. Within the member nations of the G20 who are traditionally considered "south," there remains division. As noted by the author, various discontentment between China and India, and China's opposition to India or Japan being a member of the UNSC, along with the challenges of population and the variation within per capita income between G20 countries within same regions brings doubt to the optimism that G20 can actually solve the world's problems. Complex challenges of the 21st centuries, such as climate change, global architecture, human rights, nuclear powers, fourth industrial revolution and various other topics that require regional and global cooperation are shadowed by individual, regional and global aspirations.

Furthermore, according to Acharya, this has created two types of global south. The Power south and the Poor south. The voices of the poor south are often ignored, even though their contribution in the International arena is significant. The lecturer gives examples of three countries, Bangladesh, the pioneer of microfinance, Singapore, the champion of free trade and Egypt, the largest country in the Arab world and "defender of stability with Israel", none of them, have a seat in the G20 (Jindal Global University, 2015). Their regional representation is India and South Africa, respectively. Acharya further states, "India for example does not have legitimacy to represent south Asia." Global and regional aspirations of India have left it with turbulent and chaotic relationship with its neighbor, thus bringing into doubt on whether India has the legitimacy or the capacity to lead south Asia. The aspiration of national power for the traditionally south G20 countries instead of global cooperation is creating a new category of countries, where the traditionally south, G20 countries have been promoted as 'power south' while the remaining are categorized within the 'poor south'. In fact, ASEAN, consisting of smaller countries, shows more leadership potential as a regional organization that promotes cooperation and integration amongst its members. In fact, J.P. Morgan recognized the potential of ASEAN, "As the economies of neighboring China and India decelerate, and as the U.S. shifts its focus to the East, the region is increasingly becoming a destination for investments" (Morgan, 2018). The existing power structure and even the shifting

power structures are both fragile in a world that is constantly competing and changing.

Third, Acharya points out that there are many countries being left out, mainly the poor south nations and their interests and challenges. Other than the question of representation, the 'global south' nations remain divided in their aspirations. Indonesia, who has been considered a "regional elder" as pointed by Acharya, has moved on to global aspirations and is ignoring its neighbors more while "China's aspiration to be number one has made them lose a lot of soft power, especially in the south China sea. Asia can be considered a "microcosm" of many things that affect the world, especially in relations to pandemics, climate change issues, financial challenges amongst more (Acharya, 2015). Nevertheless, the unrepresented relevant economies are strategically leaving behind regionalism and moving on to global governance, choosing a top down approach to governance and ignoring the bottom up approach.

Finally, Acharya also points out that the changing international ideas and norms have also affected the course of creating a system for global governance. The Westphalia ideas of sovereignty and non-intervention is changing towards the ideals of humanitarian intervention and the protection of human rights. However, some emerging powers such as China, India and Brazil have stuck to the old norms that have historically favored the western powers. For example, according to the lecture, the nations mentioned above are champions of the Westphalian system and are not fans of humanitarian intervention. This has created disagreements and difficulty in achieving a system of global governance around the new norms of human rights and transnational justice.

From reading the above adaptation of his lecture and the evidence he has provided, it can be noted that in some sense perhaps global governance is not a myth, it is actually a reality. The reality may not be up to the expectation of the most ideal vision of global governance but the institutions and alliances have already begun forming and showing their impact in the international system. Smaller nations within the system may not benefit as much as the emerging economies who dictate the policies, the creation and functioning system should be seen through an optimist lens. As seen through pacts such as ASEAN, smaller nations have the option to band

together to have a representation as a regional organization with similar interests. Through these types of alliances, the least developed countries are however left in the dust, as they remain dependent on other states for the course of the international system.

According to Acharya, the global governance bodies however, "hang on to the world order and just bring in few countries that can accept the world order," (Acharya, 2015) essentially failing to reform the system, and rather aiming towards reforming the economic and financial policies of countries that want to become a part of the world order. Further, as the world evolves and some western nations have shifted to the expansion of their diplomatic and humanitarian efforts in their foreign policy dealings, the neoliberal ideals have proved challenging to reshape. Professor G. John Ikenberry has questions, "as the United States' relative power declines, will the open and rule based liberal international order Washington has championed since the 1940s start to erode? Probably not. That order is alive and well. China and others emerging powers will not seek to undermine the system; instead, they will try to gain more leadership within it." (Ikenberry, 2011). He implies that the liberal international order that the US created is not disappearing despite decline of the US because countries like China are buying into it, especially since they're doing well, working within the structures of WTO and other institutions. As mentioned above, currently, China's is the champion of the Westphalian system, as their economic interest is independent of their partner country's humanitarian records, unlike western countries, who hesitate before dealing with nations that do not reflect the same economic and humanitarian ideals.

Chapter Five
Technological Advancements

5.1 Industrial Revolution to Digital Revolution

Apart from politics, technological revolution has been the most dominant factor in guiding the course of human existence. Creation and implementation of new technologies have disrupted and altered the very course of human evolution throughout history. Nonetheless, since the course of the 18th century, four industrial revolutions have occurred, each time completely altering and accelerating the course of global evolution, whether in relations to economy, warfare, transportation, power and energy or communications.

5.1.1 First Industrial revolution

In an essay titled, "The First Industrial Revolution: Creation of a New Global Human Era," the author states, "the First Industrial Revolution began in England in about 1750-1760 [lasting] to sometime between 1820 and 1840" (Mohajan, 2019). He has categorized this period as "one of the most distinguished turning points in human history [where] human and animal labor technology transformed into machinery, such as the steam engine, the spinning jenny, coke smelting… [and renewed] global economic growth, increase in production and consumption of common people" (Mohajan, 2019). The author further points out that many communications and transportations were also revolutionized during this period through canals, roads and railways.

5.1.2 Second Industrial Revolution

The period of 1970-1914 has been labeled as the era of the Second Industrial Revolution, which is recognized by the expansion of electricity, petroleum and steel. This era saw a plethora of new innovations, replacing the older ones. For example, steel was replacing iron for construction projects, railroads, ships and other machines, while candles and lamps were being replaced with electricity (Mohajan, 2019). This era altered many aspects of everyday life, especially due to electricity's contribution to the way people worked and lived. According to Haradhan Kumar Mohajan, "Between 1820 and 1920 about 33 million people, mainly laborers, have migrated to

the USA seeking greater economic opportunities'' leading to cities becoming overcrowded. The second industrial revolution came with "low wage, dangerous working conditions, long working hours, child labor and [overall] labor dissatisfaction" (Mohajan, 2020). However, this period marked many vital new technologies and gave birth to inventors that coursed the path of the future.

Vaclav Smil (1943-), a Czech-Canadian Scientist and policy analyst, called the period 1867-1914, "The Age of Synergy," during which most of the great inventions and innovations were developed (Smil, 2005).

Robert Fulton (1765-1815) created the first use of steamboats on Hudson River, leading the way for more steam powered machines (Landes, 2003). Thomas Alva Edison (1847-1931), most notable for his light bulb. Alexander Graham Bell (1847-1922) known as the inventor of the telephone and the founder of the American Telephone and Telegraph Company (AT&T) in 1885 (Richard, 2010).

By 1903, Orville (1871-1948) and Wilbur (1867-192), more famously known as the Wright brothers successfully built the world's first airplane, leading to the first commercial flight service in 1919 (Pirie, 2009).

Regarding the Second Industrial Revolution, a Pulitzer Prize finalist Richard White, in his book *Railroaded: The Transcontinental and the Making of Modern America* (2011), the author described this period as follows:

"If a Western Rip Van Winkle had fallen asleep in 1869 and awakened in 1896, he would not have recognized the lands that the railroads had touched. Bison had yielded to cattle; mountains had been blasted and bored. Great swaths of land that had once whispered grass now screamed corn and wheat. Nation-states had conquered Indian peoples, slaughtering some of them and confining and controlling most of them. Population had increased across much of this vast region, and there were growing cities along its edges. A land that had once run largely north-south now ran east-west. Each change could have been traced back to the railroads."

This time period had completely revolutionized the standard of living in the USA and began to rapidly change the social structure of the west, through US and

Germany increased engagement in the global market, through its contribution in culture, art, science and lifestyle (Mokyr, 1999).

5.1.3   Third Industrial Revolution

The Internet revolution or even the digital revolution, began in the early 1960s and has developed to the world wide web of today. The internet is a group of networks that can connect numerous computers and provide various services such as emails, messages and data exchange. It has revolutionized communication. The internet was invented for military purposes during the cold war and was later used by scientists for communication. The revolution in internet transformed national infrastructures and the change was more drastic after the 1990s when the Internet became more widespread and began affecting a larger portion of the population (O'Regan, 2012 pp. 179-201).

5.1.4   Fourth Industrial Revolution

The fourth Industrial Revolution builds on the infrastructure and the progress of the third industrial revolution. Digital revolution, including "genome editing, new forms of machine intelligence, breakthrough materials and approaches to governance that rely on Cryptographic methods such as the blockchain (Davis, 2016). The fourth industrial revolution has the potential to transform society on a global scale. It can impact the rules and the structure of the global economy while transforming various aspects of an individual's daily life such as work, education, entertainment, health or communication. This revolution also has the potential to disrupt the labor market due to worker displacements caused by artificial intelligence and automation (Schwab, 2018).

5.2   Artificial Intelligence (AI)

Mathematician Alan Turing, notably known for helping the Allied Force win WWII by "breaking the Nazi encryption machine Enigma," asked a simple question: "Can Machines think?" in his paper, "Computing Machinery and Intelligence" (1950), where he established the "Turing Test" to determine whether machines are capable of thinking like human beings or not (BuiltIn) (Turing, 2009).

CEO of DataRobot, a machine learning platform, addressed to a crowed at Japan AI Experience in 2017 and defined the use of AI as follows:

"AI is a Computer system able to perform tasks that ordinarily require human intelligence… Many of these artificial intelligence systems are powered by machine learning, some of them are powered by deep learning and some of them are powered by very boring things like rules" (Achin, 2017).

5.2.1 AI in International Relations

Artificial Intelligence has already become integrated in many aspects of current reality. From services such as GPS navigations, Google translations, Photo recognition on various applications, complex data analysis that can predict the patterns of individuals to many other applications, AI is everyday increasing its footprint on the daily lives of human beings. Artificial intelligence technology is evolving at such a rate that it is predicted that in 10 years CPU power will surpass the human mind and within the next 15 years, the majority of the current jobs will be obsolete (Bird et.al., 2020).

The revolution in AI is being led by the commercial sectors and private companies, leaving most governments to only react to disruptive AI innovations. From the perspective of International relations, Artificial Intelligence has presented such a challenge in the global arena that a massive cooperation effort is required in order to formulate policies and regulations centering AI. As reported by Tristan Greene, the US and China are "leagues ahead of any other country when it comes to AI technology" and further states that these two nations have become "AI nationalists" (Green, 2018). According to this report, AI expert, Ian Hogarth "predicts that AI nationalism is going to create global instability, [stating] 'AI policy will become the single most important area of government policy'… [with] concern that the US and China will effectively form a duopoly which will force other countries to [pick sides]…" (Green, 2018).

Furthermore, in an address given to a group of Russian Students, Russian President Vladimir Putin stated, "Artificial Intelligence is the future, not only for Russia, but for all humankind. Whoever becomes the leader in this sphere will become the ruler of the world" (Vincent, 2017).

According to John Villasenor, "AI will make manufacturing, transportation, and trade more efficient, improve crop yields, open a wealth of new opportunities for technological advances, reshuffle labor markets, and force a fundamental rethinking of approaches to national security and architecture of modern militaries." Furthermore, the author states that, "in the coming decades, countries that are able to successfully cultivate and harness a culture of AI innovation will be well positioned for both economic growth and improved national security" (Villasenor, 2018).

Chattamhouse, a policy institute has distinguished three roles that AI may play in policymaking and intentional affairs: (Cummings, et.al., 2018).

Analytical roles: Roles of decision making will be shifted to analytical capabilities of AI rather than Human understanding.

Predictive roles: AI could change how policy makers and international actors "understand the potential outcomes of specific courses of actions." Creating a gap between actors equipped with AI for decision makings and those without

Operational Roles: AI are likely to materialize soon, thus the questions of regulations, ethics and technological hurdles towards full use of AI systems in autonomous vehicles, weapons and other advancement in terms of personal assistant robots can change the means of decision making and negotiations.

According to Mary Cummings, the director and one of the authors of the report, Artificial Intelligence and International Affairs by Chatham House, "Technological change does not have to be dramatic or sudden to create meaningful shifts in power balance or social structures…Building a framework for better managing the rise of artificially intelligent systems in the near term might also reinforce the process of mitigating longer term risks." (Cummings, et.al., 2018).

Global Regulations

According to the Verge, "Elon Musk and 116 other technology leaders sent a petition to the United Nations calling for new regulations on how such AI weapons are developed. The group stated that the introduction of autonomous technology

would be tantamount to a "third revolution in warfare," following the development of gunpowder and nuclear weapons" (Vincent, 2017).

Regulation of AI will become a significant topic of discussion in the future. Already, "AI companies attract between 15-50% more funding in comparison to non-AI startups" (Shoker, 2019).

As mentioned above, AI uses "big data" to make decisions and understand the world. In a simplest sense, AI uses user data of the types of information that a person is consuming on the internet and creates an internet feed across their social media and actively provides contents that users may be interested in. This can lead to creation of online communities with like interests and increased circulations of contents that may justify a pre-existing notion that a person holds, leading to extremism or mobilization, regardless of whether the information consumed online is true. This can have detrimental effects on the efforts of scientists to cure global pandemics or the efforts of election officials to have free and fair elections. Some countries have already begun their efforts in regulating the digital environment, for example, the Canadian public safety minister Ralph Goodale encouraged "digital platforms to find better ways to recognize extremism and further told G7 that if they couldn't do so they should expect public regulations… if they fail to protect the public interests' (Shoker, 2019).

5.2.2 AI Race

The global AI race in the big picture is between the US and China, as both countries have the most heavily funded AI companies on Earth. According to Forbes, AI "companies raised $12 billion in 2017…doubling venture funding over the previous year" with funding, most "concentrated in US and Chinese companies…" (Walch, 2020).

A Global AI Index published in December 2019, ranking 54 countries on their development and deployment of artificial intelligence technologies paints a more detailed image however.

Figure 4: Global AI Index

Country	Talent	Infrastructure	Operating Environment	Research	Development	Government Strategy	Commercial	Total rank
United States of America	1	1	6	1	2	13	1	1
China	18	3	3	2	1	1	2	2
United Kingdom	5	8	1	3	11	7	4	3
Canada	4	23	5	8	10	4	5	4
Germany	9	12	7	4	12	5	9	5
France	8	30	2	12	9	6	7	6

Source: (Mousavizadeh, 2020)

Although funding may play a big role in AI research and development, the entirety of the AI race varies on other criteria as well, as seen above. As shown by the report, in comparison to other countries investing in AI technologies, the US and China ranked 1 and 2 respectively before the 2020 global pandemic. However, it is important to note that even though China out ranks the US on the aspect of development and government strategy, it still lags behind the US, especially in terms of talent and infrastructure. Tech giants such as Amazon, Apple, Facebook, Microsoft, Google, IBM and hundreds of other firms often draw the most talented and have the heaviest investments in their infrastructures. China does have a government strategy in place and a society that is willing to adapt quickly (Schmidt and Allison, 2020). China has planned to become a world leader in AI by 2030 with aiming to make the "industry worth about $150 billion [while] pushing for greater use of AI in a number of areas such as the military and smart cities… including a planned $2.1 billion AI-focused technology research park" all while forming a "multi stakeholder coalitions" of universities and giants such as "Baidu, Alibaba and Tencent" (Walch, 2020).

The pandemic has provided opportunities for AI, as direct contact proved hazardous, workplaces shifting to home and health care systems becoming overwhelmed, "automated disease detection and drug discovery" have become a playing field. In addition, global lock down has "…[accelerated] digitization in both business and education, providing a genuine chance for an AI-enabled virtual workplace and classroom. The open source community has flooded the internet with coronavirus-related data and code – there have never been so many data scientists in so many places all working on the same thing" (Mousavizadeh, 2020). In fact, due to the pandemic, automation and implementation of AI in aspects such as global supply chain will most likely increase in order to avoid disruption in the market in case of another pandemic.

In comparison to the pandemic response, while US was waging "war" on coronavirus, China was able to "[lock] down the entire population of Hubei Province – 60 million people" and use "AI enhanced algorithms to track residents' movements and scale up testing capabilities while massive new health-care facilities were being built." Tech companies creating applications to "track citizens' movements and determine whether individuals needed to be quarantined " assisted the Chinese authorities to "enforce quarantines and perform extensive contact tracing" (Schmidt, et.al., 2020). Chinese pandemic response has demonstrated how Chinese companies work closely with the government and how "relaxed" china is "with regards to [individual] privacy and use of AI technologies such as facial recognition on their citizens," while "in most other countries such as the US… privacy concerns prevent pervasive use of facial recognition technologies" (Walch, 2020).

Furthermore, Eric Schmidt points out that, "China's advantage in size, data collection, and strategic determination have allowed it to close the gap with America's AI industry. China's edge begins with its population of 1.4 billion, which affords an unparalleled pool of talent, the largest domestic market in the world, and a massive volume of data collected by companies and government in a political system that always places security before privacy" (Schmidt, et.al., 2020)

Alexandra Mousavizadeh, in her article "Which country will win the global AI race? And will Covid19 create new winners and loser" explains that few impacts may be observed because of the global pandemic. First of all, although governments that

collaborate who successfully lead the world out of the crisis may see a slowdown on AI activity that eventually recovers without major financial setbacks. Second, prior to the pandemic, joint US-China AI research papers were already on the rise and the pandemic automatically led to global collaborations between scientists, however, "Chinese academics now publish the most AI papers" annually. Finally, as the world comes out of the pandemic, the author predicts that many smaller tech companies may not survive and as American tech giants such as Google and Facebook rise from the pandemic, they will increasingly attract more AI specialists. Currently, "the share of global AI experts in the US [is] around 50%" while the rest of the world houses the other 50%, US share is expected to increase (Mousavizadeh, 2020).

In essence, "China is betting on AI because its political and business leaders have correctly identified it as a critical element of continued Chinese economic growth" and Chinese companies work in coordination with the government. While the "biggest potential AI challenges in the United States are actually at the level of policy and not technology or human capital" (Villasenor, 2018). The author points out that AI technology takes longer to develop than terms of the elected officials, therefore the incentives for officials to focus on AI policies are low, as the results will only be seen after their term ends.

China however has different governments and although they are focused on using AI technologies for surveillance, the government is "deeply involved in AI development and works with the country's largest technology companies to develop local and global strategies for machine learning research and development. China dedicates billions to AI development and encourages companies to contribute to a state data library, among many other internal initiatives. It recognizes that it's trailing the US – but the gap is closing" (Green, 2018).

5.3   AI and Global Power Relations

Artificial Intelligence has completely changed the concept of global power relations and rocked the balance of power. AI technology has "significant ramifications across cyberspace geospace… and the rise of artificial intelligence has undermined governance, management, economic growth models" and it has reshaped the entire human decision making process. Human Intelligence and machine

intelligence has intertwined, thus the power dynamics has been shifting away from a select few across the nations to algorithms, which can "bring about threats to foundations of global peace and security or this can bring about good changes towards achieving global peace" (Pandya, 2019). Historically, a nation's technological supremacy was determined by its technological infrastructure and its infrastructure in space, however this is being replaced by digital infrastructure, digital data and AI infrastructures. This has changed how the global players see the strength of a nation, specifically nations with some kind of AI Strategy and nations without.

Sarah Shoker has stated two ways that AI is reshaping global power. First being the "redistribution of the physical infrastructure needed to exert influence". Previously, power had been held by "liberal democratic countries", however AI innovation cannot be isolated to "a subset of global players." Second, AI redistributes the power of publicity, where a global audience was traditionally held by few is now available to masses for any purposes from social media like to "extremism or mobilization (Shoker, 2019).

"Artificial intelligence has become the most powerful resource that will determine the fate of nations in the times ahead" (Berggruen and Gardels, 2018). The advantages can range anywhere from the ability to produce drugs, medicine and supplies to being able to predict storms, improve agricultural yields and manage supply chain better.

Geopolitically, John Villasenor, a senior fellow at Brookings think tank observes, "and while the full future impact of AI is impossible to predict, one thing is clear: As we move towards the middle of the 21st century, a nation's geopolitical standing and its strength in AI will be increasingly intertwined. Its correlation that leaders across the globe will surely have in mind as they work to achieve their geopolitical aspirations" (Villasenor, 2018).

In his book *AI and Neo-Geopolitics*, author Kuni Miyake points out that AI "could be a game changer in international politics in the future." The author points out that historically, China has been in competition for accumulation of power in land and being both land and sea dominant was thought to be impossible with the exception for the United States, who from faraway could "challenge land power [due to]

navigational technology breakthrough… China now could beat U.S. hegemony in the Western Pacific with its AI/Big data technologies" (Miyake, 2019).

Furthermore, AI could change the regional geopolitical power balance in various ways. The ability of "Chinese communist party's capability to monitor, identify, locate and finally arrest whoever is deemed hostile by the regime. Free of the need to protect its 1.4 billion citizens' privacy, Beijing can easily reinforce its authoritarian social control system" (Miyake, 2019). Especially after the pandemic, Chinese designed AI surveillance and security systems could increase in demands for countries such as Japan, South Korea and Pakistan to name a few.

As states struggle to keep their population's behavior, beliefs and ideology aligned to either the eastern and western school of thought, technology and AI could present a challenge as the capability of Artificial Intelligence to influence the masses could be a reason for conflict in the future. The Arab Spring in 2010 and Black Lives Matters movement in 2020 are two examples of such potential for conflict due to AI influence and they will be discussed in further chapters. "Cyber Race" for powerful nations to gather data and "cyber colonization" for powerful countries using data to understand and potentially control less powerful country's populations and behavior has already changed the battlefield of influence between nations (Pauwels, 2018).

Although this chapter has focused mainly on China and US AI development, there are other nations who have also designed a type of AI strategies, mainly "Australia, Canada, China, Denmark, EU Commission, Finland, France, Germany India, Italy, Japan, Kenya, Malaysia, Mexico, New Zealand, Nordic-Baltic Region, Poland, Russia, Singapore, South Korea, Sweden, Taiwan, Tunisia, UAE, and United Kingdom" (Pandya, 2019). The author points out that although historically, alliances have been a backbone in any major wars, AI development has been independent of alliances, as "NATO nations and EU nations are all venturing in their own AI development path."

"For the past several decades, the global balance of power has been maintained with nuclear deterrence among the nuclear powers or the concept of mutually assured destruction. AI military applications may fundamentally change this balance of terror" (Miyake, 2019).

Furthermore, historically the main actors in global power relations have been individual intelligence. Groups of individuals that form cities and countries have traditionally fought the battle known as, the struggle for power. The Artificial Intelligence revolution brings another actor to the playing field, AI, whose intelligence and capabilities far exceeds that of human intelligence. It is only a matter of time before AI can manage an entire company, taking away the need for human intelligence in management, and drastically shift the structure of existing economies. According to Dr. Jayshree Pandya (2019), machines could become "independent of human influence and control, threatening the security model on which nations used to depend on."

Technological advancements hold the capability of leveling the global playing field. The spread of information, resources and opportunities, along with the ability to communicate and coordinate between politicians, scientists and individuals have empowered individuals to a greater degree than of any other technological revolutions. With little regulations, oversight and understanding of the US government in relations to AI, big tech companies such as Google, Facebook, and Amazon have become all powerful entities in a global scale. The AI system runs wild, guided by tracking behavior online, gathering data, capable of predicting and influencing human behavior, including political ideology and voting preferences. In China however, technology has been used for surveillance, censorship and harvesting citizen data. As discussed earlier, Chinese relaxed attitude towards surveillance and data collection has given the Chinese Communist Party a better mode to further grasp its authoritarian hold on power over its 1.4 billion citizens, while also exporting surveillance and influence to its periphery.

The next chapter focuses on various aspects of social, political and economic transformations that are occurring especially due to technological advancements and how those transformations may change the contemporary international system and alter the global power relations, creating new winners and losers in the process.

Chapter Six
The Role of Technology in the 21st Century Global Power Relations

This aim of this chapter is to analyze the changes that are being brought about in the global arena by examining some of the events and evolutions that have occurred within more recently. As the previous chapter discussed how various technologies have impacted different aspects of the world order as it existed and its impact on global power relations, this chapter will aim to show how the traditional means of global power structure is being reshuffled, creating new winners and losers in the process, while having the potential to completely alter many aspects of people's lives. Global transformations will be discussed through three different dimensions, Social transformations, Political transformations and Economic transformations.

6.1.   Social Transformations

Society as a whole has transformed in the recent decades and one of the drivers has been technology specifically, disruptive technologies. The growth of the internet and shifting of tedious work such as accounting, design and the visits to the post offices were quickly replaced with online mediums. Means of communications were constantly improved and new infrastructures were added. For individuals, corporations, governments and scientists, communication across the world became instantaneous. Migrants were able to communicate with their families across the borders. Scientists were able to coordinate with other universities. The opportunities created through technology were unlimited and inevitably, the society as a whole transformed as a result.

6.1.1   Technological Disruption

The 21st century can be argued to be a century of continuous technological disruption. Technological innovations, which leads to Disruptive technologies have played a leading role in changing the societies around the world. The entire status quo of the traditional working structure, traditional communications methods, service industries, political participation and activism have all transformed immensely due to disruptive technologies.

In 1997, Professor Clayton Christensen from the Harvard Business school presented the theory of disruptive innovation in his book, *The Innovator's Dilemma.*

"The theory explains the phenomenon by which an innovation transforms an existing market or sector by introducing simplicity, convenience, accessibility, and affordability where complication and high cost are the status quo. Initially, disruptive innovation is formed in a niche market that may appear unattractive or inconsequential to industry incumbents, but eventually the new product or idea completely redefines the industry" (Christensen, 2013).

The author points out that the dilemma is technological innovations that disrupt the market in such profound ways that it can bring great firms and businesses to its demise.

Technological disruption has been responsible for the downfall of many industries that were traditionally seen to be a giant in their niche. For example, Apple's disruption on the personal computer industry, which paved the market for cheaper personal computers rather than $20,000 computers. Other companies such as Kodak, Blockbuster, taxi service to name a few have been replaced by smartphones, online video streaming services and on call taxi services such as Uber.

Over the years, smartphones have been one of the biggest tools of societal disruptions caused by technology. Various applications, behind which are codes and data that can perform better than human beings have challenged many traditional businesses. As stated by Goodwin (2015), "Uber, the world's largest taxi company, owns no vehicles. Facebook, the world's most popular media owner, creates no contents. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the World's largest accommodation provider, owns no real estate. Something interesting is happening" (Goodwin, 2015).

Indeed, something interesting is happening. As mentioned, Uber has challenged the taxi industry, allowing for anyone with a car to earn extra money at their convenience, without becoming a full time driver. Airbnb has been able to challenge the hotel industry by allowing anyone with an extra or unused property, Facebook has challenged the traditional media whereas Alibaba has revolutionized online shopping and supply chain.

Uber, founded in 2009 has seen an outstanding growth, where "operates in hundreds of cities in 60 countries," has seen tremendous financial success as a 2019 "valuation of $75.5 billion…[becoming] worth almost as much as Ford and General Motors combined…also have valuation just above Goldman Sachs and be significantly larger than the electric-car maker Tesla" (Reddy, 2010).

Figure 5: How Uber's valuation stacks up
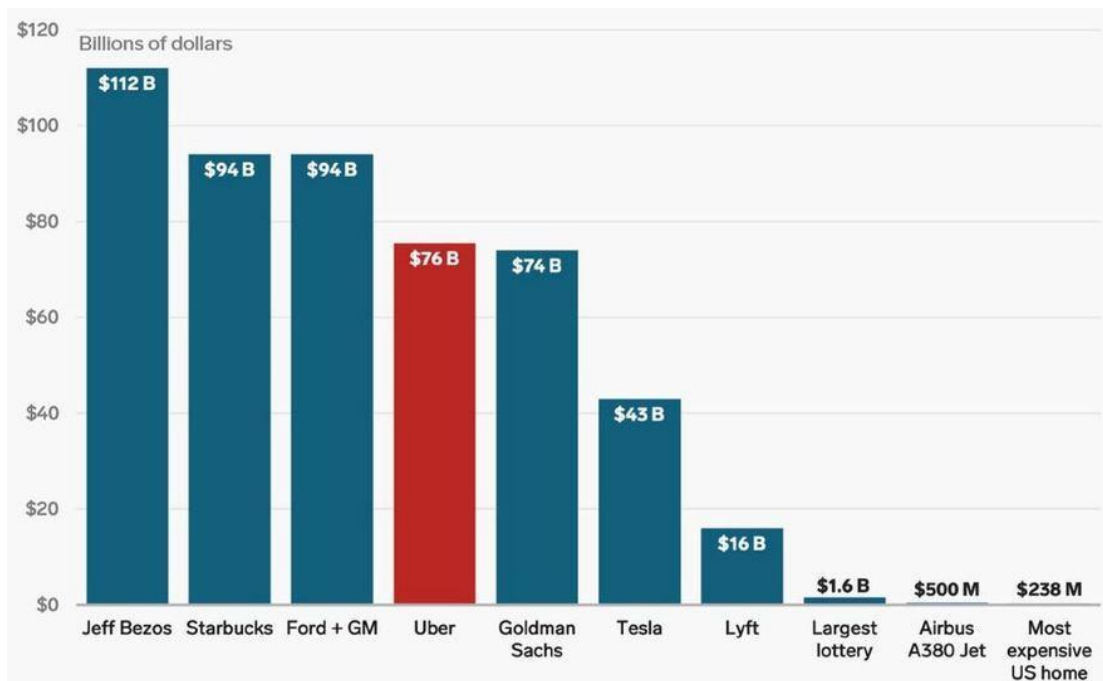
Source: Business Insider, 2020

Of course, the most dominant mechanism leading to this is the Internet. Goodman describes these new types of companies as "companies [that] are indescribably thin layers that sit on top of vast supply system" for example Airbnb and Uber having database of individuals with rental property and cars, "and interface with a huge number of people," whereas the applications created by these companies have linked the supply to customers in an innovative way, rather than the traditional way where taxi service or hotel industries are required to invest in vehicles and real estate, these applications allow for individuals with vehicles and real estate to challenge the traditional business structure (Goodwin, 2015).

Furthermore, as described above, artificial intelligence and automation have also played a role of technological disruption and its implications seems to be as great

as the first industrial revolution, where the traditional jobs done by horses and mules were done by steam powered engine, the revolution and transformation of modern era can be attributed to automation, where robots, led by artificial intelligence present a possibility of a social transformation in scope that possibility has never been seen in human history. In a quest to maximize shareholder profits, many companies have shifted to cheaper manufacturing hubs, leading for traditional factory jobs to become obsolete in developed countries such as the United States. According to Fortune Magazine, over 5 million factory jobs in the United States have become obsolete since 2000, while the production output has actually increased by 17.6% from 2006 to 2013 according to a report from Ball State University. Furthermore, "the study [reported] that trade accounted for 13% of the lost U.S. Factory jobs, but 88% of the jobs were taken by robots and other factors at home" (Lehmacher, 2016). The simple explanation is that "factories don't need as many workers as they used to, because robots increasingly do the work" (Lehmacher, 2016). That has created a negative sentiment, especially towards Chinese and Latin American workers, where traditional labor work has shifted, drawn by the lure of cheap labor and little government oversight on working conditions and environmental regulations.

US President Donald Trump, during the course of his presidency actively attacked China for taking away all of American manufacturing jobs and promised to bring it back, however this seems to be far from the reality that 88% of the US job lost between 2006 to 2013 was due to automation as mentioned above.

The promotion of STEM education in the beginning of the 21st century is being challenged by technologies where education has created a saturation in the labor market relating to STEM, in addition to technologies becoming more capable of doing the STEM related work, making human capital obsolete (Nguyen et.al.,2020). Examples can be drawn from AI writing codes, websites and applications being done through platform development, that require minimal coding and intricate surgeries such as heart transplant performed with more accuracy, requiring less surgeons by the use of AI and robots, risking the occupation and the future security expected by recent graduates.

Social Media

Technological disruption has also led to power becoming decentralized from large companies towards individuals through some disruptive innovation such as Uber. However, technologies have also centralized power of large manufacturing companies and industrialists in a sense that labor, the most complicated aspect of business, can be automated towards robots, where labor laws, work conditions and workers' grievances, as seen throughout the industrial revolutions are almost nonexistent in automated workplaces (Vergne, 2020).

However, in terms of social media's attempt to take the place of traditional news media has created the chaos, that is the cry of 'fake news,' where the truth and lie converges and the average consumers may not have other means, or desire, for fact checking, other than referring to a deeply engraved preconceived biases. Former President Barack Obama warns of the 'truth decay' happening within the society. Social media has removed the traditionally standing guards of the news media where research, fact checking, editing and approval was given utmost precedence. Even the traditional news outlets have become victim to this social media shift, where the competition now lies within creating maximum contents that can garner the most consumer attention, rather than creating timely quality contents backed by genuine investigative journalism and research.

The culture of content consumption through the rise in the use of social media led to unregulated content creation and circulations, where individuals behind a smartphone can engage in topics that reassures preconceived notions, while the algorithms behind the applications will continue feeding the user with similar contents. This can become a rather dangerous rabbit hole for users, leading to an increase in conspiracies, radicalization and diversion of the majority population from the truth and towards division. The Internet has allowed for nations to impact the stability of a nation or the integrity of the election by promoting contents that can lead to division. In the matter of statecraft and the principals of the Westphalian system, the Internet has provided a new battlefield for nations looking to influence or create chaos within the masses. Through case studies in the further sections, the influence and the role of the internet and social media in the masses will be examined.

6.1.2 Surveillance State

"What do you do when the most powerful institutions in society have become the least accountable to society? That's the question our generation exists to answer." This was a question posed by the former National Security Agency Contractor and 2013 whistleblower Edward Snowden asked during a Web Summit Technology Conference in Lisbon, Portugal in 2019 (Browne, 2019).

Snowden became a hero and a criminal in 2013 when he leaked classified documents with proof that the American cell phones and internet communications were under surveillance by the United States Government. This massive leak brought forward the practice of mass surveillance by the world government, triggering a debate between civil liberties and the privacy rights of individuals in the digital age (Hosenball et.al., 2013).

Furthermore, Snowden added, "we have legalized the abuse of the person through the personal," implying that the widespread data collection by government and corporations establish "a system that makes the population vulnerable for the benefit of the privileged." In addition, Snowden says, "The problem isn't data protection, the problem is data collection. Regulation and protection of data presumes that the collection of data in the first place was proper, that it is appropriate, that it doesn't represent a threat or a danger" (Browne, 2019).

In fact, the danger that Snowden has warned against exists through manifestations such as "Cambridge Analytica" which came into controversy after it helped Donald Trump win the 2016 election. As reported by Adrian Chen on the New Yorker:

In order to fulfill the promises that Cambridge Analytica made to its clients – it claimed to possess cutting-edge "psychographic profiles" that could judge voters' personalities better than their own friends could – the company had to harvest huge amounts of information. It did this in an ethically suspicious way, by contracting with Aleksandr Kogan, a psychologist at the University of Cambridge, who built an app that collected demographic data on tens of millions of Facebook users, largely without their knowledge. "This was a scam – and a fraud," Paul Grewal Facebook's deputy general counsel [said]. Kogan [responded] that he was assured by Cambridge

Analytica that the data collection was "perfectly legal and within the limits of the terms and services."

The 2016 election became the epitome of the kinds of effect that technologies can have on individual choices and displayed the transformation of societies in all aspects that are taking place due to innovative technologies. User data is being harvested by big corporations, those data are being analyzed by complicated artificial intelligence software and the information derived from it is being used to influence and even manipulate individual behaviors from altering or effecting their voting patterns to influencing individuals in subconscious level in matters of personal spending.

Medical Surveillance

However, the surveillance technology is not limited only to social media. During the 2020 Covid Pandemic, data collected from smart thermometers were used to derive patterns of increasing body temperature in order to predict whether Covid hot spots were emerging in certain locations. A smart thermometer created by the company Kinsa Inc immediately uploaded the temperature data, which allowed for scientists to "map out coronavirus hotspot since march [2020]" allowing for states to take actions and shutdown. The same report on Ophthalmology Times states that, "after states shut down in response to the pandemic, the levels of fever began declining with social distancing" (Charters, 2020). Most smart devices that we carry or wear already collect and store data regarding some aspect of our lives. The only question then becomes, who has access to the data and what can it be used for.

Mass Surveillance

The discourse of state surveillance can best be exemplified through George Orwell novel *1984*, a dystopian science fiction which along with Aldous Huxley's *Brave New World,* where these books warned about a dystopian society, dominated by technological surveillance, propaganda and the systematic reduction of freedom of speech that eventually "corrupts the ability to think clearly…[and] undermines both culture and progress" (Packer, 2019).

During the 21st century however, Edward Snowden, the former NSA agent who famously leaked hundreds of classified documents regarding the US government surveillance of its citizens and other global entities, along with Harvard professor Shoshana Zuboff's book *Surveillance Capitalism* are of primary importance in regards to the growing mass surveillance by majority of the G20 countries. Benjamin Pring reflects on the current state of government surveillance as follows:

Orwell's warning was profound and stark, yet here we are, 71 years later, and as Zuboff and Snowden make painfully clear, we have failed to heed it. The governments of many, if not most, G20 countries record our every digital move. Large corporations' access (without our knowledge) vast troves of information about our digital lives too. The device around us listens to us talk. Our thoughts and actions are predicted and gamed and monetized in ways that would amaze, but nor surprise Orwell. The public square is full of disinformation; the public discourse is full of hate; we are at permanent war (though we know not really who with); trust in public officials, and in each other, has never been lower; and the 'unmanaged' space in which we have to simply be, gets smaller and smaller as each piece of technology that we use is drawn tighter and tighter into a "mesh" around our very existence (Ping, 2019)

Referring back to Orwell and Huxley, Neil Postman, in his book, *Amusing Ourselves to Death: Public Discourse in the Age of Show Business,* writes, "What Orwell feared were those who would ban books. What Huxley feared was that there would be no reason to ban books, for there would be no one who wanted to read one… Orwell feared that the truth would be concealed from us. Huxley feared the truth would be drowned in a sea of irrelevance. Orwell feared we would become captive culture. Huxley feared we would become a trivial culture… In 1984 people were controlled by inflicting pain. In Brave New World, they are controlled by inflicting pleasure. In short, Orwell feared that what we fear will ruin us. Huxley feared that what we desire will ruin us" (Postman, 2006). The citizens in the west seem to be in a similar state now, where acceptance of greater intrusion into individual freedom is increasing as technology inflicts more pleasure catered to individuals through personalized user experience, courtesy of big data and Artificial Intelligence.

The most notable example of a surveillance state, a coordinated surveillance effort between government and technology enterprises can be clearly observed in the case of China. China is home to the world's biggest camera surveillance system and according to a report from ChinaFile, between 2010 to 2019, "government procurement orders for equipment like facial recognition cameras and maintenance service related to surveillance increased nearly 1,900%" (Batke, et.al., 2020).

The facial recognition cameras and surveillance system often conduct "innocuous tasks… monitoring visitors at tourist's sites and conducting security checks at airports, and for more invasive purpose like predictive policing and helping carry out repressive policies" for example using the system "to collect facial recognition, smartphone, and other tracking data to monitor and detain members of the region's minority Uighur population" (McGregor, 2020).

According to a review of a study, posted by CNBC by Elly Cosgrove, "one billion surveillance cameras will be watching the world in 2021 and more than half of those cameras will be in China. Cosgrove points out that China is not only the home to world's largest state surveillance network, but also the largest manufacturer of said technology, therefore, China has pushed "to export surveillance camera technology, including to liberal democracies [raising] concerns over the risk of data being funneled back to Beijing…" The author further points out that America has the second largest surveillance system in the world, 18% while Asia, excluding China, accounts for 15% of the total global surveillance. (Cosgrove, 2019). However, according to the same report, in terms of population, the author states that in 2018, China had installed one camera for every 4.1 people while in 2018 in the US, one camera was installed for every 4.6 people.

Benjamin Pring outlines the pros and cons of a surveillance as follows:

Table 4: Pros and Cons of a surveillance

	Pros	Cons
Surveillance	● Keeps good guys' safe ● Keeps bad guys out ● Unobtrusive ● Acts as a deterrent ● Encourages good behavior ● Captures "pre crime" data ● Acts as reassurance	● Reduces personal privacy ● Reduces personal freedom ● Freezes free speech ● Creates a "Big Brother" society ● Creates a "nanny state" ● Brings into disrepute the role of government ● Blurs moral and legal boundaries ● Undermines the rule of law ● Increases societal "paranoia" ● Feeds the lunatic fringe ● Everlasting/uninventable infrastructure

Source: Pring, 2019

Surveillance on a massive scale can be very consequential. It reduces individual privacy and personal freedom. Surveillance can be used to oppress a certain group or views that doesn't support the ideology of the states. The act of civil disobedience, freedom of movements, can all be hampered while the trust of citizens towards its government will also be lost.

According to Nathan Munn, the common argument that "only people that have something to hide" needs to worry about [surveillance] is a "dangerous position to take for anyone who cares about democratic values, such as free expression, freedom of political affiliation and the right to privacy." Furthermore, the author states that "evidence shows that mass surveillance erodes intellectual freedom and damages the social fabric of affected societies." In addition, he states that, "even the possibility of being under surveillance changes the way people think and act…[avoiding] writing or talking about sensitive or controversial subjects – discussions that are necessary for the function of a free society." All of which can lead to 'self-censorship' and achieve only one thing, "mistrust between individual and the state" (Munn, 2016).

In 2014, China unveiled a social credit system, with the target of 2020 to be fully operational. Nicole Kobie describes the credit system to be like "Black Mirror, Big Brother and every other dystopian future sci-fi writer can think up." However, the author explains, "the reality is more complicated – and in some ways, worse" (Kobie, 2019).

The system is designed to monitor and rank the Chinese growing population based on their social credit, which, based on a person's behavior can increase or decrease. Although the "exact methodology is a secret… infractions include bad driving, smoking in non-smoking zones, buying too many video games and posting fake news online" (Ma, 2018). The social credit system goes along with Chinese increasing state surveillance and citizen's behavior determine their scores, whereas the punishment for having low social credit can hinder many aspects of an individual life. For example, Ma points out that some of the punishment could include a travel restriction through train and airplane ban, slowed internet speeds, inability to attend the best schools for self or children, not having access to good employment, losing access to hotels, being named publicly as a "bad citizen", and even confiscation of individual's pet dog due to the owners losing points due to disturbance or walking without a leash. (Ma, 2018).

Furthermore, smart cities, which Vincent Mosco, says are "made possible by the integration of three technological systems… 'the next internet' – the internet of things, cloud computing and big data analytics" have also become a center for mass surveillance and erosion of personal privacy. Although built in coordination with the government to provide "safer streets, cleaner air, more efficient transportation, instant communication for all, and algorithms that take governance out of the hands of flawed human beings," smart cities have fundamentally transformed the ways that traditional societies have existed and functioned. Furthermore, smart businesses incorporating smart city technologies are also growing, where one study stated that "the smart city market will be worth $2.75 trillion by 2023" and has been forecasted that by 2020 there would be around 600 smart cities around the world. The author states that although a smart city can have technological integration, if the public is committed to privacy rights, "a smart city does not have to become a surveillance city" (Mosco, 2019).

6.1.3   Surveillance Capitalism

During 1988, Shoshana Zuboff, one of the first female professor at Harvard, published a book *The Age of the Smart Machine: The future of Work and Power,* which provided an insight on "how digital technology was changing the work for both managers and workers" and later on, she published two essays, on 2015 and 2016, where "she had come up with a new lens through which to view what Google, Facebook et al were doing – nothing less than spawning a new variant of capitalism" (Naughton, 2019).

The practice of surveillance capitalism was "first consolidated at Google" where they "used data extraction procedures and packaged users' data to create a new market for this commodity" (Holloway, 2019).

Zuboff provided a more comprehensive look towards the idea of "new variant of capitalism" in her 2019 book *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power.* "Surveillance capitalism," Zuboff writes, "unilaterally claims human experience as free raw material for translation into behavioral data. Although some of these data are applied to service improvement, the rest are declared as a proprietary behavioral surplus, fed into advanced manufacturing processes known as 'machine intelligence', and fabricated into prediction products that anticipate what you will do now, soon, and later. Finally, these prediction products are traded in a new kind of marketplace that I call behavioral futures markets. Surveillance capitalists have grown immensely wealthy from these trading operations, for many companies are willing to lay bets on our future behavior."

In short, surveillance capitalism refers to the collection of user data by big digital companies such as Facebook and Google of user behaviors, interests, likes and activities of the users, through which AI and algorithms are able to predict the future behaviors of the users. Therefore, in a capitalistic society, user data becomes a new currency, that can be bought as user attention and, in essence, guide aspects of advertisements and political messages to subconsciously lead the user into making certain purchases or decisions on the internet. Naughton describes that surveillance capitalism "works by providing free services that billions of people cheerfully use,

enabling the providers of those services to monitor the behavior of those users in astonishing detail – often without their explicit consent" (Naughton, 2019).

In an interview with The Harvard Gazette (Laidler, 2019), Zuboff was referred to in her book: You warn that our very humanity and our ability to function as a democracy is in some way at risk.

Zuboff responded:

"The competitive dynamics of surveillance capitalism have created some really powerful economic imperatives that are driving these firms to produce better and better behavioral-prediction products. Ultimately, they've discovered that this requires not only amassing huge volumes of data, but actually intervening in our behavior. The shift is from monitoring to what the data scientists call "actuating." Surveillance capitalists now develop "economies of action," as they learn to tune, herd, and condition our behavior with subtle and subliminal cues, rewards, and punishments that shunt us towards their most profitable outcomes" (Laidler, 2019).

Therefore, the concept of surveillance capitalism implies that individual power towards their own behavior, individual free will can and have been manipulated by the analysis of digital footprints of individuals, which can then be used to not only condition behavior, but also manipulate individuals towards making purchases. The advertisements and tailoring of contents that users see in their YouTube, Instagram and Facebook feed are examples of this concept at work. Evidence of the fact that companies have already begun data-mining in order to figure out customer's purchasing patterns already exists. As early as 2012, Target, a retail giant came into controversy for sending coupons for baby items to a teenager, based on analysis that the customer was pregnant, with a boy. Andrew Pole, a statistician for used data that target collected, of customer purchase history and found buying patterns of certain pregnancy items, 25 in particular, which "allowed him to assign each shopper a 'pregnancy prediction' score…[which had the ability] to estimate her due date to within a small window, so Target could send coupons timed to very specific stages of her pregnancy." According to Pole, an example shopper who buys, for example "cocoa-butter lotion, a purse large enough to double as a diaper bag, zinc and

magnesium supplements and a bright blue rug." From there, the analysis could predict the details of the individual's pregnancy, "say, an 87 percent chance that she's pregnant and that her delivery date is sometime in late August" (Hill, 2012). Therefore, Target came into controversy with a father when his teenage daughter began receiving coupons for products for a baby boy. However, it is important to note that the teenager was pregnant, and the father was unaware (Hill, 2012).

Sources of data for these companies have expanded since the 2012 Target controversy. Smart home devices, drones, automated appliances, smart watches and fitness trackers are all becoming everyday appliances. Donell Holloway, a senior research fellow at Edith Cowan University points out, "our activities and biometric data can be stored and used to interpret our health and fitness status. This same data is of great value to health insurance providers. In the US, some insurance providers require a data feed from the policyholder's device in order to qualify for insurance cover" (Holloway, 2019).

For some consumers, however, the personalized services and experiences that user receive through these tech giants accumulating user data is convenient. Users do not have to shift through useless amounts of information and advertisements that are of no interest to them. Rather, based on the user's personality, digital footprint, buying patterns, political preferences, movie, music art preferences, the experience on the internet is customized to tailor to the individuals. The Pros and Cons of surveillance capitalism, as outlined by Pring is presented below.

Table 5: Pros and Cons of surveillance capitalism

	Pros	Cons
Surveillance Capitalism	● Convenience (via cookies etc.) ● Personalized services and experiences ● Lower Prices (of service and experiences)	● Reduces personal privacy ● Increases cyber insecurity (hacking etc.) ● Value of personal data accrues to third parties ● Narrow choices through creation of algorithmic "echo chamers" ● Increases supply side manipulation ● Surge pricing increases ● Information asymmetry (Supply side high, demand side low) ● "Myth of convenience" (e.g. password management) ● Everlasting/uninventable infrastructure

Source: Pring, 2019

However, as more people turn to online shopping and the growth of online businesses and companies shifting from brick and mortar structure to online structure, data becomes even more valuable, as mentioned above. Governments are lagging far behind in the digital age, thus raising the question of whether government will retain the traditional sense of power, or will technology giants such as Google and Facebook become more powerful. If data becomes the new currency, the tech giants who have achieved such advancements and accumulated large amount of data could become the dominant force in politics, especially when these tech giants not only poses data and information of citizens, but they also possess the ability to know and manipulate individual choices, including voting and purchasing patterns, and ultimately, dictate which election candidate would win and which business would prosper.

Tech industries argue that they do not need government intervention and they "were capable of regulating themselves" however, there is increasing concerns from civil libertarians, that the capabilities of these tech giants present "an unprecedented

threat to individual freedom" and an uncertainty of whether human beings role in electronic age is "just going to be chattel for commerce" (Zuboff, 2020). The rise of surveillance capitalism over the last two decades, the author says, went "largely unchallenged." "It rooted and flourished in the new space of the internet…'the world's largest ungoverned space.' But power fills a void, and those wild spaces are no longer ungoverned. Instead, they are owned and operated by private surveillance capital and governed by its iron laws" (Zuboff, 2020).

Furthermore, a common concern that exists regarding surveillance is the fear that market surveillance, along with medical surveillance might lead to a totalitarian, Orwellian society. Some states, as mentioned previously, have already been moving in such direction rather cautiously. After the 2020 CoronaVirus pandemic, states have moved towards surveillance regimes much aggressively, citing public health concerns.

6.2.   Political Transformations

The first two decades of the 21st century has seen major political transformations across the world. From Arab Springs that rocked the first change of decade, to the black lives matters movement and the covid-19 pandemic of 2020, the area and the methods of political practices are altering. Of course, social media being the main culprit, there has been increased political activism, especially from the newer generations who are facing a potential for a living standard that are lower than the generations before them. Increasing debt for younger generations, lack of job security and political disagreement has influenced the changing nature of both domestic and global political arenas.

Global political landscape has changed since the election of Donald Trump. The US has lost its image as a leader in the world stage and American trusts towards politicians are declining. In fact, a debate between whether the quality of politicians have decreased has surfaced to argue that politicians in the modern age are only engaging in digital marketing and showmanship of themselves, rather than engaging actual statesmanship.

Citizen trusts is shifting from politicians to scientists and business leaders. As politicians increasingly become showmen, engaging in digital marketing of the self

and are guided by reelection potentials, the cooperation between scientists in global challenge has increased. Increasing collaboration between university professors have brought about inclusion in academics. Transparency and interactions of business leaders on social media has increased trusts towards businessmen rather than the shadowy politicians. Even the election of Donald Trump, who was not a seasoned politician but rather a businessman, showed that trust is shifting away from the establishments. The resentment is due to the fact that citizens are increasingly becoming aware that officials are more responsible to the donors than their voters, thus the birth of a concept that a rich politician will not have to take donations or be obligated to their donors when in office, hence working for the interest of their voters. However, this belief that existed during the 2016 presidential campaign no longer holds true, rather the handling of the coronavirus pandemic and existing various global crises is shifting the trusts away from the establishments.

The idea of state sovereignty and the Westphalian system of government may also be an aging political philosophy in the 21st century. An establishment of a global governmental body will require states to transfer away a fraction of their sovereignty and authority to international or regional organizations. Since the impact of technology can extend geographical borders, the regulations would require cooperation across state lines. The power that a state holds over its citizens will have to be reconfigured to account for the increasing cross cultural and cross border interactions through technology.

6.2.1 Nationalism and Globalism

Globalization is in the process of transforming the 21st century. The rise of China has created opportunities for many nations around the world, while the western power struggles to contain China's growth. As manufacturing and traditional white-collar jobs move to the east and the west sees increasing unemployment while simultaneously seeing the increasing living standards of migrants/ Geopolitics have created a fault line between globalists and nationalists. On the image of Globalists as elitists, and corporate capitalists while nationalists as racists or fascists may only be on the surface. The rise of white supremacy, motivated by Donald Trump, the debate surrounding Brexit, global migrant crisis and the tendency to revert back to nationalists' sentiments after any events involving the minority has only further

increased the nationalist sentiments. Further, right winged politicians have been able to reach the voting populations who felt to have been left behind by globalizations. Donald Trump, touted of being a nationalist and representing the minority, whom in other words have demonstrated to be white nationalists. However, evidence suggests otherwise that Donald Trump is a nationalist, having sided with Russia during FBI investigations and having millions of dollars in business interests across the world. Furthermore, other nationalists' leaders have also emerged, Jair Bolsonaro of Brazil and Narendra Modi of India who have managed to garner support for nationalistic sentiments and ideology. However, it is important to note that both Brazil and India have benefited greatly from globalization, becoming one of the fastest growing countries in the world with a huge influence within the global community. However, even the rise in nationalist sentiments within those countries represent the masses who have been left behind by globalizations along with politicians that can stand to benefit from leading this movement, when often, the politicians may also be the beneficiary of globalization.

Globalization has, however, been beneficial for many western and eastern Multinational Corporations, individual businessmen and shareholders, as financial growth seen by those that could benefit from globalization were exponential. However, the narrative of politics is seldom in line with the reality. Globalists and elitists often benefit from the system that they criticize, in the process increasing wealth, increasing political influence and alliance, all while appealing to a certain demographic base that has been left behind. Globalist elites, such as Donald Trump, have succeeded in hijacking nationalist's sentiments through the underlying white nationalism rhetoric that has promoted the growth of their followers.

Increasing nationalism sentiments is also a result of increasing wealth gap and poverty. Globalization has created a system of wealth distribution, where the wealth trickles up to the wealthy who are able to lower their costs of productions, often opting for machines and automation rather than human labor. As pointed by Yuval Noah Harrari to the residence of American states that have seen many manufacturing jobs move overseas, the 21st century mass unemployment will be due to robots taking over human jobs, rather than the belief of nationalists that it is the Chinese that are taking over western jobs (Harrari, 2018). However, the promise of politicians that

promote the nationalist's ideology to bring back jobs may only be to appeal to their voter demographics. Technology has shifted the means of work and production, to where even if the car manufacturer that left Detroit were to return, they would not be able to employ as many as before, mainly due to advancements in technology and increased automation in the area of manufacturing.

The complex network of connections that have been created to include trade, transportations, cooperation and partnerships are at the heart of Globalization. The world is more connected now than ever before and the lines that separate countries are becoming thinner. As cross border challenges increase, cooperation becomes even more crucial, even if it is to promote nationalism. Due to the threats of climate change, cyber warfare, non-state actors, migration crisis to name a few, global cooperation is of most importance in the future. A recent example could be seen as American president's reaction to the outbreak of Coronavirus during the beginning of the 20th century. Although the first reaction was to close down the border, by imposing a Chinese ban and to revert into isolationism, it did not suffice in the long run. The United States depended on medical supplies to contain the virus from overseas and a global pandemic required global cooperation. US failure during the pandemic was not just at home, but it was also a failure of US global leadership. The beginning of the pandemic required an effective multilateral cooperation, instead leaders, who were elected through the rhetoric of nationalism, could not afford to step out of the nationalist's walls that they themselves had created.

21st century nationalism demands global cooperation. It is hardly feasible for a nation to become self-sustaining, isolated from the economics of the world while also creating prosperity and growth for those who hold nationalism as religion. However, the more underlying cause for the promotion of nationalism may be inequality and the growing income gap between the few elitists and those who struggle to survive on a monthly basis. The pandemic has brought to surface the extent of the existing inequality when massive unemployment and lockdowns plagued the world. Income security, ensuring human dignity and prosperity could build a more tolerating society. Disparity in Wealth distribution can be seen as one of the culprits of growth of nationalism around the world. Better distribution of wealth, Universal Basic Income systems and social programs that can include benefits, otherwise stripped by rapid

globalization, would create a trend towards combating inequality and providing safety nets for those that feel to have been left behind. Income inequality and Universal Basic Income will be discussed in later sections.

Political landscape is changing and clashes between nationalists and globalists represent a deeper problem in society, regarding growing inequality and uncertainty, leading to those who are left behind to divert back within the security of a national border.

6.2.2   Technology and political transformation

AOC and progressive democrats are using social media in the most effective ways. Popularity goes to those that can use social media to their advantage to engage with their constituency and voters. Real time reading on citizen approval and dissatisfaction due to social network platforms. The ability to hold discussions and garner support towards certain agenda. Progressives' ability to use technology is probably what is the most threatening to moderates and the conservatives.

Similarly, before the ban on Donald Trump's twitter account, he was able to engage with likeminded followers who believed any news that he was able to spread, regardless of evidence. Trump was able to use social media to divide the nation, bring into question the integrity of the American electoral system and almost incite a coup in the nation's capital on January 6th, 2021.

Furthermore, the value of expertise has also increased, especially during and after the pandemic. The uncertainty that the pandemic brought led many to seek the advice of scientists rather than politicians. Experts are becoming celebrities in their fields. People such as Elon Musk, Neil DeGrasse Tyson, Deepak Chopra, Bill Gates, Dr. Anthony Faucci saw a growth in their following and increased trust due to their expertise. The resentment towards the establishment has created a new shift. In countries such as Singapore, Hong Kong, South Korea, and China the value of expertise is clearly evident. A shift from democracy to technocracy may be on the horizon, as the alternative and promising vision of growth and development valuing technocratic approach may become more popular than the liberal democratic approach.

Case Study: Black Lives Matter 2020

The impact that social media such as twitter has had on movements such as Black Lives Matter is immense. As of June 2020, the most recent brutal killing of George Floyd in Minneapolis, has sparked a new outrage within the United States. The brutal execution by a white police officer, while three other white officers watched was videotaped and published, causing an outrage within the communities of all color. This movement was sped by social medias, especially twitter where #blacklivesmatter and #icantbreathe immediately began to trend to support for the inhumane killing of George Floyd and within a week, millions of protestors of all colors began to come out to the streets with protests extending to over 180 American cities and countless other cities around the world (Maqbool, 2020).

Colin Kaepernick and Drew Brees

In 2016, the Quarterback for American football team, San Francisco 49ers and civil rights activist Colin Kaepernick took a knee during the American Anthem at the beginning of the football game, causing much controversy. His reason for taking the knee was to protest against the continuous harassments and killings of many African Americans caused by the oppressive system and corrupt police department. During his 2016 protests, Kaepernick faced many backlashes by the media, and even his teammates, both black and white. President Trump, in 2017 called any kneeling player a "son of a b*tch" (Streeter, 2020).

During an interview with ESPN in 2016, Drew Brees, the Quarterback for New Orleans Saints, stated, "I wholeheartedly disagree [with the kneeling] … There's plenty of other ways that you can [protest] in a peaceful manner that doesn't involve being disrespectful to the American flag."

This statement didn't cause much backlash. Even lots of African American players shared Drew Brees view, stating that many of their family members were military veterans as well. The game of football in America can only be compared with religion. A religion, where players are most often told to stay out of politics and "just play".

A report in 2017 found that at least nine out of 28 NFL owners had donated to "various committees related to Trump's inauguration and election efforts" (Cancian, 2020).

Fast forward to 2020, in the midst of Black Lives Matter protests, Drew Brees shared a similar sentiment as 2016, stating, "I will never agree with anybody disrespecting the flag of the United States of America or our country" (Cwik, 2020)

This time, the public reaction to the same sentiment that he stated only four years ago were completely overturned and Brees faced backlashes immediately by his teammates, opponents, other athletes, entertainers and even plenty of fans. Drew Brees was forced to apologize within hours of making that statement. He posted on his social media, "In an attempt to talk about respect, unity, and solidarity centered around the American flag and the national anthem, I made comments that were insensitive and completely missed the mark on the issue we are facing right now as a country. They lacked awareness and any type of compassion or empathy. Instead, those words have become divisive and hurtful and have misled people into believing that somehow I am an enemy."

Social injustice and police brutality in America is not a new topic and history shows that too well, too often. However, the social transformation observed here in the span of only four years over the same comments centering around kneeling during American national anthem is a humongous social change. The fight for social change generally takes decades and the actual changes have only been seen through new generations, rather than the old changing their beliefs.

As stated by the same author, "A 1966 Gallup poll found 63 percent of Americans had a negative opinion of Dr. Martin Luther King. By 1983, he joined George Washington as the only person to have a federal holiday celebrating his birthday. In 2011, Gallup found 94 percent of Americans viewed King positively" (Wetzel, 2020).

The same killing, if it had taken place in the last century, or even the previous decade would may not have been as widely spread. There would have been no way to organize protests, no platform where citizens could have expressed their anger and have it heard by the masses. The decision would have been up to the mainstream

media to spread the news and to tailor it as they fit to their political agenda. The social influencers would have expressed their views in accordance to their personal belief, shaped by their upbringing, rather than the reality of the situation or empathy over a fellow human being. The public outcry would have been different, as evident by the reactions of countless other examples of police brutality and the increase in African American incarceration rate post-civil rights movement of 1960s and 70s. However, this is only one example of the power of social media and the social transformation that this disruptive technology is promising. Movements such as these have taken away the power of mainstream media and disbursed it to anyone across the world with access to a smart phone and the internet. People have been able to watch the footage of the events and have widespread discussion regarding the matter and conclude based on evidence. The power that the police have generally held amongst the citizens that they have sworn to protect have shifted. Access to smartphones and social media has forced the police and the establishments to become more accountable to the citizens that they serve. This social disruption that technology is causing is only a phenomenon of the past decade and every day, increasing platforms that save and share unjust events have increased public access to evidence that demand social change on a large scale. Technological disruption has impacted the established status quo and the power relations that have guided the American society, however, the social transformation being demanded is yet to manifest within the social and political structure.

6.3. Economic Transformations

As the rich have gotten richer, the poor have gotten poorer. The Industrial revolution has a history of increasing unemployment, as many of the traditional jobs become obsolete. However, the increase in population in the recent decades, rapid industrialization and development and automation has created a new system of inequality. The demand for labor workers is decreasing as machines are cheaper and more effective, while even some careers that require years of education and training are also becoming replaced by smart technologies. As machines increasingly perform more tasks better than human beings, jobs that require a human presence will decrease. For individuals who are replaced by machines during the middle of their

career, it could become difficult to retrain for a new job. Therefore, ideas such as taxation on robotic production and universal basic income have gained popularity.

6.3.1 Automation

IBM, defines automation as "the application of technology, programs, robotics or processes to achieve outcomes with minimal human input…. this can include everything from business-specific types such as process automation (BPA), IT automation, marketing automation and industrial automation. It also covers personal applications such as home automation" (IBM, 2020).

Although both automation and artificial intelligence have inevitably been envisioned as a new era of inexpensive quality goods and services and unimaginable efficiency, instantly, "minimal human input" should raise an alarm. Automation and job loss has become synonymous in its discussions.

Andrew Yang, former US democratic presidential candidate's website offered, "Advances in automation and Artificial Intelligence (AI) hold the potential to bring about new levels of prosperity humans have never seen. They also hold the potential to disrupt our economies, ruin lives throughout several generations, and, if experts such as Stephen Hawking and Elon Musk are to be believed, destroy humanity" (Kelly, 2020).

"Over 2% of Americans – 7 million people – lost their jobs in mass layoffs between 2004-2009… As production met automation and moved overseas, the broader citizenry enjoyed cheaper products while large sectors of the workforce were left with a loss of livelihood" (Sterling, 2019).

For centuries, machines have replaced various jobs of human beings. "The spinning jenny replaced weavers, buttons displaced elevator operators, and the Internet drove travel agencies out of business" (Semuels, 2020). However, the replacement of human beings by robots has dramatically increased this century. During the Covid-19 global pandemic, "The US shed around 40 million jobs during the peak of the pandemic… while some have come back, some will never return…economist [estimating] that 42% of the jobs lost are gone forever" (Semuels, 2020).

"By the mid-2030s one-third of all jobs could face the risk of being automated… the sector of the workforce most likely to be disrupted will be those people who have low educational attainment" (Fleming, 2020).

"It is believed that over 50 million Chinese workers may require retraining, as a result of AI-related deployment. The U.S. will be required to retool 11.5 million people in America with skills needed to survive in the workforce" (Kelly, 2020).

As one of the benefits of automation is the savings that businesses make from avoiding payroll taxes, "states and governments have grave concerns over tax collections, as people are phased out and replaced by robots" (Kelly, 2020).

Bill Gates, founder of Microsoft and philanthropists have called for the taxation on robots because of the disruption created by loss of revenues that states will have. "Right now, the human worker who does, say, $50,000 worth of work in a factory, that income is taxed and you get income tax, social security tax, all those things. If a robot comes in to do the same thing, you'd think that we'd tax the robot at a similar level" (Smith, 2017).

Automation has affected workers of both democratic and republican districts in America. According to Amy Sterling of Forbes, "researchers found that 'in presidential elections, countries with greater trade exposure shifted towards the Republican candidate.' The politician who promise to Make America Great Again speaks the right language, offering nationalistic sentiment and relief for those caught in the technological crossfire of the inevitable future" (Sterling, 2019).

6.3.2 New Inequality

The greatest wealth transfer in history is happening right now and the winners and losers created by this wealth transfer has created a new inequality. With fifty years of tax cuts for the riches, especially in the United States, the trickle-down economic theory has failed in practice and the rich are getting richer, while the poor struggle more every day. The useful class vs. the useless class, as put by historian Yuval Noah Harari, represent the divide between people who are part of the educated knowledge workforce and people who simply perform redundant jobs that face the risk of replacement by AI such as self-driving delivery trucks (Harari, 2017). In this instance, the truck drivers will face mass employment, whereas the tiny elites who own the AI technology will face a concentration of wealth accumulation.

According to a United Nations report (2020), "inequality is growing for more than 70 percent of the global population…" whereas the richest one percent has become the winners of the changing global economy, having their share of the wealth increase between 1990 to 2015, "the bottom 40 percent earned less than a quarter of income in all countries surveyed." The increase in inequality is not only apparent in most developed countries. Even in China, the world's casted economy and some other middle-income nations, inequality has increased. Although globalization and increased international trade has increased the size of the pie for most nations, the distribution of the share has become disproportionate, with 1 percent taking home the biggest slices. The future of economic and financial distributions will not change course, especially with increased use of automation and AI technologies, capitalists will continue to take a greater share than before.

Two Oxford researchers, Carl Benedikt Frey and Osborne, in 2013, published "The Future of Employment," where they examined the likelihood of computers taking over various jobs within the next 20 years. According to their estimates, 47 percent of US jobs were seen as high risk. Below are some of the examples:

Table 6: Likelihood of Computer Taking over Jobs

Jobs	Possibility for automation
Telemarketers and Insurance underwriters	99%
Cashiers	97%
Chefs	96%
Waiters	94%
Paralegals	94%
Tour Guides	91%
Veterinary Assistant	86%
Security Guards	84%
Bartenders	77%
Archivists	76%
Carpenters	72%
Lifeguards	67%
Archaeologists	0.7%

Source: Frey and Osborne. (2013). *The Future of Employment*.

The likelihood of being able to reinvent and retrain previous waiters, chefs or tour guides at other professions are unlikely and may not be possible for everyone. As industrial revolutions of the past created mass unemployment, the generations and the masses were able to recover by adapting to new technologies or reinventing their skills, however, the fourth industrial revolution may lead to such a revolution where the need for human labor forces may become less than the amount of labor available in the market, leading to mass unemployment of people whose skills and education will have thus become obsolete in the labor market.

Further, the impact of technological and AI revolution has led to creation of a digital economy in the past few decades, as opposed to traditional material economy. Block chains, digital currencies such as bitcoins, digitalization of the currencies have all created a growth in the digital economy, reserved only for those who have the knowledge and skills to access, invest and participate in the new digital economy. Millionaires, created by social media such as TikTok, YouTube and Instagram have completely changed the socio-economic landscape. The fact that creating contents online can earn a living has provided new opportunities, for those with various complementary skills and knowledge.

Within a matter of a few years, the aspiration of middle class lifestyle, through the path of traditional university education into financial security through a long-term job with a company seems to have eroded. With many of the non-knowledge workers, most likely facing replacement by machines, the new division in society may as well be the useful class and the useless class, whereas the competition and the evolution within the digital economy and material economy may create a social polarization between highly paid people and people surviving on minimum wage.

6.3.3 Universal Basic Income

The concept of Universal Basic Income, or UBI, the idea where citizens were guaranteed an income regardless of work or need has been around centuries. From 16th century philosopher Thomas More, in his work "Utopia" to Thomas Paine during the American revolution have proposed a plan which would provide income to every person, whether rich or poor. Recently, due to automation rapidly replacing workers, UBI has gained momentum, especially after Democratic Presidential hopeful, Andrew

Yang, made UBI a key pillar of his 2020 presidential campaign when he proposed to give every American adult $1,000 a month as "Freedom Dividend" (Peters, 2020). The supporters of UBI believe that such assistance would not only help millions of people rise out of poverty but also to ensure that millions more avoid poverty due to ongoing economic transformations. The idea would not be to provide enough income to live on, but rather act as additional income for those that may be struggling. "The freedom dividend," as noted by Yang's campaign website, "would provide money to cover the basics for Americans while enabling us to look for a better job, start our own business, go back to school, take care of our loved ones or work towards our next opportunity." While the global economic and labor landscape is changing and almost 70% of the global labor forces face replacement by machines in the near future, the momentum that Universal Basic Income has gained and its necessity has become all the more relevant and necessary. While machines take over human jobs, UBI can provide flexibility and financial cushion for the general population in order to find the next opportunity.

Economist Milton Friedman (2020), in his 1962 book "Capitalism and Freedom," argued for a "negative income tax" basically a UBI, stating, "we might all of us be willing to contribute to the relief of poverty, provided everyone else did."

Recently, Scott Santens, a writer, has been one of the growing full time advocates of Unconditional Basic Income. Santen points out that UBI has already existed in Alaska since 1982 and a version of UBI has already been tested in the US in the 1970s. More recently, places such as Namibia, India, Brazil, Finland, Netherlands and Canada have done UBI experiments and received positive results (Santens, 2017). Most people think of UBI as giving people money to do nothing, leading to laziness and lack of productivity from most of the society due to the removed motivation to work. However, UBI does not remove the motivation to work, rather it gives people more incentive to do the jobs that they want to do without financial pressures. Any income earned after UBI would be earned as additional income, rather than their first source of income. Scott Santens has further published numerous articles, providing data regarding the affordability of UBI for the government and has even pointed out how replacement of some governmental

programs with UBI would ultimately cost less and remove some pressure from the Social Security program (Santens, 2017).

Technology would be creating so much money. The discussion remains on whether robot productions will be taxed or not, in order to account for social programs that would be needed by jobs lost to automation.

UBI can ultimately reduce the grip that the capitalists and the elites have on the working class. Financial dependency, barely livable wage for the masses, paycheck to pay check lifestyles, abundance of labor force, low income distribution have all been the means that have kept the lower-middle class an emergency away from poverty. The lack of financial security and certainty could have one of the most detrimental effects on an individual, whereas ensuring that financial security could mean to voluntarily be subjected to self-exploitation. UBI could ultimately shift the power dynamics from the capitalists, who aim to undervalue the working class, towards the individual, who can use the financial cushion to increase their own value to the marketplace. The race would begin above the poverty line for every citizen (Liao, 2020).

Chapter Seven
Summary and Conclusion

7.1.   Summary

The contemporary international system is changing. The rise of Asian countries is challenging the previous domination of the west, while global leadership forums have risen in importance in the recent decades. The rise of international and regional organizations shows the importance of cooperation among nations within this current economic, political and social structure. The world is losing trust in the US as a global leader. Their decision to step back from global cooperation and treaties will obviously create a leadership and power vacuum. Actions such as not being signatory to international laws that they try to impose on other nations has hindered the global image of the United States in the area of global leadership. In the times after the Coronavirus Pandemic, the world will remember the US lack of leadership, thus will have to recover from the damage to its reputation. The vacuum could prove to become a perfect opportunity for the rising China.

The ability to use the might of the military is declining; great power wars now have more cost than benefits, leaving the great power competition to be without massive military confrontations. Rather military interventions are more motivated by the matter of national security, and to maintain a continuous supply of resources and energy. Resources and energies that are often within the control and disposal of MNCs. Corporate interest and national interest thus stand to be divided by a thin line.

The global power structures have decentralized, even in the arenas of global governance. After the 2008 financial crisis, it was obvious that the G7 alone would not be able to prevent another economic crisis, thus the importance of including more nations led to the creation of G20 in order to work on cross border issues. Increasing pressure in the international community from circumstances that are beyond the control of the states to come to a consensus in the matters of cyber security, cyber terrorism, data and privacy, global warming, refugee crisis, rising sea levels, aging nuclear technologies, pandemics, bioterrorism, space exploration and sustainable growth. The unity of smaller nations are the greatest proponents of global governance and are the nations that remain active in various global governance organs.

China and other countries are playing by the rules of the west and playing even better than the west. They are increasingly becoming involved in international organizations, following the ideals of interference in domestic policies, unlike the west, following the Westphalia system in its global affairs. All of while, China has managed to maintain a unique system of governance domestically. The types of powers are also changing and new types of power is being created. Different types of power are in different hands and centralizing power in the digital age becomes increasingly difficult.

As some scholars and entrepreneurs have stated, data is a currency of the future and the companies with access to those data and the owner of the collected data also hold enormous power to not only use the data as they please, but also to sell the data for various intentions. Surveillance has taken away the power of consumer choice and given it to companies and products that are most efficient in advertising.

China has the largest camera surveillance system in the world and aims to export such technologies to other countries. Domestic security and maintaining the status quo and the interest of those in power will be the aims of such a system for the government while impacting consumer behavior and furthering the shareholder interests will be the aim of corporations.

Who owns data? while data becomes the new currency, holding and having access to a significant amount of data becomes a precursor to accumulation of power in the modern world. The western government have collected citizens' data but the Chinese are well ahead in their surveillance, data collection and the use of it to keep the public in a tighter leash. However, corporations such as Facebook have also accumulated immense data regarding the user and their behavior, giving them much more power that could be used towards financial accumulation. Further, the use of data by companies such as Cambridge Analytica has revealed a new era of campaigning where social media, data and trends could be used to impact the outcomes of an election through means such as targeted advertisements or propaganda.

The digital world is the world's largest ungoverned space and governments are lagging behind in understanding and regulating the digital world. The Quality of

politicians may also be declining. Corporate power has taken a new shape, giving the corporate overlords the power over decision making that would otherwise have been reserved for the voters within a fundamentally democratic system. Would the nation still be the social construct that creates the imagined community, or would corporations have their own sense of imagined corporate community, incorporating the world's major cities and other locations of their interests.

21st century nationalism demands global cooperation especially due to changing global landscape and the challenges from non-state actors, migration, climate change and regulations of tech giants. Nationalist versus globalist debate represents a deeper issue in the society, which politicians have been able to successfully exploit in order to maintain the party power.

Political transformations have also occurred due to technology, most widely cited being the Arab Springs in 2010 influenced by organization and discussions on social media. Recently, the 2020 black lives matter movement became the largest movement in US history, mainly due to the usage of social media.

Global audiences are now available for the masses through social media platforms, whereas even several decades ago, the ability to exert influence on the masses were held by the few elites. Any power aspirations, redistributions or accumulation in the 21st century will be led by artificial intelligence and big data.

Automation has created massive layoffs and the displacements of human jobs by robots have created a new inequality between the useful class and the useless class. Further divide can be seen between the knowledge workers and non-knowledge workers. As robots begin to replace human beings in the workplace, the necessity of humans for tedious work will disappear. Retraining workers, especially in the later part of an individual's life will present a challenge and in order to tackle the eminent challenge of mass inequality, various social security structures are growing in popularity.

Artificial intelligence projects to lead the biggest wealth transfer in human history. Universal Basic Income has gained momentum, especially after the 2016 Presidential Candidate, Andrew Yang, proposed a freedom dividend to all citizens. The feasibility of an UBI and the necessity of a safety net and financial vulnerability

were all apparent during the beginning of the Coronavirus pandemic. Universal Basic Income (UBI) can reduce the grip that the elites have on the working class, while also providing a financial safety net for the working class in case of any individual, national, or global emergency.

The advancement of AI is leading us into an uncharted territory without regulations or reparation of what will happen in the society. Millions will be displaced, with hopes of being retrained. However, if that doesn't happen, millions will be without a stable job during the fourth industrial revolution. Properly monitoring and adapting can ensure that technology doesn't outpace global transformations.

7.2.   Conclusion

The general objective was to identify the global trends and technologies that have influenced the global power relations. As such, the trends of rising disruptive technologies, rise of Asia, changes in the structure of global governances and rising participation of smaller nations through bloc cooperation have led to power becoming decentralized from traditional hard power to soft power and cooperation. The increasing cross border challenges have called for higher degree of cooperation, thus creating the trends of decentralization of power in global decision making.

Further, the research examined the changing trends such as increased connectivity, led by technological revolutions and its direct influence on global transformations in social, political and economic dimensions. Social media such as twitter has allowed for individuals to concentrate a united voice for or against a cause, which quickly created global reactions, such as the cases with Arab Spring 2010 and #blacklivesmatters 2020.

The research also assessed the traditional image of global power relations, such as the importance of the G7 during the 20th century, in path to global governances and the bipolar world during the Cold war, resulting in unipolar system with US hegemony. However, the research also concludes that the unipolarity that existed shortly after the cold war have shifted towards multipolar world, mainly due to increase in neoliberal economic principals, along with the abrupt evolution in various technologies.

Finally, the research explored the types of transformations technologies created in global power relations. Technologies such as Artificial Intelligence, big data gathering and automation have given technology giants greater share of global power. Social media giants are a pioneer in using such advanced technologies, especially for their targeted marketing and advertisement schemes. Using such data, the algorithms can predict the behavior patterns of the users online, giving the entities access to various behavioral data that can impact users' decision making in areas ranging from consumerism to political and religious ideologies. Further, technologies have created a new form of inequality between the 'useful class and useless class'.

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