



University of Management & Technology

Thesis

“Rise of Geopolitical and Security Challenges due to decoupling of United States and China - Comparative analysis of Military and Technological Capabilities.”

(Under Graduate)

Submitted By : Haniya Faheem

ID : S2018188034

Bs. International Relations

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Abstract

The rivalry between United States of America and China is not new. Its origins can be traced back to 1949 and 1950 when People's Republic of China was established (1949) and Korean War broke out (1950). Both have the same goal from the beginning which is to obtain global influence. Because of the similarity of this goal, both states have been undergoing a number of challenges which is posing a threat to not only national security but to international security as well. But, at the same time both states shared forty years of a deeper economic integration. According to Alex Capri (2018), this forty years of deeper economic amalgamation began to spoil from 2018, when tariff disputes began. As a result of which supply chains from China started to disserve. These tariffs disputes are still going on and experts believe that this dispute in technology sector has enhanced due to COVID-19 and constriction of technology exports. Finbarr Birmingham (2017) revealed that US, under Donald Trump's presidency, has already activated this tightening of technology export control to keep away the key technology products from Chinese military. This decoupling in supply chain is not occurring in China and United States only but it is also being disrupted in all other states as well. This decoupling is going to have devastating consequences and implications not only on United States and China but for all of their neighboring states too. Therefore, Gideon Rachman states that if politicians of both states fathom the shattering outcomes of this splitting, they will resolve their differences and would rise for patch up. But Unfortunately, according to the situation and reports revealed, this decoupling seem inevitable now and further accelerating between both of the states and has become one of the major Geo political risk which has eventually turned into a new cold war. This newly developed cold war is not only effecting the rival states but the other states as well. It is relentlessly dislocating technology supply chains not only in China and United States but the neighboring countries as well. As a result of which China is trying to 'de Americanize' its firms and the other firms who wish to work with China will have to do the same. Similarly, United States has also been trying to diminish the Chinese influence by tightening Technology supply chains and keep them away from Chinese military. Politicians, analysts and policy makers at both sides are well aware of the horrendous consequences but nobody has proposed practical solutions to it. This thesis have its major focus on evaluation of current situation of United States and China and their relationship with each other. This thesis also explores the challenges and risks emerging because of these states rivalry especially in Technology

sector and how these risks can be settled. Last but not the least, the possible solutions to colonize this rivalry will also be shared.

Chapter 1

Introduction

(1.1) Introduction

The basis of my argument is evaluation and assessment of particular risks and challenges rising from the decoupling of two super powers i.e. United States and China and comparative analysis of both states military and technological capabilities to counter these risks, which seem to damage both states in a certain way. United States and China's relations never got off with an auspicious start. Their relationship went through a lot of obstacles. Since Donald Trump's administration in United States, these obstacles seemed creating substantial tensions between both states especially in technology sector. From 2017 up till now, the tensions have been accelerating between both states involving their alliances to suffer as well. The major focus of this research will be on stating the geopolitical risks rising from two states decoupling and how this conflict can be managed as according to many analysts, this conflict seem inevitable now. So it cannot be fully eradicated yet controlled to stop creating more disasters for the world.

The causes behind this decoupling and technological clash between both states will be highlighted by entailing the historical framework of both states relationship. As mentioned above, since 1949, after the independence of China as a communist state, both states relationship never got off with a healthy start. Instead it faced a lot of ups and downs. United States as a capitalist country was never in the favor of emergence of communist state i.e. China. But as time passed, both states shared even a promising relationship as well. Unfortunately, the clashes began to accelerate in Trump's administration. According to Gideon Rachman, United States and China shared forty years of deep economic integration and it began to fade when Trump held the presidency chair. He revealed, once the politicians and elites of both states realizes the side effects and disasters of this decoupling to both states economies, they'd have no other option other than patching up their differences and ease their relationship. (*Rachman, 2020*)

This research will include the role of both states i.e. United States and China in this decoupling which is accelerating by day. As a result of which, this decoupling seem to transform the monocentric world to polycentric world by 2050. Contemporary, we are living in monocentric

world with the dominance of one state all over the world. But with the rapid rise and success of China, it is soon going to be changed in polycentric world. Monocentric world refers to the situation in which there is just one dominant state all over the world. For instance, in today's era United States is considered to be the only strongest country with intact economy. Consequently, it is the most dominant country and rule over the world maintaining its hegemony. Whereas, Polycentric world refers to the situation in which there are two dominant countries or more than two. In technology sector, China has already proved itself to be the leader and sharing hegemonic position with United States but lacks in some areas which will be fulfilled in few years.

Furthermore, this research will also cover the comparative analysis of both states technological and military capabilities implementing their defense strategies and solutions to resolve and settle this conflict which is increasing day by day. The above argument will enable us to distinguish that which state is more powerful and who is going to dominate in next few years. It will also help us to figure out that who is more likely to win this technology cold war? It will also include some significant recommendations for the management of this conflict and to avoid further devastating consequences.

(1.2) Historical Framework of United States and China's Crises

Since 1949, China and United States relations have gone through number of ups and downs up till now and these years of their correlation are categorized in three epochs which are,

- Restraining/Containment (1949-1969)
- Conciliation (1970-1979)
- 1979 to current diplomatic relations.

In Containment period, which reign from 1949 to 1969 United States took initiative and began to attempt all possible efforts to destroy and weaken the government of China (communist state). They considered China as an aggressive and expansionist power state posing security threat to all other noncommunist states. In order to counter this security threat, United States formed a line of offshore of military coalitions alongside China's eastern border and southern border. This formation of an offshore line of military alliances beside China enabled United States to develop its alliances with Japan, South Korea and Taiwan and it successfully developed its relations too. Furthermore, United States designed Southeast Asian Treaty Organization with its alliances that

involved Thailand, Philippines, South Vietnam and ANZUS treaty (the treaty that connects Australia, New Zealand and United States). By forming these military alliances, United States not only preserved its military bases in those countries but also positioned a specific number of troops in Japan and South Korea. During these twenty years of Containment period, United States also got itself involved in Vietnam war but didn't lessen its disruption and efforts to destabilize China. United States abstained its partners from inputting any diplomatic relations with Beijing. United States also outlawed its citizens to go China and lastly they cut off the trade with China (*Nathan, U.S.-China Relations Since 1949, 2021*). And adopted a Wedge strategy. According to Huang, Wedge Strategy is basically a strategy that a state adopts to crumble, rupture or deteriorate an alliance that seems to be threatening. (Huang, 2020). It has also been revealed that United States got success in the implementation of this strategy which kept on worsening.

From 1970-1979 (rapprochement period), the clashes between United States and China seemed to become a bit cold. They were seen coming close to each other in these years and President Nixon's visit to China was an evident confirmation of rapprochement. As a result of this rapprochement, both President Nixon and Zhou Enlai signed Shanghai Communique (*Nathan, U.S.-China Relations Since 1949, 2021*). Shanghai Communique was mainly a document that involved all the characteristics portraying the normalization of relations between both countries. This document made US recognized the fact that there is just one China and Taiwan belongs to China as well (*lord & roy, 2019*). The government of United States cannot encounter this fact and position. United States endorsed its interest in peaceful settlement of Taiwan and confirmed the abandonment of troops from Taiwan. This document laid the foundation of better and friendly relationship between China and United States and cultural, trade and educational exchanges began to take place.

By 1979, both of the governments developed official diplomatic relations with each other which is also known as the third epoch of their relations. For the establishment of these diplomatic relations, US not only withdrew its troops from Taiwan but United States congress also passed the Taiwan relations act which claimed that United States will help Taiwan to sustain its defense capability. In short, both of the countries compromised and collaborated in many issues, for instance they collaborated and worked for the maintenance of peace in Korea but some cases remain unaddressed as well and both of the countries seem to be unsatisfied with each other in few matters. United States wasn't satisfied with China's human rights policy, their large trade surfeits

with United States and China's export of missiles and nuclear technology especially to Middle East and other countries. On contrary, Chinese seemed to be dissatisfied with United States arms support to Taiwan and United States global foreign policy that only focused United States interest, ignoring the interests of other countries. Despite of these issues, both super power compromised and collaborated in many cases and shared healthy relationship. (*Nathan, U.S.-China Relations Since 1949, 2021*)

(1.3) Research Questions

- 1) *How the decoupling between United states and China is testing the contemporary world order?*
- 2) *How the technological disassociation between both states transforming the world from monocentric to polycentric?*
- 3) *Does the situation of security dilemma opted by United states responsible for the emergence of bipolar world?*
 - a) *How the Security dilemma is more than a situation in international relations?*
- 4) *How the situation opted by United states responsible for the emergence of security dilemma in International community?*

(1.4) Significance of Research

This research is substantial to know and understand the geopolitical challenges and risks rising from the decoupling of United States and China specifically in technology sector and what strategies are being used by United States to constantly destabilize China. This thesis will highlight the fundamental connection between decoupling of these two super powers and new bipolar world which is affecting other states. Moreover, this research paper also entails the historical framework and overview of technology war waged by United States to figure out the real culprit. This thesis will have its major emphasis on the brief analysis of both states military and technology capabilities to get to know that which super power seem to win. Lastly, this thesis will also involve some recommendations for both states to act upon and manage the conflict having devastating consequences.

(1.5) Methodology

The methodology of this research is qualitative in nature. This research includes the analytical and brief situation of security dilemma to emphasize United States hazardous strategy planning and laws to subvert China and enjoy its hegemonic position globally. Because United States consider itself to be the only state superior of all in every perspective. Whereas China's rapid progress and advancement in science and technology, despite of United States planning, has made United States worried. So in order not to share its status with China, United States has opted this situation of security dilemma to prevent the domination of China globally. Security Dilemma is basically a situation in International relations in which an action or effort done by a state to improve and enhance its military or economy capability and credibility results in reaction from other states. As a result of which many 'pre-emptive attacks' takes place. Similarly, being afraid of China's progress, United States has already began pushing China. Moreover, to explain and justify this situation of security dilemma opted by Americans, I have used the case study of US-China decoupling in technology sector and to provide the further evidence, I have entailed the comparative analysis of both states military and technology capabilities.

(1.6) Data Collection Method

This research is centered on Qualitative research method and involves the data from secondary sources. These sources includes different published articles, pdfs, documents from website, books and periodicals. Numerous research articles have been used to enhance the credibility of this research and to support and justify the argument. Majority of these articles are taken from Research gate, jstor, sage and FeedSter. Also, this thesis has collected data from some articles from BBC news to enlist the recent strategies being used United States against China and China's response to this technology war.

(1.7) Data Analysis Technique

This research has used sub branch of Content analysis in Qualitative research method i.e. Summative Content Analysis. Content analysis in Qualitative research method is a research instrument which is used by researchers to define the presence of certain words, ideas,

themes or conceptions within given Qualitative text and data. By using this research instrument, researchers are able to enumerate and analyze the occurrence, connotations and association of such specific words, ideas and conceptions. Content Analysis has further three types i.e.

- Conventional Content Analysis
- Direct Content Analysis
- Summative Content Analysis

Conventional Content Analysis is a type of content analysis in Qualitative research method which is used by a researcher in a situation when his/her focus is on explaining the phenomenon and the literature or data or theory present for the explanation of that phenomenon is limited. Whereas **Direct Content Analysis** is that type of content analysis in which a researcher uses prevailing theory or former research to progress the preliminary coding structure to begin analyzing the data. Direct content analysis has more structured process as compared to Conventional content analysis. **Summative Content Analysis**, that is also used by this thesis to illustrate its argument, is a type of content analysis which is used to recognize and compute specific words or content in text with the determination and aim to understand the text and words of the content. This data analysis method does not only allow the researcher to conclude the meaning from text but it is widely used to explore. That is the reason I am using this type of content analysis. (*Hsieh & Shannon, 2005*)

Chapter – 2

US-China Decoupling : A Conceptual Framework

(2.1) Beginning of Economic Decoupling of China and United States

The second administration of Barack Hussein Obama marked the beginning of decoupling of United states and China. It accelerated under Trump administration. During Obama's second administration, United States enthusiastic response towards US swivel to Asia militarily could be seen. And economically, United States response was seen through Trans Pacific corporation. So mainly, this era of decoupling began in 2017 with the disclosure of United states national security strategy which was further followed by the United States new national security strategy of 2018. Since that time, United States and China's relations have come to a point where the possibility of collective work could not be seen (*Rudd, 2019*).

So, despite of sharing forty years of deep economic integration and healthy bond, both super powers have already begun to decouple especially in economy in technological sector. By each passing day, the conflicts between both the countries China and United States have been constantly mounting which is leading to rapid decoupling of both states. No chance of collaboration is being seen between both the states. Allegedly geo political conflicts have been seen intensifying like, there are new companies on watchlist, conflict of threat of new taxes, armed maneuvers in South China sea, closing of embassy and huge changes in the status of Hong Kong. But the most important and dangerous geopolitical conflict is the order of US executives to ban the supply chain of Chinese equipment, social applications and many more things. Critically analyzing the values and belief system and their positions, it has been revealed that China and United states do not share common interests at all. During this geopolitical skirmish, United states is of the view of bringing US companies to the level of Chinese companies and gradually exterminate all Chinese companies from the playfield. Not only this, but they are also crushing all of their combined projects with China to destabilize it in any possible way.

Furthermore, United States want to bring back the job opportunities in United states and balance the trade discrepancy. This stance of United States of bringing back the job opportunities is not new as this turn was clearly seen in the previous years. At present, there are almost 300 bills present

in Congress related to China. And the desire of becoming some less stricter to China is not seen. Similarly, like United States – China has different school of thought. Their main focus is on the sustainable growth of native products and guaranteeing a sheltered and well-regulated technology. There are two main components that have been the constant source of driving China’s focus, Supply hawser and security, which is to say that leaders of China wants to rely on their local industries for hardware, software and semi-conductors instead of relying on American industries. They want their infant industries to flourish so that the country has to less rely on any other country especially on United States. The second component which is security, Chinese leaders, after the incident of Edward Snowden who betrayed and revealed all the information about NSA (national security agency) spying agendas, are scared of relying on United States technology for the building of their infrastructure. Apart from this Edward Snowden’s incident, many more incidents took place that persuaded China not to rely on US based technologies. For instance, United States placed ZTE technology and Huawei Technology on the entity catalogue and constrained all sort of Hisilicon’s approach to Taiwan semiconductor. (*Hoecker, Li, & Wang, 2020*)

(2.2) Impact of COVID-19 on Both States

According to the conclusions of various reports on the analysis of United states and China’s relations, it has been revealed that this decoupling and disassociation between United States and China doesn’t seem to get cold instead there are more chances of its rapid escalation as both states have paved their own ways for progress instead of relying on each other. Behind this escalation of conflict between United States and China, there are few factors that are responsible for this. For instance, the most effective example considered in this regard is Pandemic, COVID-19. As we know that United States and China have been going through from some serious trade war with each other from the last three years and this war seemed to be escalated due to COVID-19 because this pandemic has made the relations between both super powers more bitter (*Joshi, 2019*).

Instead of working with collaboration in this crucial and critical time of Pandemic, both super powers have been involved in the new game, which is ‘*the blame game*’. Both states have been seen pointing at each other as the major cause of the spread of COVID-19. During the administration of Donald Trump, he pointed out China and blamed China for hiding all the critical information about COVID-19. They were of the view that if China had declared the world about this pandemic and virus beforehand, lives of many people could have been saved and states also,

must have had made themselves capable enough of competing this Pandemic. Therefore, United States kept on blaming China for camouflaging the information about this deadly virus. On contrary, China accused United States and its military forces of spreading the virus into China for destabilizing the economy of China. They were of the view that they should have banned the United States travel to China. Situation was already at the peak of getting worsened when Donald Trump gave a direct threat to China of litigating it for spending billions of dollars in Pandemic reimbursements. This Pandemic brought different lessons for both of the states. It made United States realize that it's not possible anymore to rely on China for the manufacture products. United States was not in a position to tackle the loss which was being caused by this Pandemic due to its poor basic medical instruments and medicines and personal protective paraphernalia, for instance facemasks, sanitizers and ventilators. Furthermore, due to United States and China's trade war, China disordered its supply of chains for United States which brought a negative and a shock wave among United States. Therefore, it has become evident for United States to bring opportunities and manufacturing products back to home. That's how the blame game of COVID-19 effected the trade of both of countries (*Liang, 2020*).

(2.3) Augmentation of Global Geopolitical and Security challenges rising from this Disassociation

(2.3.1) Factors giving rise to Global Geopolitical and Security Challenges:

According to Broadman, although the roots of decoupling of United States and China can be traced back in Obama's administration but it intensified during the Trump's administration, when he shaped a new foreign policy comprising of some components that clearly revealed the abhorrence towards China. The few foreign policy points of Trump that served in breaking off United States terms with China and have given rise to some major geopolitical and security challenges are:

- **Tariffs Imposition on Imports of China:**

Trump's imposition of tariffs on Chinese imports is escalating the United states-China decoupling in three constituents. Firstly, Trump imposed the tariffs on those Chinese goods particularly that were the aftermath of United States firms which are functional in China. Trump revenues were prejudiced by firms that disseminate their Chinese goods to other markets also other than United States. Secondly, Donald Trump's imposition of tariffs on those United States imports that comes from Chinese operations are basically costing the

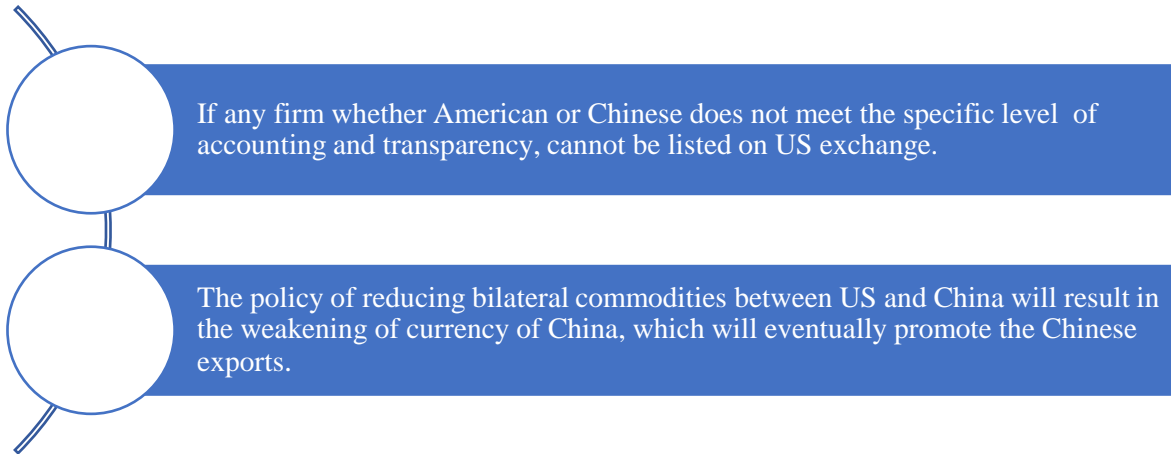
United States based firms who have their reliance on such manufactured goods as contributions. Factories generate such a type of end-product that is either sold in United States or is exported from United States. The third constituent escalating the US-China decoupling is China's retaliatory towards United States imposition of tariffs on Chinese manufactured goods. As a result of this response from US, China decided to retaliate and executed tariffs on United States imports to China. With respect to this imposition of tariffs situation in China, Beijing played a significant role in making US products extremely expensive in China.

- **United States Firms Leaving China:**

Under the *Emergency Economic Power Act of 1977*, President Donald Trump ordered the US firms to find an alternative to China and leave China as soon as possible. This emergency economic power act gives a power opportunity to president to order United States firms to leave China. Where this act allows the President to transfer its future funds to some other extraterritorial state, at the same time it does not allow the president to revoke its ventures that it had already done in that country. Therefore, using this emergency economic power act of 1977, Trump ordered the United states companies to leave China and bring companies and opportunities home.

- **Banning of United States Assortment Investment in China:**

The White House and US congress have been planning to implement precincts on Chinese companies listed in US stock exchange. This implementation of restrictions on Chinese firms would have led to United States portfolio investment curbing in Chinese corporations. Currently, there are more than 150 Chinese firms being listed by United States to implement restrictions on. Moreover, the trepidations about Chinese firms liberation of audit and financial information is worrying the American investor who are not actually aware of weak Chinese corporate governance. According to United States foreign policy, there are two major reasons for delisting Chinese companies.



- **Outlawing Huawei:**

During the reign of President Donald Trump, he and his team opted every single opportunity to persuade its international allies to stop buying the products of Huawei. Whereas they themselves once were in alliance with Huawei. As a matter of fact Huawei is the world's number one telecom purveyor and world's number two phone creator. Persuading its efforts to ban Huawei, in May 2019, United States forbidden the American firms to sell their products to Huawei and entered Huawei in the blacklist of United States, but unsurprisingly this ban could not stay for long and ended in the last week of June. This strategy of Trump clearly shows that United States was impotent to deal with this impasse of Huawei (*Broadman, What Are the Components of Trump's Decoupling Policy? , 2019*).

(2.3.2) Rise of Global Geopolitical and Security risks

Trump's foreign policy played a significant role in escalating the decoupling of both states and gave rise to global geopolitical and security risks. Because this disassociation is not only causing risks for their own states but its causing negative global impact also. So, if we see through the global lens, there are some major particular geopolitical and security challenges rising due to this decoupling which is affecting whole world in some way (*Domm, 2020*). Following are some major global geopolitical and security challenges rising.

- **Increasing Market Risks:**

As we know that the tensions between United States and China have been accelerating day by day and there seem no stop to it. Due to this increasing tension between both

the states, many risks and challenges are rising that have adverse effects not only for United States and China but for all other countries as well. One of the problem rising because of this decoupling is *Increasing Market Risks*. These tensions have forced the investors to rethink about their view of global market and its impact because this decoupling has disturbed the whole world order. Recently, US blamed China for using its hackers to steal the private research data from two US companies who were working on Virus research and using it with their label. Consequently, US declared the closure of China's Houston consulate to ensure the privacy of citizens. Wall street firms believes that due to this decoupling, the world will become more polarized. The states will enter into American orbit or Chinese orbit. According to Chang, the replacement of supply chains and fluctuation of trade configurations is widely effecting the economies of the countries resulting in the greater market risks. After a thorough analysis of Wall street firms, it popped up that COVID-19's pandemic has fueled these tensions and countries will have to choose their orbits for their survival. Furthermore, they clarified that this decoupling has its major emphasis on the *technology sector*, due to which firms dealing with this sector are facing great loss. In past, globalization played a significant role in strengthening the economic ties of both states but now this decoupling has led to devastating effects in which economies and financial arcades are going to be less concurrent (*Dom & smeatwski, 2020*).

- **Divergence of Technology:**

Another significant challenge rising from the US-China tensions which has a negative spillover impact globally is the bifurcation of Technology. This divergence of technology is seen as endangering global benefits from science and technology. The sustainability of this divergence heavily relies on which technology or technology arrays produces the largest economies (*Broadman, Forced U.S.-China Decoupling Poses Large Risks, 2020*).

More specifically, the year 2020 has been proved the worst for both countries technology sectors. It's not only the United States that has been banning Chinese firms and their products but China is also banning US based consumer technology. It is

considered as a decade of the most tightening technological globalization (*Doffman, 2019*).

- **Destabilization of Worldwide Assistance of Macroeconomic Organization:**

Moving towards the third geopolitical challenge rising from escalating tensions between United States and China is the destabilization of comprehensive/worldwide cooperation of Macroeconomic organization especially with respect to G20 countries. The list of countries included in G20 are Australia, Argentina, China, Brazil, Canada, Germany, India, France, Italy, Japan, Indonesia, Mexico, Russia, Korea, South Africa, Saudi Arabia, UK, Turkey, EU and US. At first, when China was in a phase of development, this destabilization was not considered as a challenge. With respect to China's present situation and population, it is believed that in near future China's policy performance will be the highest obstacle in stabilization and progression of worldwide market. And the most important factor leading to the growth of China's economy is the size of Indian economy and it will keep boosting China's economy for very long due to mutual interests (*Broadman, Forced U.S.-China Decoupling Poses Large Risks, 2020*).

(2.4) Theoretical Framework

The central claim of this research is that, the increasing disassociation between both of the states will not only effect the economy of United states and China but it will also negatively impact other states as well. In short, this decoupling would have negative impact globally. To avoid these destructive consequences, United states need to accept China's progress and its emergence as a next super power, cooperating because with respect to this technology crises United states has been acting aggressively and ultimately declared a tech war against China during Trump's administration. In order to halt China's progress, United states didn't miss a single opportunity to destabilize China and got success to some extent by making it difficult for China to survive in international market. But unfortunately, none of the efforts of United states could stop China progressing. And at present, China's military is no longer left weak than United states. China has proved itself to be the technology leader and still pledged to strengthen its military and technology capabilities.

Contemplating the above historical background description, it is crystal clear that none of destabilizing efforts are going to stop China achieving its goal. And United states isn't ready to cooperate as well. As a result of which this technology war will continue for next few years also. This also means that if China continued to progress and evolve like this, soon the world will transform from monocentric approach to polycentric approach forcing United states to share its hegemonic status with China. Resulting in two dominating states in the world by 2050.

As United states efforts of undermining China are evidently seen and it still continues to opt the same hatred policy towards China to remain the only hegemonic power in the world. Although China has not responded with the same aggression as that of United states, but United states being afraid of China's capabilities and credibility has been consistently doing pre-emptive attacks to stop, demoralize and discourage China. Hence this argument of under mining China preemptively being scared of her progress is going to be located in the fundamental concept and analytical situation in international relations theory i.e. *Security Dilemma*, which forces states to fight for maintaining their hegemonic stability and gain more power. In this situation states are determined to achieve their purpose and interest by hook or by crook.

(2.4.1) *Security Dilemma*

The term and logic of security dilemma was first explained by one British historian named as Herbert Butterfield in 1949 whereas the term itself was first coined in 1950 American political scientist, John Herz coined it.

In international relations, security dilemma indicates a situation in which actions opted by a state to recuperate and intensify its own security and sovereignty coerce the other states to act antagonistically which ultimately increases the chances of conflict and improving security chances of the other state decreases. It is considered more than just a situation. Because it falls in the core assumption of Defensive realism and comprises of some characteristics of offensive realism as well. According to some noteworthy scholars of international relations, the situation of security dilemma is the most imperative cause of conflict. They are of the view that in this anarchic world where there is no world government, no one is there to provide guidance, states have to take care of their survival and security by themselves which prompts states to maximize their power as much as they can. If states merely focus on the goal of boosting their own security and do not intend to

harm others, they can achieve their primary goal of strengthening their security but when it comes to gaining and purchasing of weapons and enlargement of new technologies whether military or other, it automatically weakens the security of that state who is progressing spreading fear and inferiority complex among other states who then tries to destabilize.

Decreasing the security of other state (progressing one) does not initiates the situation of dilemma but the situation is said to be of security dilemma when other states start following the same act of possessing weapons or technology as there is no world government. They can never visualize that when a state with increased military proficiency will attack them. Therefore, they are left with two options to pursue to counter this threat posed by states with increased proficiencies i.e.

- The first option is, other states should also enhance their military or technological or other proficiencies and efficiencies to counter the threat.
- The second option is, state who is afraid of the threat and progress of other states opts for pre-emptive attack on the other state.

If states pursue the first option of increasing their capabilities and credibility like the other one, it will result in the formation of *security spiral (action reaction process in which increase in proficiency of one state results in increase in proficiency of other state)*. On the other hand, if state go for opting the second option of pre-emptive attack, military conflict is looming. (Anders, 2011)

The reaction of United states towards China's action of strengthening its survival indicates the true implication of security dilemma in United states. Analyzing China's power, United states opted the second option of security dilemma of doing pre-emptive attack and has adopted all possible strategies to destabilize China. Not only this but United States also involved other states to choose between United States and China. It can also be concluded that due to this situation bipolarity can exist in this world where in this world order there economic, military and cultural authority will be alleged between two states. which is to say that this tech crises are not only affecting the credibility of these states but it is having an extremely negative impact on other states as well. due to this situation of security dilemma, large number of challenges are rising for other states. For instance, increasing percentage of market risks, technology divergence and destabilization of global assistance of macroeconomic organization.

Chapter – 3

Case Study : Technology Sector Crises between US and China

(3.1) The Rise of US-China technology crises

As we know that United States and China are two prevalent super powers of this world and both are in competition with each other for maintaining their supremacy and hegemony all over the world. Due to this increasing competition and maintenance of hegemonic stability, the tensions between both the Giants have been unswervingly aggregating since 2017 in Donald Trump's administration. Because of differences in political ethics, geo-political quests and enmity on regional and global arenas, United States openly instigated a Technology war against China during Trump's administration. Basically United States considers itself as the only country standing on the moral high ground of the contemporary international order and aims to force China that it abandon its policies in high technology industries and transfer of technology from foreign ventures, so that China runs out of competition and United States remain the only country in competition maintaining its supremacy globally. During the Trump's administration, United States tried to use the power of radical science and technology with Zero-sum mentality to gain maximum benefits in trade with China. This Technology war waged by United States against China involves trade authorizations, controlling of investment, controlling of exports and restrictions on the exchange of technological recruits. It has been suspected by defense analysts that these moves being initiated by United States will eventually harm United States and China's security relations, their technological collaboration. Furthermore, it will also result in undermining of regional situation and global technological governance. (*US-China tech war, 2020*)

The increasing tensions between United States and China has given rise to many geopolitical risks/challenges, as discussed above. According to the analysts, the most dangerous of all is this decoupling of both states in technology sector. and this technology war waged in Trump's administration against China is inevitable now. The United States and China economic relations involves their mutual collaboration in science and technology advancements and high technology industries. Since cold war era came to an end, the process of Globalization empowered the companies of United States and other western countries and allowed them to spigot into China's

low proficient labor force. The process of Globalization also enabled them to control the resettlement of middle and lower ends of industrial cost into Chinese landmass. Despite of employing strict and tight technology export control with China, United States facilitated China to enter into the circle of global economic system and industrial chain. The main motive behind helping China to enter this circle was to drive China's political and economic development according to its own desire because they could clearly see China's ability to strengthen its political and economic system and ties with other countries. Therefore, in order to control China's development, United States wanted to control China. The Global financial crises of 2008 proved to be very devastating for the economy of United States and Europe. At the same time, China was its peak of strengthening its economic system, its scientific and technology sector were rising. Moreover, China's high technology sectors of information and communication were mounting. Due to this 2008 financial crises in Western countries and China's steady development gave rise to many challenges for United States high technology industries. as a result of this steady success of China, United States began its attempts to prevent China from investing in United States semiconductor's industry and gradually tightened China's access to America's technology sector in Barack Hussein Obama administration. When Donald Trump took over the office, China was witnessing the rise of its science and technology department which urged Donald Trump to declare technology war against China so that it destabilizes and do not stand eye to eye with United States and get eliminated from this race of global economic system (*Haiyong, U.S.-China Tech War, 2019*).

(3.2) Details that Led Trump to wage tech-war Against China

There were three basic reasons that led Trump to wage war against China. Firstly, United States was not ready to accept the emergence of some other super power with a different political system and ideology. According to Grand national strategy, Trump considered China as its most arduous competitor portraying risk to United States hegemony and national security. To overcome this challenge being portrayed by China, United States intend to contain and control China's high technology industries. For this, it has taken its initiative from ICTs (represented by 5g technology). The information and communication technologies (ICTs) are considered as an essential role in industrial upgradation and it is one of the reason of China's success. Therefore, it won't be wrong to say that United States severe pressure on China's telecommunication giant Huawei is an asymmetrical war between an established super power and foreign sequestered enterprise.

Secondly, Trump wanted United States to occupy high morals on strategic competition with China. He regarded China as being Unfair and government reliance when it comes to industrial planning. Furthermore, they asserted that China's rise in science and technology will eventually pose a threat to United States national interest and security. Whereas, as a matter of fact no proof can be found regarding this United States claim against China of being engaged in forced technology transfer. In fact China's regime of supporting technology is not a policy or something that can be used against United States but it is mainly a politicization and promotion of economic and technology concerns. Which was not tolerable for Trump. Therefore, Trump's administration inflated security risks and exerted intense pressure on Chinese enterprises to destabilize them and stop them from expanding and reaching to overseas markets which was their legitimate right. According to the analysis, it has been revealed that if China followed United States rules of fairness to avoid complications in global ties, it will definitely be bolted in low end of global industrial chain.

Thirdly, having zero sum mentality (*a situation in which gain of one country is considered as the harm to another country*) Trump's administration considered China's constant rise in science and technology as a threat to United States security and position. He claimed that China's rise can affect United States interests in trade with China, as a consequence of which many Americans will lose their job resulting in rising the unemployment rate in United States. Therefore, United states government and its business loop is inclined to believe the fact if China kept on succeeding in technology sector, US will no longer be able to gain any benefit from bilateral trade with China. These all three reasons forced Trump to control this increasing influence of China on technology and science sector before United States runs out of global industrial competition (*Haiyong, U.S.-China Tech War, 2019*).

(3.3) Whole Government Approach used in Technology war against China

In order to control China's economic aggression, United States has opted '*Whole of Government Approach*'. This approach involves series of legal policy events to restrict China's access to US technology through lawful or unlawful means. These policy measures includes

- Sterner limitations on extraterritorial investment for US technology.
- This approach also included the exclusion of Chinese firms from US government.
- Trials of rational property burglary.

- It includes methods to pawn Academic reconnaissance in American academic and custom bodies.
- Precincts on export of budding technologies, for instance artificial intelligence.
- Different sanctions were coerced.

This approach was introduced by Trump to counter China's rapid rise in technology sector. Its implementation began In December of 2017, When Donald Trump released its first NSS (*National Security Strategy*) report to create further complexities. The NSS report of 2017 imposed trade sanctions on China and called for more similar legislative measures to undermine China's growth. Later in 2019, the Congress passed the National Defense Authorization act for economic year demanding the ministry of defense to frame an authentic Whole of Government approach for China and design more complex schemes for China involving all governmental departments. This approach is completely exhibited in this case of decoupling of US and China in technology sector. In short, United States wants China to forsake or reshape its policies of high technology industries and transfer of technology via imposing trade sanctions, controlling their investment and export system and by executing restrictions on technological workforces (*Abdalthadey, 2019*).

Claiming and considering itself (United States) to be the world's frontrunner in research and development, on 14th August 2017, Trump came up with the new strategy of destabilizing China and stipulated US Trade representatives to do thorough investigation of China's laws, their policies and practices to find if they are causing harm to United States development, intellectual acreage and policies. By March 2018, Trump regarded China's policies and practices as being the major cause of harm for United States policies and progress and issued the Presidential Memorandum correlated to investigation 301. Under that Presidential Note, United States indicted China of using foreign tenure precincts to entail and transfer technology from US firms to Chinese companies imposing extensive restrictions on US firms investment and accomplishments. Furthermore, US also blamed Chinese government for acceding United States companies and firms to obtain cut edge technology and intellectual property to establish large scale technology transfer in their own region. As a result of this thorough investigation on Chinese laws, 25% of extra tariff has been imposed on \$50 billion Chinese imports since 6th July 2018.

Keeping their target clear of maintaining their hegemonic stability globally, under congressional legislation US firms and companies came up with more bold and effective strategies to wedge

China's access to American prevailing technology. As a matter of fact, Donald Trump's administration brought a drastic revolution in the review contrivance of *Committee on Foreign Investment*, in US. In the August of 2018, Trump authorized the FIRRMA (*Foreign Investment Review Modernization act*) of 2018 as a law. This foreign investment review modernization act of 2018 mainly aimed at expanding dominion and review period of Committee on foreign investment. Not only this, but it also initiated the concept of 'declaration procedure' for states to report streamlined notices for accelerated review.

The main purpose of dramatic reforms brought by Trump's administration in CFIUS was to target the Chinese companies investing in United States. Since 2018 when FIRRMA came into mere power, China's speculation in United States has sharply and rapidly decreased. On the other hand, Trump's government meticulously renewed the export control structure in supply chain. Targeting China's high technological industries and innovating the technological accomplishments produced by R&D branches established by Chinese enterprises, Trump's government has come up with export power enforcement, outraging technology *theft*. Due to these constant obstacles being created by United States for failure of China, it is becoming extremely difficult for Chinese companies to expand in US market as they are facing stricter sanctions and risks day by day from United States (*Haiyong, A Tech War by the Whole-of-Government Approach, 2019*).

As a result of these increasing obstacles, US state department, education department, homeland security department of US and justice department have taken some significant harsher steps to restrict China's access to United States cutting edge technology, services, education and research foundations. According to the researchers, it has been revealed that United States has been constantly impugning China for shoplifting US technology from different laboratories via different sources. Due to which Trump tightened the visa application policies for foreign students especially Chinese students. In order to overcome this thieving, Trump declared to review the visa procedures for reducing economic theft. On contrary, Trump government believed that talent enrollment enhances burglary of intellectual property from its universities. Therefore, United States enhanced its checking, assessment and expurgation of Chinese intellectuals in United States.

In order to make its position and actions more stronger, the United States approached to economical, political and judicial channels to intense its exerting pressure on China's high tech industries. keeping in mind China's weakness of relying on foreign countries for obtaining

technology, United States has created inflexible governing network for Chinese companies making their survival difficult. Trump's administration also threatened to completely cut off the supply chain of Chinese significant enterprises like Huawei, Hikvision and ZTE. Apart from this, United States also tried to involve its allies and demanded them to leave their alliances with China. as a result of which many US allies stopped China from entering into 5g technology projects which is creating uncertainties for Chinese firms and creating obstructions in opening their markets in those regions (*Haiyong, A Tech War by the Whole-of-Government Approach, 2019*).

(3.4) China's response to Tech War

According to the researches and evidences revealed, it has become very clear that United States, for maintaining its position, status and hegemon, tightened the circumstances for China to survive in the market. It not only used its whole government for this purpose during Trump's administration but it also involved US and China's mutual alliances and demanded the halt of their relations with China to destabilize it. And to some extent United states got success in it as well. As a result of this increasing tensions and problems being created by United States, China who stayed quiet for long took an initiative to secure its security and survival globally.

China announced new laws which were sturdy and restricted the export of controlled things. The primary focus of the rules was on the export of armed technologies and other products that could prove to be harmful or dangerous for China's security. This tough new export control law entailed different categories of *controlled items*. It included military items, nuclear items and the items that were of dual use (the items which were able to be used for both purposes civilians and military). This category of controlled items also included those items that were seen to be essential for the protection of the security of China.

This law required the exporters to first smear for the license in order to export any product mentioned on the control list or provisional controls. Any sort of data linked with any of these controlled items or products is considered as a part of this law. In case of offending the transaction up to \$760,000, the law has declared the penalty of paying ten times the value of offending transaction. This law also covers the penalties for foreign individuals or organizations claiming the restriction of its technology globally in case of offending or violating this law of export control (*China-US trade war: Beijing escalates tit-for-tat with Washington, 2020*).

Chapter - 4

United States Vs China's Military and Technology capabilities

(4.1) Analysis of Capabilities

Despite of creating infinite footraces in China's way, United States seems to be failed in hindering China to excel and improve its position globally. China is seen improving and strengthening its military and technological capabilities to reach their desired standard of ambitions make its survival possible in regional competitions. According to Chinese they need to work more to strengthen their capabilities because they do not possess strong military and technological capabilities yet, whereas at the same time United States believe itself to be the strongest country in every way whether it is about their military credibility or technological proficiencies. They have that zero sum mentality especially against China and believe themselves to be superior of all states. On the other hand their military and technology capabilities are exactly on the marginal level or even below than that. This rising situation of China is spreading uncertainties.

In order to counter these uncertainties, United States has no other choice except to opt a *two pronged defense strategy* towards China. This policy includes two spikes which are

- Whether to retain China and inspire it to become a reasonable and responsible shareholder in international society.

Or

- Get United States involved in sensible hedging to counter China's modernization and success rather than treating China as an enemy (*Carter & Bulkeley, America's strategic response to China's military modernization*).

At the same time, Chinese government *defense strategy* aims to protect and ensure their sovereignty, security, national interest and their development. Therefore, they opted the strategy of active defense (defense strategy that includes increase in all important military and technological capabilities to deter the threat of other powerful states). The elite leaders and government of China mainly emphasized on the essentials that are necessary to meet the specific standard for the military transformation established in 2020 and 2035. The main purpose of these

landmarks is to associate the renovation of People Liberation Army with China's national modernization so that by the end of 2049, China become able to launch world class military. Furthermore, they aim to grow and strengthen their military by the mid of century. And this launched military will be as much capable as that of United States or even stronger than United States military. Therefore, it won't be wrong to suppose that, if China's military becomes equal to United States it will consequently be able to counter any other great power than United States (*Military and security developments involving the people's republic of China, 2020*).

(4.2) Assessment of United States Military Capabilities

Although United States is considered to be the greatest power in the world due to its high credibility and capability than other states due to which other states rely on United states whereas United States stands as an independent and successful state. But United States military is not that strong as it is portrayed by United States. From 17 million military officials present, just two third military section of United States is active. They are over saddled by promptness level that is challenging. In order to overcome this burden level which is causing problems, some efforts has been made to improve the military. United States has divided its military into five categories i.e.

- Army
- Navy
- Air force
- Marine forces
- Space vigor

Armed Forces – After the improvements made, analysts after analyzing the military strength of United States revealed recently that its army falls in the column and category of *marginal* (five categories made to analyze military strength i.e. very weak, weak, marginal, strong and very strong). Although its army forces are wholly committed to modernize and strengthen their capabilities and reliability but the program that need to be used is still in progressive phase. For the implantation of this program, few more years are required. Moreover, the capacity of its armed forces stands weak as not enough officials are present to perform military services. But the improvement in enthusiasm has been evidently seen which led it's army to become a very strong one. Consequently, after the analysis United States army section is listed in marginal section due to lack of some components.

Navy Section – Considering the efforts being made in United States Navy section, it has also been ranked on *Marginal* level as a whole. But instead of taking it to better level bringing some revolutions for the betterment of its Navy, it is rapidly becoming weak in its reliability/credibility and capacity. One of the reason of United States navy failure is technology gap. It is not getting the required and up to date technology for its navy. Its flotilla is very small whereas the work load is much more than that. Therefore, the condition of navy of United States is getting poorer.

Air Force – Air force is the third branch of United States military. United states air force has been ranked *marginal* as well after the thorough analysis. But it is enhancing its capacity, credibility and reliability. The scarcity of pilots and shortage of time for flying for those pilots is considered as one of the negative and cause of failure of United states air force. Due to these shortages, US air force is also incapable to meet war time requirements which requires high quality and amount of air power generation.

Marine Forces – Before the revelation of index of 2020, United states marine forces and corps were at weaker level. Updating the system and technological tools, its marine forces have been ranked and updated to *marginal level* in terms of its capacity, credibility and promptness. Furthermore, it has been disclosed that marine corps anticipates to condense the number of its throngs from 24 to 21. As a consequence of this reduction of battalions, it is believed that United States marine forces will again move to the weaker level. Furthermore, despite of having extra load of work and competition all around, United States marine forces still possess old tools and technology equipment which is being the cause of downfall of United States marine corps and forces. And right now they are unable to solve this situation.

Space Dynamisms – United states space department is not much old. In fact it was formally founded on 20th December 2019. It was mainly founded and established as a result of Trump’s earlier efforts to convince Congress about the importance of establishment of Space forces. It is still in the process of competition therefore it has not been ranked yet at any level. But the defense analysts hope and observe to see stronger forces and plans coming out from this department (*Conclusion : US Military Power, 2020*).

After a brief analysis of United States military capabilities, it won’t be wrong to claim that having all the five departments of military at marginal level, at present United states is only capable of

handling single major regional conflict. Although it is striving hard for the betterment of its defense department but are unable to meet that specific standard.

(4.2.1) United States Technology Capabilities

There is completely no doubt in the fact that United States is the boss country, providing financial and technological assistance to all over the world. It is leading and standing on the top for its rapid advancements made especially in Technology sector. according to the world's largest countries technology capabilities, United States stands on the second position whereas south Korea stands first. China is not far also. China is believed to have more emerged and emerging technological expertise also.

Surviving and succeeding another year of increasing technological competition and encroachments specifically with Chinese rivals, United States managed to maintain its hegemonic position among top three successful nations in the world. In 2018, unfortunately United States bewildered its position of global leader in technology department, shifting from Number 1 (2007) to Number 6. But this year the index intended to reveal something different, providing evidence to United States of taking back its position of Global leader (*Radu, 2019*).

United States technology capabilities are well known, recognized, appreciated and preferred for their quality and uniqueness. United States companies have their major expertise in manufacturing of world's staunchest efficient computers, lethal fighter airplanes and proficient robots. Not only this but United States continued to attain main leadership in vehicles manufacturing, electrical machinery and tools and steel manufacturing also. In order to strengthen its technology capabilities and gain this momentum, United States went through improvement of enormous scale corpus production techniques. The second world war also brought several changes in United states modernizations and advances in such a way that second world war spurred United states to focus on federal role in accompanying R & D, focus on defense requirements and most importantly, it encouraged America to consider the roles of small firms and entrepreneurship in establishing and discovering new technologies (*Science, Technology, and Innovation in the United States, 1996*).

United States of America remains very strong especially in the field of technology, science and innovations. The proof to United states technology capabilities are its significant and deadly fighter jets. For instance, F22 Raptor, F15 Eagle and F35 A lightening II. Furthermore, Steve jobs

initiative of establishing a telecommunication company of mobile phones, laptops and iPad has proved to be a billionaire idea for Americans. It has not only accelerated job creations in United states but it has also enhanced its investment. It is believed that in coming five years, it will contribute up to 350 billion dollars to United States economy (*Apple accelerates US investment and job creation, 2019*).

Moreover, in nuclear spectrum, United states is considered world's leading producer of nuclear technology consisting more than 30% of sphere's nuclear production of electricity. Its nuclear receptacles fabricated 809 billion kilowatt hour in 2019 which is equal to 20% of entire electricity outcome. Enhancing their nuclear program, the first zero emission credit programmes have already started in New York and New Jersey with analogous provision in Connecticut (*Nuclear Power in the USA, 2021*).

(4.3) China's Military Capabilities Analysis

As a matter of fact, China is strengthening its military, science and technology capabilities rapidly which has become the reason of tension for United States. The China's government is working real hard on its military forces and technology to make its military more stouter, proficient and compatible. The Chinese government is also striving to make its military technology innovative within the time period of thirty years. With respect to the budget that ascended earlier decade, China's people liberation of army (PLA) has been categorized among world's top most militaries specifically in the area of artificial intelligence and anti-ship ballistic missiles. According to the studies and evidences, experts have clearly proclaimed that keeping in mind China's speedy modernization of military, China is likely to become very forceful in Asia Pacific region. Due to this speedy modernization of military, United States began to consider China as its biggest and strongest rival whereas according to the analysis, People's liberation of army has to cover a long distance to reach to the level of United States (*Maizland, 2020*).

The Chinese government has divided its military into five sections i.e.

- The People Liberation Army Army (Military)
- People Liberation Army Navy forces (PLAN)
- People Liberation Army Air Forces (PLAAF)
- People Liberation Army Rocket Forces (PLARF)

- People Liberation Army Strategic support Forces (PLASSF)

The People Liberation Army (Military Forces) – The China’s army is one of the strongest and largest standing force globally. Back in **2019**, the people liberation army of China continued to transform into more prevailing, portable and deadly ground force by improving their combat system and wartime priorities and communiqué equipment. Not only this but People Liberation of Army has also been working on enriching its capability to conduct and cope up with intricated collective arm or joint operations. In short, Chinese government is moving step by step for modernizing their military forces. The *first step* China took towards the modernization of its military was its strategy to deal with Maoist Legacy of rationalizing People Liberation Army making China’s Research and Development system and military proficiency more professional. The *second step* involves the entrance of China’s three armed services/departments into the era of joint maneuvers. The *third and last step* Chinese government took towards modernization is to maintain its nuclear capability of countering the threat posed by other countries especially America. Therefore, experts claim that by **2049** China’s military and technological capabilities will become equal to that of United States (*Carter & Bulkeley, America’s Strategic Response to China’s Military Modernization*).

People Liberation Army Navy Forces (PLAN) – China’s navy is considered as the world’s largest navy. People Liberation Army Navy is one of the extremely modernized and malleable force that has its major emphasis on the replacement of manifestos with inadequate capabilities for bringing enormous, contemporary and multi role warriors. It is largely composed of prevailing multi role strong platforms presenting modernized anti-ship, anti-air and anti-submarine weapons along sensors.

⇒ **Naval Modernization** : The People Liberation Army Navy force remains engrossed in a vigorous building of ships and modernization of program which comprises of superficial combatants, submarines, amphibious fighting ships, airplanes haulers, secondary ships, developing and advanced weapons, sensors and controlling capabilities.

People Liberation Army Air Forces (PLAAF) – China’s air force along with its aviation department is known as the third largest air force and aviation region. People Liberation Army Air Forces resides of 2500 aircrafts and around 2000 fighter jets. The Chinese air force is also rapidly coping up with Western Air forces transversely a wide range of capabilities and reliability.

People Liberation Army Rocket Forces (PLARF) – This military section is responsible for controlling and maintaining the China’s premeditated land based nuclear and conformist missile forces. It establishes extensive variability of ambulatory ground launched ballistic and cruise missiles. At Present, People Liberation Army Rocket Force is mounting whole new intercontinental ballistic missiles which will eventually result in increasing China’s nuclear ability. It is believed that in next five years China will succeed in growing the number of these intercontinental ballistic missiles posing a threat to United States. Moreover, China’s rocket forces are also working on the expansion of multi role DF-26 (portable, ground launched intermediate range ballistic missile) which has the ability to swap nuclear warheads rapidly.

People Liberation Army Strategic Support Forces – It is basically a authority level organization whose establishment’s main purpose is to consolidate People liberation army’s deliberate space, cyber warfare, electronic warfare and psychological warfare undertakings and capabilities. Currently, its main target is to strengthen the support forces of China to counter United States.

⇒ **Space Initiative** : People Liberation Army is striving hard to improve its space enterprise. Beijing has played a significant role in providing useful resources to strengthen its space program from military applications to civil applications. Therefore, it won’t be wrong to say that China’s strategic support forces space system is responsible for People Liberation Army all space operations (*Military and Security Developments Involving the People’s Republic of China 2020 Annual Report to Congress, 2020*).

(4.3.1) Analysis of China’s Technological Capabilities

As China is seen to be sharing global power status with United States by making its economy more intact and proving itself to be a global technology and innovative leader, United States attempted all possible ways to destabilize China but failed to do so. And at present, despite of all the efforts done to destabilize China, it continued to grow and strengthen.

Although China’s **internet dissemination rate** is 60 percent only which is comparatively less than that of United States as United States has internet penetration rate of 89 percent. But the sheer scale shows that China comprises of more people using internet. Their ratio is around 800 million. Almost every Chinese access to the web through their mobile phones that belongs to the biggest

smart phone corporations e.g. Huawei, Oppo and Vivo. Furthermore, 583 million people in China pay their bills via their smart phones which is even more than the US total population. Their advanced technology allowed them to introduce the concept of mobile payment and e-commerce.

As a matter of fact, it is believed that countries who will implement 5G first, will be able to experience massive advantages in the digital world including economy boosting and rapid growth in job opportunities. Since 2018, China began the prosecutions and supplying of 5G in more than dozen countries and fortunately this year the government has permitted the major mobile owner states to supply 5G technology. According to the analysis of Global Financial market association, China is more likely to possess large number of 5G connections by 2025 (*China Emerges as Global Tech, Innovation Leader, 2019*).

Analyzing the nuclear technology capability of China, it has come forward that China's nuclear technology will be strengthened and modernized by the next decade as at present it is working to increase the platforms for air based and sea based experiments. But China has partly succeeded from United States in numerous military modernization areas such as building of ships, land based conventional ballistic missiles and air defense system.

Chapter - 5

Conclusion

(5.1) Conclusion

Considering the preservation of its national interest and geopolitical deliberations, United States waged a technology war against China during Trump's administration in 2018. And today, during Joe Biden's administration this issue remains constant because he does not seem interested in rushing to fix this issue because of China's rapid growth. Together with other mutual economic and political disputes such as, South China sea dispute, reformation of global and provincial order, this technology war against China has created prodigious and long lasting negative impact on United States and China's relations which will eventually lead to catastrophic disaster of global economy and premeditated ability. Keeping in view the analysis done of both states defense strategies, military capabilities and technology capabilities, it is becoming obvious that United States seem to lose this technology war. Having the conclusion of brief analysis of country's science and technology capabilities and strength and relocating China as its strategic opponent, this technology war seem to proceed in future as well. Moreover, its negative effects will make other countries suffer as well. Not only this but this technology war also seem to weaken current international economy and political order. Therefore, the effective settlement of dispute and controlling of conflict between United States and China especially over science and technology issues together by taking strong and effective measures to promote global cooperation in high technology industries is needed.

(5.2) Findings of Research

The United States and People Republic of China are known as two powerful actors and giants of the world. Their relationship didn't start reasonably due to which ups and down kept coming in their relationship. And at last, it was disclosed that during Donald Trump's administration United States began to decouple itself from China and waged a cold war against China. And the tensions kept accelerating between both states and the major initiative for this decoupling and war was taken by United States. Considering itself (United States) the only hegemonic power, United States wasn't prepared to share its superior status with China who was rapidly growing and eventually got recognized as a Global technology leader. This emerging powerful state became a reason of

tension for United States. As a result of which, opting the situation of *security dilemma*, United States took the first initiative for war to protect its survival and position globally.

Security Dilemma basically refers to the situation in International Relations in which

‘ A state takes every possible action to ensure its own security by strengthening its military or producing nuclear weapons. As a consequence of which other states began to react and a conflict occurs. ’

According to the experts, Security Dilemma is believed to be cause of majority of conflicts between states. Similarly, in this situation China who is working to safeguard its security and survival by increasing its military and technology capabilities resulted in United States abhorrence reaction towards China. As a consequence, Trump declared to decouple from China in technology sector, banning its biggest telecommunication company and involving whole of government approach.

The findings done on the *Rise of Geopolitical challenges between both states* have their main emphasis on United States reactions and actions taken in the response of China’s progress and a little about China’s rejoinder to this technology war. There is no clear reflection given of the historical background of the beginning of the clash between United States and China. Furthermore, the devastating consequences of this decoupling are very evident but nobody talked about it and the gap remains unfulfilled. And the most important question remains unanswered during the research of this important issue, having the capabilities of super power which state seems to suffer the most and lose. Moreover, there seem a confusion that whether this action taken by United states against China can be regarded as a cold war or not. Therefore, it won’t be wrong to say that there are some essential gaps with respect to the findings of this research.

So, This thesis evaluates each and every perspective of this conflict from beginning to a reasonable conclusion with answering the important questions left in the gap. This research paper includes the brief analysis of both states defense strategies, military capabilities and technology capabilities to figure out that which state seem to lose and which state seem to win. Moreover, this research paper also reveals the impact of this clash on world and specifically on China and United States. This research paper also embraces some recommendations to stop this deadly conflict. In short, this research would help answering all unanswered important questions filling the gap of findings.

(5.3) Recommendations for the Management of Tech War

The data analysis and the conclusions serves as a proof that this technology war and conflict waged by United States in Donald Trump's administration against People Republic of China seem inescapable now because of substantial reasons that includes United States inability of reconciliation with some other rising power state of different ideology and political system especially when it is a communist state, Trump's administration desired to be seen as subjugating moral high ground in strategic antagonism and pursuing zero sum mentality United states is trying to use the influence of modern technology to get maximum benefit in trade with China. Consequently, both states need to search for more ways to improve and expand their relationship in science and technology for maintainable development of worldwide economy and strategic stability. Action taken on following recommendations can help in managing this conflict.

⇒ As United States and China's opposition in high technology industries is a part of strategic competition, first of all, both states need to *opt every single mean and source of communication* to maintain the stability of their bilateral relationship both regionally and globally. This requires some specific actions to be taken like expansion of high level exchange, enhancement of understanding each other's interests and avoiding further escalation of tensions between both states. Second action involves the development of cooperation and trading between high technology industries at native level via current mechanism of cooperation between vestal states and cities. Furthermore, purely service oriented institutions should be established which could provide information of market and negotiator services for high technology cooperation between government and organizations of both sides. Lastly, keeping in mind the unilateral approach of United States in which United States major focus is on the preservation of its own national interest and survival, China need to take the initiative of commencing more negotiations and collaboration with other state economies majorly focusing on science and technology. This will eventually serve as a guard against anti-globalization trend which is posing a threat to energy of global economic development.

- ⇒ Both states need to *nurture their harmony* on the future world order and enhance their cooperation relationship in science and technology by precisely focusing and addressing on their trade disputes and lessen their high technology competition. Moreover, China should adopt whole new procedures for economic transformations. At the same time, United States need to develop and strengthen its belief on the new opportunities being introduced in the market, particularly the ones introduced by China. As a matter of fact, since **2019**, China has updated its foreign regarding economy laws and conventions. The new foreign investment law introduced in January **2020**, postulated a new incentive to China to expand its foundation and meet the standard of different American companies. Additionally, both states need to respect each other motives and interests and should abstain from using political strategies to interfere in universal economic resource apportionment. This will eventually curtail the negative influence of their strategic competition on worldwide industrial manacles and authentic securities of multinational companies.
- ⇒ In order to avoid further escalation of tensions between both states, having *common interests* would help. Therefore, to substitute their common interests, United States and China can actively partake to discover new cooperation opportunities in science and technology in third party market. Cooperation and assistance in this field will significantly boost China – US common interests and mutual struggle universal science and technology supremacy.
- ⇒ As new technological developments brought number of challenges and risks for global security and human welfare, United States and China, having the capability to overcome this threat, should actively participate in science and technology governance. And should also try their level best to alleviate their bilateral relationship with the help and guidance of multilateral framework. Moreover, in order to endorse global common morals and generate a constructive environment for the steady development of bilateral collaboration in science and technology, both states can look for new means of bilateral assistance on multilateral manifestos. For instance, United Nations.

(5.4) Work Cited

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