

CHAPTER I

INTRODUCTION

A. BACKGROUND OF PROBLEM

China and all the United Nations members in this world which becomes space actors are subject within the UN treaty and principles. According to the UNITED NATIONS TREATIES AND PRINCIPLES ON OUTER SPACE, Outer space is the common heritage of mankind. This statement means that within the exploration of the outer space, it is purposed for the benefit and the interests of all countries. Outer space also should be used and explored in accordance to the international law for the advancement of maintaining peace and security and promoting international cooperation and understanding (UNOOSA, 2002). As outer space is the common heritage of all mankind, it should not be occupied by any nationals or sovereignty. Despite, countries that do the exploration are responsible for the exploration of the space activities that launched by the countries (UNOOSA, 2002).

In the history of the space exploration, it can be seen that United States and the Soviet Union which later formed to Russia are the dominant actor within the space activities. Between both development of space technologies advancement, it emerge the “Space Race”. The race itself started in 1955 when Soviet Union made a breakthrough for the humanity which at that time they wanted to launch a satellite to space for the first time in human history, meanwhile at that time there was no single human artificial that launched to the space. The project that was launched by the Soviet was called as Sputnik I in 1957 which was project of satellite launch operation (Crompton, 2007).

Breakthrough that done by the Soviet triggered United States response that also wanted to launch human artificial to the space for the first time in history just as what Soviet planned (Schefter, 1999). Therefore, responses from both party emerged the competition among them. The Space Race considered as the crucial aspect or achievement of both as during the time, Soviet and United States were the main actor in the Cold War. Within the competition, Soviet succeeded to take the first lead over the United States as Sputnik I

launched to the space first and considered as the first human artificial in the history of humanity. Soviet also succeeded to the send the first human to the space in 1961 which at that time US landing the first human on the moon in 1969 (Brooks et al., 1980). Therefore, Soviet had proven that they had the advancement of the space technology. Besides of the contestation from both, Space Race marked the advancement in humanity which sparked the increases development on knowledge, education and research development (ISECG, 2013).

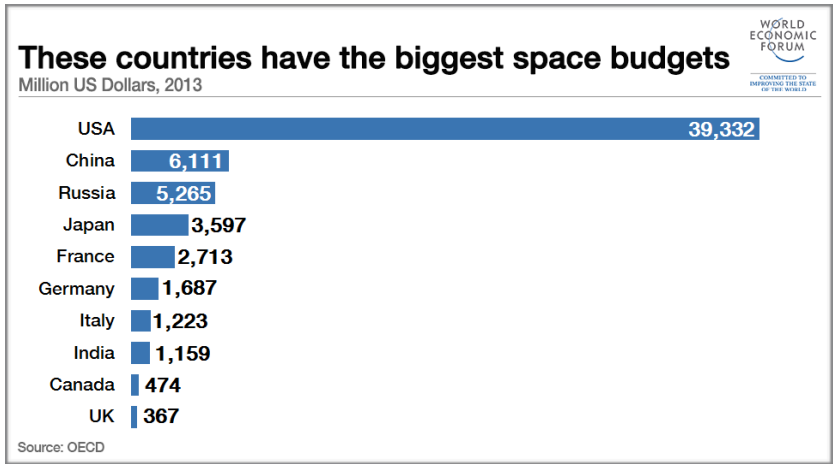
Until 1970, the tension of the space race has lowered among the actors. Space race has shifted to be more cooperated due to the change of US perspective towards Soviet that resulted in cooperation among them in the next following years (Congress of the US, 1985). The cooperation was considered as the advancement for both. In the 1998, there was project called ISS or International Space Station that was launched for facilitating the development of telecommunications satellites and other earth scans. The cooperation also brought the significant development for the utilization and exploration of the space. In the next following years, the project was not only participated by US and Russian Space Agency, there were many new actors that joined the project. Europe through ESA, Japan and Canada through CSA were the new actors that participated in the project (Kitmacher, 2010). Based on this cooperation, the idea of space as the common heritage is true in order to achieve the international cooperation at that time.

Despite of the cooperation, it still can be seen that only two countries that dominated in the advancement of space technology. China in the idea of becoming space superpower also wanted to take part within the space race (Bowe, 2019). Based on this idea, there was the emergence of the “modern space race”. Similar to the space race in Cold War, in “modern space race”, China brought the competitiveness of development of space technology and exploration which aimed on the space superpower. In this presence time, US can be seen as the most developed space country. Soviet in developing its space technology and exploration hampered due to the collapse of Soviet itself. Therefore, China in becoming the space superpower contesting US in the development on the sector.

With the perception of the advancement of the space technology from both superpower especially US could emerge the threat of security for China (Zhang, 2006). The first development of China's exploration began in the end of 1950s which at that time China had a ballistic missile program. China's ballistic missile program was a response towards the threat that might be occurred (BMDO, 1995). According to Xi Jinping, China has one main goal that is "Space Dream" which is an effort from China to achieve the exploration of the universe altogether developing China to become a strong aerospace country (Bowe, 2019). Mao Zedong the Late Chairman of China also thought that space is a crucial aspect for China to gain lot of advantages for its country in domestic and international arena (Gittings, 1999).

Even though China in doing space exploration was preceded by US and Russia, China considered as the third country that succeeded to send the first manned spacecraft. Shenzou-5 spacecraft program (Smith, 2005) was an advancement for China's exploration which made them the first Asian country to send astronaut to space. The successful of the program was supported most by the aid that resulted from China's economic reforms in 1980s (Song & Fand, 2018). China's development on space could be tracked through three steps. First is in 2003 which China was successfully demonstrated the capabilities of launching space travel. Second is the enhancement of the capabilities of space exploration in which they already could do the maneuver and docking in the space. This achievement achieved by the China in 2008. Third is the launching of Project 921 which become the basis for project of manned station in space that projected to be done in 2023 (UNOOSA, 2018) (Ping, 2016) (Pollpeter, Anderson, Wilson & Yang, 2015).

China in doing the space exploration is not detached from the budget that has been spent by the government. Even though there is no specific or reliable data about the budget spending, China has been allocated its budget in space through its space agency each year. In 2005, China had budget for the space exploration estimated nearly 1.5 Billion USD. The number keep increasing as there was big addition of the budget in 2009 until 2013 which estimated 10.8 Billion USD in 2013 (Bowe, 2019). This total of budget that has



Picture 1.1

been spent by China make them as the second biggest country below US in the matter of budget spending of space exploration which make Russia in the third. The general arrangement of the China’s budget spending of space exploration is that; in 1992 until 2003 Chinese spent 2.2 Billion USD or 18 Billion yuan for the Shenzhou-5 program. This budget consisted of 10 Billion yuan for developing the space capsule, launch vehicle, electronic and application equipment, and astronaut training. While another 8 billion yuan was spent on infrastructure, including the building of astronaut training facilities, the launch site, and the telemetry, tracking, and control (TT&C) system. Second is in 2012, the country had spent a total of 39 billion yuan or 6.35 billion USD on human spaceflight. The allocation of the budget was that 20 billion yuan being spent on Shenzhou flights 1 – 6 and another 19 billion yuan was being spent on Shenzhou missions 7 – 10 (Pollpeter, Anderson, Wilson & Yang, 2015). Conditioning with Chinese economy in which if the country maintained about 6% per year economic growth to 2030 and scaled the space budget in proportion to the overall economy then China will be at about \$15 to 20 billion USD for a 2030 space budget (Wang, 2019).

B. RESEARCH QUESTION

In accordance to the background of the problem, the researcher has focused on addressing the research question that is: “Why did China decided to participate in the modern space race in post-economic reform?”

C. THEORETICAL FRAMEWORK

In addressing the research question in the thesis, researcher has used the concepts that related to the topics. According to Mas’oed, concept is an abstraction that representing an object, or characteristics of the object or a phenomenon that is used for describing the empirical world and organizing ideas, perceptions and symbols (Mas’oed, 1994). According to Jatmika, Theory is utilized for predicting and guiding author to discover facts in order to arrange the hypotheses and research instrument. Which hypotheses are basically predictive (Jatmika, 2016).

1. Theory of Astropolitik

In Dolman’s Astropolitik: Classical Geopolitics in the Space Age, Astropolitik is an extension of the global geopolitics theories in 19th and 20th century. Astropolitik is the implementation of the realism vision in which countries compete into the matter of outer space policy. Especially the development as well the evolution of the legal and political regime that brought humanity into space medium. Dolman stated that countries would compete in productive way which utilize the natural incentives for the interest that later would mutually beneficial in future (Dolman, 2002).

Astropolitik is identified as a determinist political theory which therefore considered that Astropolitik has negative connotation. This theory manipulates the relationship between state power and outer-space control that would lead to the domination of single state over the whole of the Earth. State in dominating the space presumed that the state that could dominate due to the capabilities of the state through rigors of competition as the politically and morally superior nation, culture, and economy (Dolman, 2002).

There are three important assumptions of Dolman's theory of Astropolitik; First, the relation of countries is considered more referred to competition over collaboration in both the economic and military spheres. Dolman also stressed that through air and legal commercial exploitation of space could lead to the achievement of harnessing natural incentives for self-interested gain to a mutually beneficial future. Second, if there is one country dominating the space, the countries must have responsible government, responsive to its people, tolerant and accepting of their views, and willing to extend legal and political equality to all. Third is the assumption that space is considered as Terra Nullius in which could be exploited by humanity. It is similar to the earlier geopolitical theorists who viewed the whole world as an object to be dominated and controlled by European powers (Duvall & Havercroft, 2009).

According to those assumptions, First in the international world, the development of space technology and exploration started from the idea of race or competitiveness. For the stance, it can be seen how US and Russia or Soviet try to increasing their capabilities in space in order to gain prestige in the world. Both of the countries have been trying to advance their capabilities on space through their space program. Due to the high space technology that owned by countries, each of them oftenly see it as a threat for their interest. China in developing space technology has been warned by the US since Chinese military can monitor and potentially target U.S. and allied satellites from a new deep space ground station while in other hand China also against US as US has been agreeing on space weaponization that related to nuclear weapons and missiles. Second, as China wanted to become space superpower, China tries to dominate the space activities that will benefit the government, enterprises and the society. As they gain a lot of advantages from the space exploration for all, for the government, China gained the interest of its security. For the enterprise, they gain many revenue such as in provide space flight services. While for the society China's education, science and research development have been enhanced since there are so many education institutions that are opened within the country. Third is China's exploitation in the space is aiming on the exploitation of the substance that exist in the space such as

mining activities of minerals or water on the Moon or on asteroids in which US has been doing such activities.

2. Concept of National Interest

National interest is the fundamental pillar of foreign policy and international politics in realism view. Struggling for power is the main objective of a nation in order to gain control of other countries. Controlling other countries could be in forced power or in form of cooperation. National interest constructed nation's behavior in international world (Mas'ood, 1994).

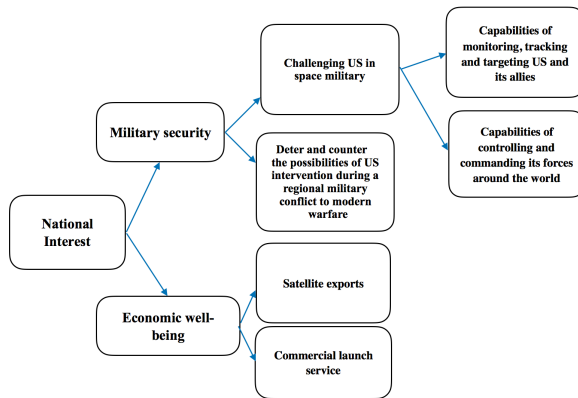
According to Jack C. Plano and Roy Olton, national interests is defined as:

“The fundamental objective and ultimate determinant that guides the decision makers of a state in making foreign policy. The national interest of a state is typically a highly generalized conception of these elements that constitute to the state most vital needs. There includes self-preservation, independence, territorial integrity, military security, and economic well-being.” (Plano & Olton, 1988).

The importance of national interest rooted in country's foreign policy as national interest shaped its foreign policy. In sum, a country could not carry out its foreign policy if there is no interest of the nation. In this study, the author considers that there are three aspects that essential for China to achieve their national interests those are; military security and economic well-being.

China's national interests in space are mostly related to the security of its country and the economic well-being. As US has been considered as the country that has the most advanced space technology, China has been assuming that space is consistently becoming medium of war. Therefore China's presence in space is balance US capabilities in space in case there is a war occurred that involved China. Chinese interest in China has been shifted as in Mao's era, security was more focused on “early war, major war, nuclear war.” Therefore, after the launch of the Dongfanghong-1, China's first satellite, it is more focused on terrestrial conflict rather than on military space operations. It is considered as an effort to prepare Chinese military in case there is protracted warfare against either Soviet or American invaders. While in 1978 when Deng Xiaoping succeeded Mao, there was shifted towards perception of

the security. Deng considered security to be more “peace and development” in which Deng tended to stressing on the development of civil economy. Development that planned by Deng was done by reallocating investment and planning to the longer term which were industry and agriculture. Therefore, program related to space should considering its contribution for national economy development. Differs with Mao, Deng stated that Chinese space program needed to focus less on gaining prestige and headlines and more focusing on the necessity and the application of the technology (Cheng, 2012).



Picture 1.2

While in modern era, China in its self-preservation considered their identity to become space superpower. In achieving the identity, China has been developing space programs as well spent its national budget. In running the program, China through its space agency has been focusing on space activities that related to the commercial matter. The idea of becoming space superpower is based on its dream that in the future, China is aiming on building a strong aerospace country and global leader in space equipment and technology. At the same time, China has been taking part to become the United States’ peer in space militarily, diplomatically,

commercially, and economically. In modern era China's space programs are connected with the overall priorities of China's industrial and foreign policies.

As China stressed space industry as important strategy for its development, China will considered this strategy in long term period. China through space program has been aiming on economic opportunities. China in economic opportunities has been aiming on two areas, which are; The export of satellites and commercial launch services. China sees that space industry has been potentially benefiting its country due to the large growth in case of revenue from this industry. Calculated that global space industry gained \$304.31 billion in 2012 which was a 63 percent increase from \$186.64 billion in 2005 (Pollpeter, Anderson, Wilson & Yang, 2015).

Despite its priorities, it is true that space capabilities are fundamental for many military operations which consist of missile warning, geolocation and navigation, target identification, and tracking of adversary activities. Due to the improvement on space technology, sensitive testing and evaluation activities or military exercises and operations of a country is impossible to be undetected by others. Therefore it is important for China to improve on space field as in modern era, country such as US and some European countries already prepared its space capabilities to improve and support its military operations.

Space based technologies give countries capabilities for their military in controlling and commanding their forces around the world. China in its interest provide its military operation a situational awareness that has capabilities to enable them monitoring, tracking and targeting US and its allies. China in its space technology development is capable to search, track and characterized satellites that orbited in all earth. China in including security interest through its space-based program is rooted from the idea of reducing US and allied military effectiveness in space. China's also want to deter and counter the possibilities of US intervention during a regional military conflict and view that space as important to modern warfare. As it is true that US is the most advanced country in space, China has fear that it would threaten China's security. Therefore China in

developing its capabilities in space has taken steps to challenge the United States (DIA, 2019).

D. HYPOTHESIS

China's decision in joining "space race" is because;

1. China has interest in military security which challenging US in space military and to reduce U.S. and allied military effectiveness in space.
2. China has interest in aiming economic opportunities, those are the export of satellites and commercial launch services.

E. RESEARCH METHODS

1. Research Type Methodology

This study uses qualitative analysis methods, the researcher want to explain on China's interests in space.

2. Source and Type of Data

In this thesis, all the data are considered as the secondary data. The data sources are in the form of books, e-books, journals, documents, and reports.

3. Data Collection Techniques

Data collection techniques used in this thesis is library research. That means the data and information are collected from the literatures that related to the issues that has been discussed.

F. SCOPE OF RESEARCH

The author limits research within the period from after economic reform in China or after 1976 until this present day where China, after the death of Mao Zedong experienced transformation and modernization process in which aiming on turning China into an industrialized country. Started from the period, the author assumes that after the transformation and modernization process, China has been focusing on developing its country by industrialization.

"Modern Space Race" focused within this thesis taken from term of the past "Space Race" which a competition of countries in achieving country's power in space based on their development and utilization of space exploration and technology. The term "Modern

Space Race” in this research is referred to the competition among China and US in space.

G. OUTLINE OF THE THESIS

Within this thesis, there are five chapters that consist of analysis in each chapter as structure of the thesis as follows:

CHAPTER I: In this chapter, there are explanation of the background of the problem, research question, theoretical framework, hypothesis, research method, and outline of the thesis.

CHAPTER II: In this chapter, the researcher describes the development and historical aspect of the China in space. The explanation contains historical explanation from The Chinese “Space Age” era, Economic reform era and Post-economic reform era.

CHAPTER III: In this chapter, the researcher explains the benefit for military security of China in joining the “space race”. This chapter contains about the threat towards China security in space arena and China’s space technology capabilities in its military security.

CHAPTER IV: In this chapter, the researcher explains the economic opportunities obtained by China in joining the “space race”. This chapter contains about China’s economic opportunities through cooperations with other countries especially developing countries.

CHAPTER V: In this chapter, it contains the conclusions of the research that drawn from the overall analysis.