Hypersonic ReEntry Deployable Glide Experiment (HEDGE) Communications, Ground and Space

(Technical Report)

The Consequences of Cooperation and Competition between Nations and their Goals in the Space Domain

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science

University of Virginia • Charlottesville, Virginia

In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

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Spring, 2024

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Abstract

This paper examines the different aspects and effects of varying methods of relationships within countries on technological progress. In this paper the two relationships that are the main focus are cooperation or competition. The primary examples used to illustrate each relationship is the Space Race between the U.S and U.S.S.R for competition, and the collaboration between nations on the International Space Station, for cooperation. Each one of these case studies can be used effectively to see the rate of progress of technological advancements, as well as some effects of the methods of progress on each country and the world. Bringing in works, papers, online sources, and articles about the Space Race and the I.S.S will allow for proper examination of how technology progressed in human civilization for each case study. There are well documented timelines for each case study that provide for a good understanding of the rate at which technologies advanced throughout the years. It will also be a good foundation in order to incorporate the Actor Network Theory. This will be used to see how each actor was connected to one another, providing the effects of each relationship method as well as how specific actors, human and non-human, influenced the development of space technology and human knowledge. There will be a slight analysis of the ethics that pertain to each mode of motivation. Looking at how competition can affect mood, atmosphere, and tensions between nations that could lead to problems that negatively affect society as a whole, even though it does progress certain technologies by a few years. Whereas cooperation can be seen to create a more relaxed environment for the parties involved and even parties with no stake in the particular matter. For example, the stressful environment of the Cold War with the Soviet Union did not only affect the main actors of the United States and the U.S.S.R. It had effects for many nations and people. There are also effects that permeate through the specific case study timeframe that affect

different actors even after the different events. These effects need to be weighed just as importantly as what happened during the time of the case study. Competition can be seen to accelerate change and progress. It facilitates a common goal for the individual that can possibly drive people to work faster and harder and can cause an individual nation to pour much more money and resources into for either public image and opinion or for something as drastic as self preservation. This paper aims to answer the question of whether cooperation or competition is more beneficial for space research and civilization progress. After weighing the pros and cons and secondary effects that take place during and after each method of progress I then gave my thoughts on the matter of which one should be used. In conclusion, it seems like a perfect balance of both would be optimal. I had stated that there is more of a benefit to being cooperative on a global stage. This way there are less tensions that could lead to deaths and countries could stay in a more peaceful state. However, internally, within the country, there should be more competition. This competition does not tend to lead to many of the negative consequences of competition when it comes to the global scale. Internal competition between companies for a government contract, for example, does not lead to dangerous or scary tensions between people. Yet this competition still has many benefits for the US and everyone else. The price goes down as different companies each want to fulfill that contract, companies created and think of more efficient ways to do things, and timelines of progress are pushed to be the company who can provide the goods the quickest. A further research question is then posed, is there a way to have companies or countries compete initially, as to secure the best design with most efficiency first, and then have the environment switch to cooperation and have all of the competing nations or businesses start working together and bringing in all the expertise and resources that each one has to achieve the common goal. Overall, this is a very complex topic which involves a wide

variety of economic, social, and mental factors in order to evaluate and examine, let alone, make a choice of which method is better for progression of technology.