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Assuring a Safe, Secure and Sustainable Environment for Space Activities (4)

Author: Dr. Nathaniel Dailey
The MITRE Corporation, United States

Dr. Rozlyn Engel
The MITRE Corporation, United States
Dr. Thomas Groesbeck
The MITRE Corporation, United States
Ms. Karen Lee
The MITRE Corporation, United States
Mr. Eric Sundby
The MITRE Corporation, United States
Ms. Zhanna Malekos Smith
The MITRE Corporation, United States
Dr. Ruth Stilwell
Aerospace Policy Solutions, LLC, United States

BEHAVIORAL ECONOMICS IN SPACE: STEERING THE FUTURE OF SPACE GOVERNANCE FOR SECURITY AND SUSTAINABILITY

Abstract

This white paper outlines an innovative strategy for promoting a secure, stable, and sustainable environment for space activities as humanity expands its reach to the Moon and other celestial bodies. Drawing from the influential work of behavioral economists Richard Thaler and Daniel Kahneman, the paper advocates for the strategic implementation of behavioral economics to address the evolving challenges in space governance arising from the increasing involvement of commercial space companies and the shift in launch operations from Earth to extraterrestrial locales.

Incorporating behavioral economics into space governance frameworks can reshape decision-making processes, bolster international collaboration, and encourage enduring, sustainable practices amidst the complex dynamics of an expanding space industry. The white paper details how an intricate understanding of decision-making biases and heuristics, central to Kahneman's findings, could incentivize safer and more sustainable operations by space entities. For instance, policymakers could exploit biases such as the "status quo heuristic" by setting initial standards for responsible behavior, which organizations are likely to follow, such as transparent sharing of space traffic data or decommissioning inoperative satellites. Additionally, as "Availability Heuristics" shows, people assess the probability of risks based on how easily examples come to mind. Widely publicized incidents of space debris causing damage can nudge organizations to prioritize the development of debris mitigation technologies. Another potential heuristic known as the "Framing Effect," presenting the long-term sustainability of space activities as a cost-saving measure for future operations, might encourage companies to adopt such measures now.

We propose Thaler's 'nudge theory' to enhance space operations efficacy and safety, suggesting that subtle incentives can significantly improve spaceflight safety and prevent conflicts. Applying principles of behavioral economics to space situational awareness, we can foster an environment where information exchange and collaborative efforts are the norm, thereby contributing to an increased collective understanding and stewardship of space.

Strategically employed behavioral insights can lead to refined approaches that influence perceptions and actions in space, leading to a comprehensive approach that encourages positive behavior among space-faring nations and entities and indirectly deters hostile or negligent activities. This inclusive approach maintains a spirit of cooperation among nations and secures the integrity and sustainability of space for future exploration. The white paper concludes by contemplating the profound impact of incorporating these behavioral economics principles within the space sector, underscoring their potential to bolster international partnerships and inform the development of global norms and treaties that ensure the sustainable use of space.