Cyber Case Study Program

Hacking the Vaccine

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Dr. Chad Dacus

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About Case Studies

The ACI-TRENDS Global Cybersecurity Case Program is administered by the Army Cyber Institute at the United States Military Academy at West Point and publishes cybersecurity-related teaching cases, simulations and interactive exercises for use in academic and professional classrooms.

What are case studies?

Case studies are high-impact interactive learning tools structured around real or realistically simulated events placing learners in the role of decisionmakers confronting complex problems, tradeoffs, and uncertainty. Case studies immerse participants in the problem and its dilemmas.

Why use case studies?

Immersing participants cognitively and emotionally in this way requires them to grapple with ambiguity, incomplete information, and competing priorities while developing plausible courses of action.

Case studies are particularly important because cyber incidents unfold across technical, organizational, legal, and human domains simultaneously.

Case studies make invisible systems and cascading consequences visible, demonstrate how theory and policy apply under pressure, and build the analytical judgment required to anticipate, assess, and respond to real-world cyber threats.

Where to find ACI case study series.

More information on the case method can be found:

1. At the TRENDS Website: https://trendsglobal.org/whats-trending/
2. Decision-Making under Uncertainty: Using Case Studies for Teaching Strategy in Complex Environments by Volker Franke, PhD. https://jmss.org/article/view/57957

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About the Author

Dr. Chad DacusDr. Chad Dacus is an Associate Professor of National Security Studies at Air War College, Maxwell AFB, AL. His research interests include intellectual property theft, the economics of national security, and the economics of cybersecurity. Among his publications are “Defensive Industrial Policy: Securing the Industrial Base and Beyond,” “Designing Cybersecurity into Defense Systems: An Information Economics Approach,” and “China-US Relations: Moving Toward Greater Cooperation or Conflict.” Before joining the Air War College, Dr. Dacus worked at the Air Force Cyber College, the Air Force Research Institute, and served as a Research Ana-lyst and US Fleet Forces Command Field Representative for the Center for Naval Analyses. Dr. Dacus holds a PhD in Economics from Rice University and an MS in Statistics from Texas A&M University.

SCENARIO

You are a member of a team of staffers who work cybersecurity issues for the National Security Council. During the last meeting, the president complained loudly about China's hacking of research organizations that are developing COVID-19 vaccines. He mentioned "the story in the news," and you have been tasked to provide a briefing and policy options.

REFERENCES (required)

D'Agata, Charlie. ***Chinese hackers try to steal COVID-19 vaccine research.*** CBS Evening News. 11 May 2020. YouTube video, 1 min., 36 sec. https://www.youtube.com/watch?v=Smg8Ivdc0ZI.

China suspected of hacking coronavirus research. This video should be provided to students and is mandatory viewing.

REFERENCES (optional)

"The Race to Develop a Coronavirus Vaccine," CNBC. 14 March 2020. YouTube video, 10 min., 14 sec., https://www.youtube.com/watch?v=ek3T8xiu1Fw.

This video provides some idea of the stakes involved, both financial and for public health.

Alpert, Bill. "A Covid-19 Vaccine Could Be Worth Billions for Moderna and Its Rivals." Barron's. 19 May 2020. https://www.barrons.com/articles/a-covid-19-vaccine-could-be-worth-bil-lions-for-moderna-anditsrivals-51589902769.

This article provides further details the high stakes in developing a vaccine.
Lawrence, Susan V. and Karen M. Sutter. ***China Primer: U.S.-China Relations***. Washington, DC: Congressional Research Service, 3 March 2021. https://crsreports.congress.gov/product/pdf/IF/IF10119.

This report provides background on US-China relations to set the proper context. It provides basic information about Chinese leadership and the history of US-China relations. In addition, it covers several of the central issues in the bilateral relationship: economic issues (trade deficit, currency manipulation, tariffs), security issues (Chinese military modernization, North Korea, South China Sea), human rights (Hong Kong, Tibet), and, last but not least, Taiwan. This is an important reading and should be required unless these issues have already been discussed in the class.

United States Intellectual Property Enforcement Coordinator. Annual Intellectual Property Report to Congress. Washington, DC. March 2020. https://www.iprcenter.gov/file-repository/ipec-2020-annualintellectual-property-report-1.pdf/view.

This in-depth reading informs students on the issues involved in econom-ic espionage and US government strategies to address it. Topics include

engagement with US trading partners, legal authorities, law enforcement actions, and partnership with the private sector and other stakeholders.

REFERENCES (optional for additional depth or context)
Libicki, Martin C. ***Cyberspace in Peace and War***. Annapolis, MD: Naval Institute Press, 2016.

Chapter 8 offers significant depth on the cost to the US of Chinese economic espionage. In particular, courses with significant economic content could benefit from this reading.

Huang, Yukon and Jeremy Smith. "China's Record on Intellectual Property Rights is Getting Better and Better." ***Foreign Policy***, 16 October 2019. https://foreignpolicy.com/2019/10/16/china-intellectual-propertytheft-progress/.

True to the title, this article argues that China has made significant progress on intellectual property rights.

Eftimiades, Nicholas. "The Impact of Chinese Espionage on the United States." ***The Diplomat***, 4 December 2018. https:/thediplomat.com/2018/12/the-impact-of-chinese-espionage-on-the-united-states/.

This article offers a dissenting view of China's intellectual property rights progress.