Building Equity through Interdisciplinary Human Interaction

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Policy and Ethics of Intelligent Autonomous Systems Technical Exchange
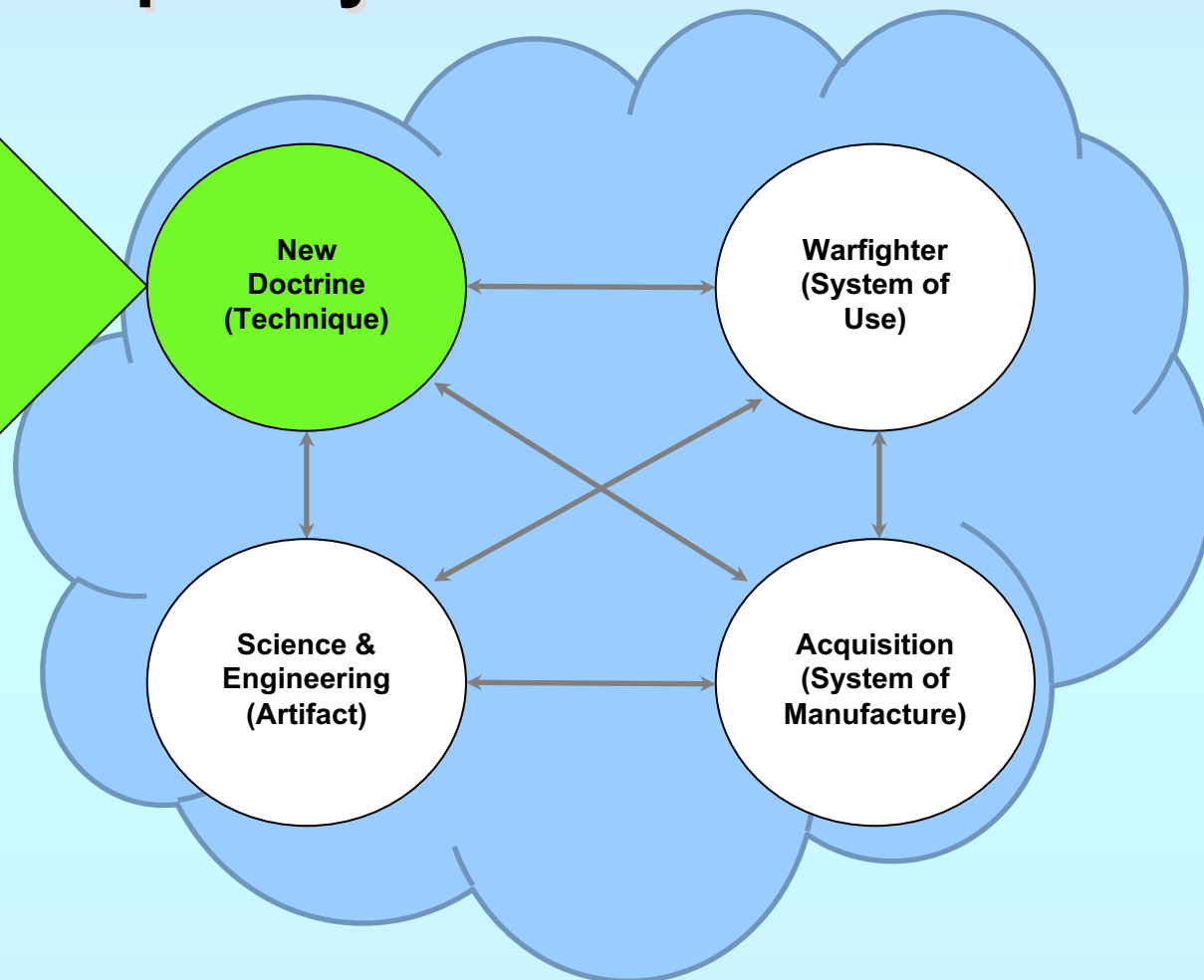*OSD Autonomy Community of Interest*

Cold War Innovation

Reference: Choinski, Thomas. "Innovation Strategies for Undersea Sensing," *Leading Edge Magazine*, Volume 7, Number 2, October 2009, pp. 42-51.

Post Cold War Innovation

NOW

Invention

Militarization

Diffusion

10-15 Years

Reference: Choinski, Thomas. "Innovation Strategies for Undersea Sensing," *Leading Edge Magazine*, Volume 7, Number 2, October 2009, pp. 42-51.

Building Equity through Interdisciplinary Human Interaction

Dramatic Geo-Political Situational Change

New Doctrine (Technique)

Warfighter (System of Use)

Science & Engineering (Artifact)

Acquisition (System of Manufacture)

The greater the organizational capital required to implement the innovation, the slower the speed of the innovation at the system level and the lower the probability that a state will attempt to adopt the innovation.

The Diffusion of Military Power
Causes and Consequences for International Politics

Michael C. Horowitz

References:
- Choinski, Thomas. *Dramaturgy, Wargaming and Technological Innovation in the United States Navy: Four Historical Case Studies*, Dissertation, Salve Regina University, Newport. March 24, 2017.
- ,Choinski, Thomas. "Ethical Asymmetries that Influence Military Technological Innovation." 2017 *Humanities and Technology Association Conference*. Salve Regina University, Newport, RI. November 2, 2017.
- Jin, Zhouying. *Global Technological Change: From Hard Technology to Soft Technology*. 2nd ed. Bristol, UK: Intellect, 2005. Web. 4 Nov. 2013
- Horowitz, Michael. *The Diffusion of Military Power: Causes and Consequences of Military Power*. Princeton University Press: Princeton, NJ. 2010.
- Rothwell, Roy. "Towards the Fifth-Generation Innovation Process." *International Marketing Review*, Vol. 11 No. 1, MCB University Press, pp.7-31.
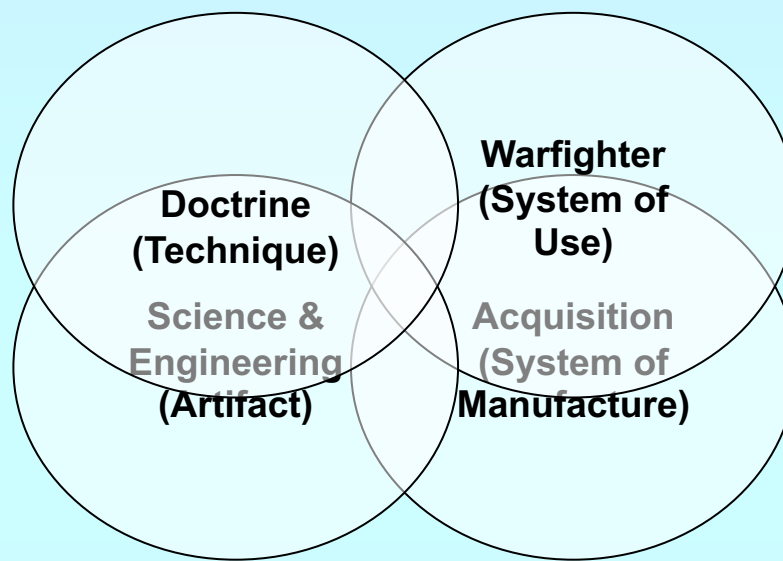
Potential Contributions from AI

- Data mine solutions

- Design for Diffusion

- Navigate social networks

- Assess coherence

- Scale up solutions
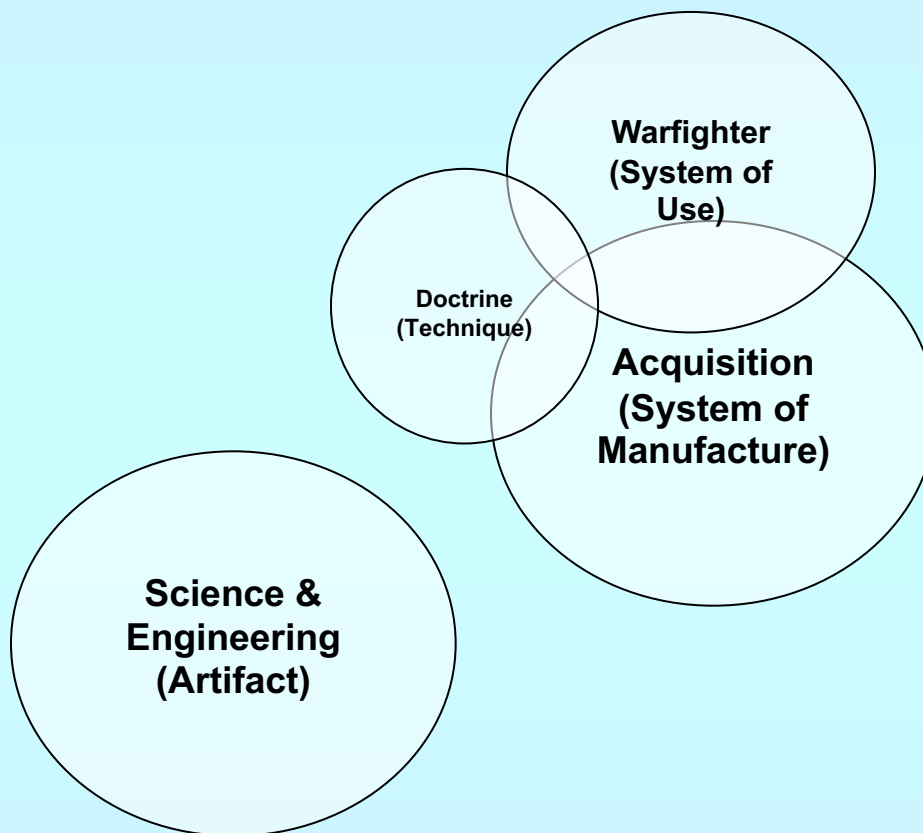
- Identify fast follower strategies

References: Choinski, Thomas. "Artificially Intelligent Techniques for the Diffusion and Adoption of Innovation for Crisis Situations (book chapter)." *Artificial Intelligence and Global Security: Trends, Threats and Considerations,* Edited by Dr. Yvonne Masakowski. Emerald Publishing. Publication scheduled for May 2020.

Equity Derived from Situational Human Interaction

Doctrine (Technique)

Warfighter (System of Use)

Science & Engineering (Artifact)

Acquisition (System of Manufacture)

References: Choinski, Thomas. "Macro Perspectives on Wargaming Culture and Innovation." 2016 Connections Wargaming Conference. Maxwell Air Force Base, AL, 11 August , 2016.

Technological Aliasing

Warfighter
(System of Use)

Doctrine
(Technique)

Acquisition
(System of Manufacture)

Science &
Engineering
(Artifact)

References: Choinski, Thomas. "Macro Perspectives on Wargaming Culture and Innovation." 2016 Connections Wargaming Conference. Maxwell Air Force Base, AL, 11 August , 2016.
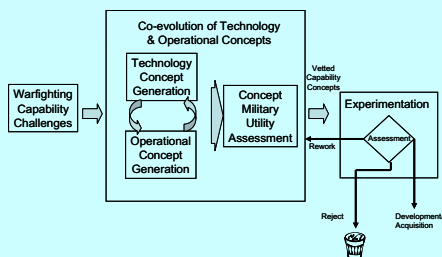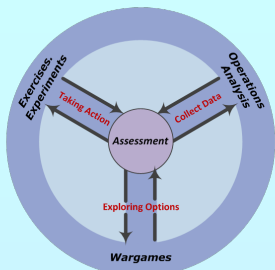
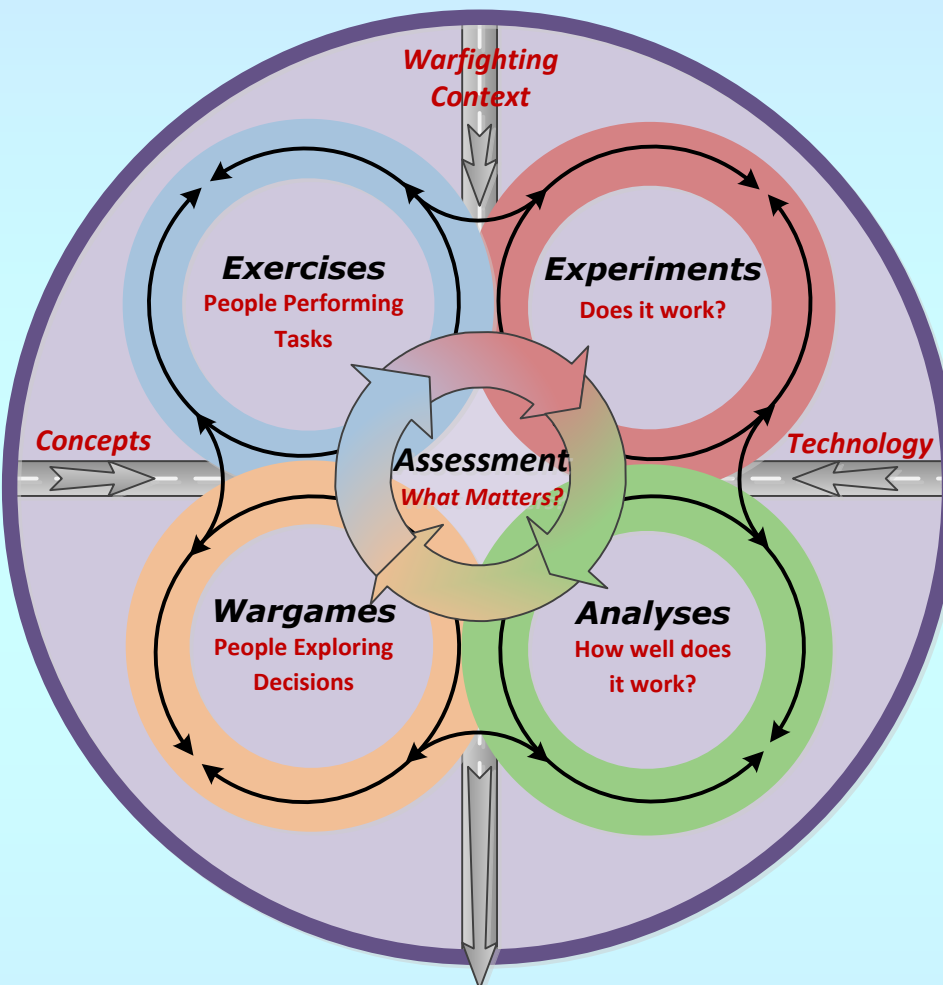# Fleet Input and Consolidation
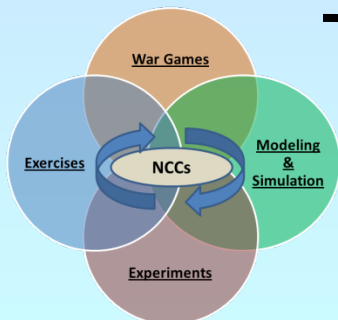
Data Driven Learning Framework Tools

Generic Co-evolution of Technology & Operational Concept Construct

Operations Research Cycle
"Cycle of Innovation"
(adapted from Perla, "The Art of Wargaming")

Warfighting Context

Exercises — People Performing Tasks

Experiments — Does it work?

Concepts

Assessment — What Matters?

Technology

Wargames — People Exploring Decisions

Analyses — How well does it work?

Technologically Feasible Operational Concepts in a Warfighting Context

Reference:
- Vebber, Paul. "Building Boyd Snowmobiles: Matrix Games as a Catalyst for Developing Innovative Technology," *The Matrix Games Handbook: Professional Applications from Education to Analysis and Wargaming*, edited by J. Curry, C. Engle and P. Perla, published by the History of Wargaming Project, 2018.