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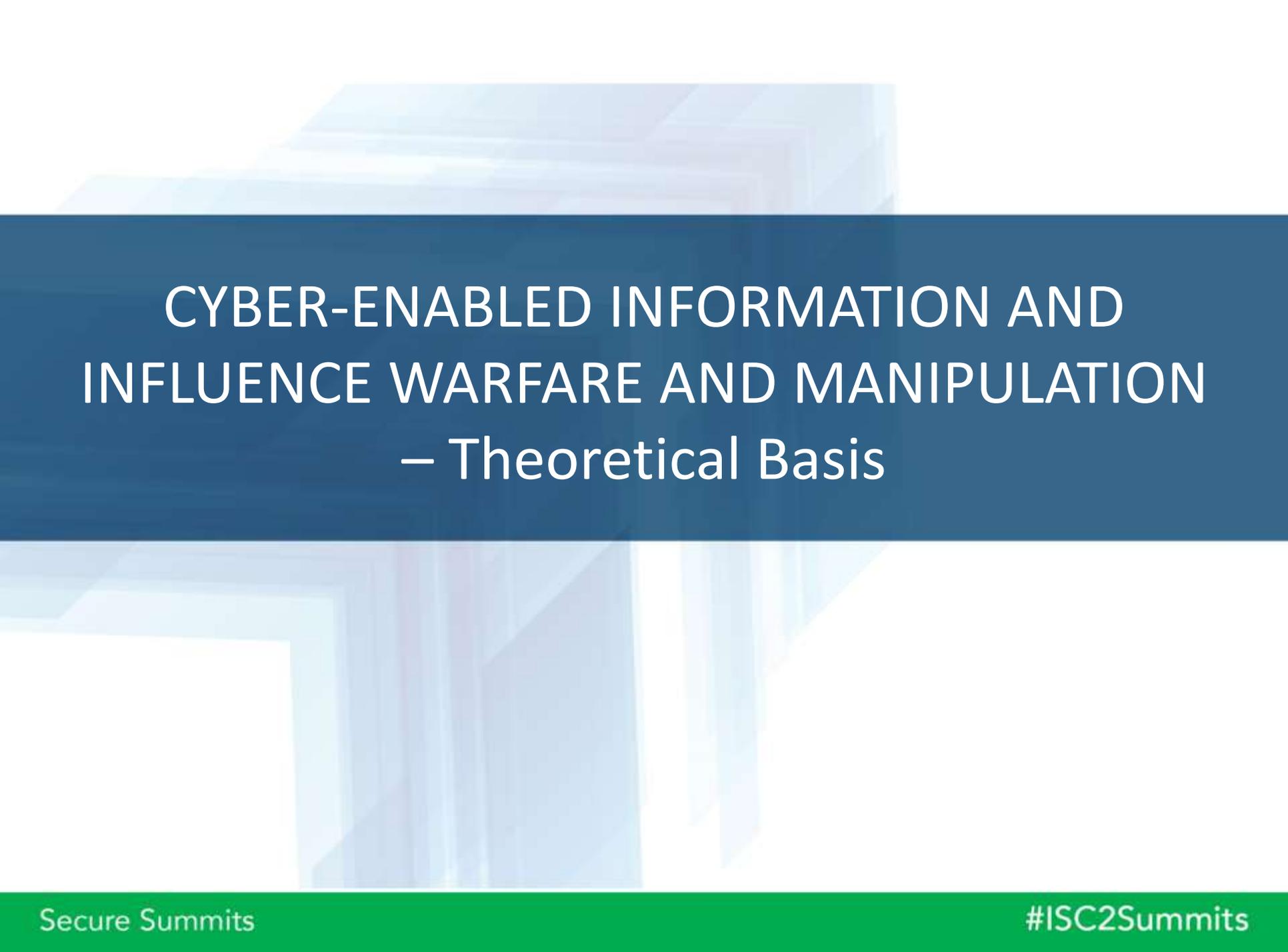
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# CYBER-ENABLED INFORMATION AND INFLUENCE WARFARE AND MANIPULATION – Theoretical Basis



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# Overview

- » This presentation examines the call for new theoretical frameworks for the detection of, and response to, cyber-enabled information/influence warfare and manipulation (IIWAM)

# Introduction

- » Examines the development of techniques and approaches to information manipulation and deception
- » Develop technical approaches to countering this cyber-enabled information/influence warfare and manipulation (IIWAM) by preventing, detecting and responding to deception and confusion methods and examine behaviour attribution

# Modern cyber-enabled information/influence warfare and manipulation (IIWAM)

- » Does IIWAM differ in form to traditional deception, propaganda and earlier Information Warfare techniques because of the potential scale at which it is being organized, the complexity of the targets it seeks to influence and the impact it has been having on society?

# Modern cyber-enabled information/influence warfare and manipulation (IIWAM)

- » (Lin and Kerr 2017)
- » deliberate use of information by one party on an adversary to confuse, mislead, and ultimately to influence the choices and decisions that the adversary makes. IIWAM is a hostile non-kinetic activity, or at least an activity that is conducted between two parties whose interests are not well-aligned.

# Modern cyber-enabled information/influence warfare and manipulation (IIWAM)

- » Can IIWAM be called Cyber War?
- » Can it be treated as warfare?
  - Academics seem to want to extend terminology
  - Cyber warfare broad in meaning
  - ‘High-end (*cyber*) conflict amounts to war by any standard’
  - Not all cyber conflict ‘Clausewitzian’
  - Extend spectrum to a domain that is not illegal but has profound threat to democracy
  - Is this just like ‘Fake News’ ?

# IIWAM

## » Battlespace is Information Environment

- 'The physical dimension is composed of command and control systems, software, key decision makers, and supporting infrastructure that enable individuals and organizations to create effects.
- The informational dimension specifies where and how information is collected, processed, stored, disseminated, and protected.
- The cognitive/emotional dimension encompasses the minds and emotions of those who transmit, receive, and respond to or act on information.

# IIWAM and Victory

- » When one party changes another's political goals
- » Words and images as weapons 'to persuade, inform, mislead, deceive'
- » Influence, cause chaos,

# Potential Theories

## » Given

- We need to protect and defend against IIWAM
- We may need to carry out IIWAM

## » Then we need

- Psychological theories of cognitive bias
  - Examine how people classify events and objects
- Cultural theories
- Sociological theories

# Developing a Theoretical Basis for the Identification of IIWAM

» *“it is the lack of clear concepts which makes cross-cultural research in the engineering of complex information systems difficult to conduct, and also links the effect of this lack of clarity to our inability to ‘develop and refine theories’ and to explain why there is difficulty in explaining the high degree of variance in current predictive models.”*

# Hofstede cultural dimensions (1980 →)

- » Power Distance
- » Individualism versus Collectivism
- » Uncertainty Avoidance
- » Long-Term Orientation versus Short-Term Orientation:

# Kearney's world view model

- » The Other
- » Classification
- » Causality
- » Relationship
- » Self
- » Time & Space

# Result of model integration (Slay 2002)

- » Problem solving skills
- » Motivation
- » Leadership style
- » Individual feelings about self
- » Attitude toward gender
- » Time
- » Ability to work in a group

# Deception

- » Means (tactics) of deception:
- » Camouflage/ concealment/ cover;
- » Demonstration/feint/diversion;
- » Display/decoy/dummy;
- » Mimicry/spoofing;
- » Dazzling/sensory saturation;
- » Disinformation/ruse;
- » Conditioning



# Example from Namibia

- The possible enemy – seeking resources – oil and uranium
- Plan – to remove government
- Culture/ World view – cows and heroes, hierarchical, subservient but perhaps angry, science and religion and black magic,
- Deception – attack on cows and heroes
- Disinformation – join to current attacks on government to access re

# Conclusion

- » An understanding of culture and Worldview Theory can provide a diagnostic framework, developed from the work of Kearney and Hofstede.
- » This is useful since target groups, or victims, may share common identifiable features that can be used or manipulated to produce a belief in 'fake' news or deception. This diagnostic framework is an important offensive or defensive mechanism and can accompany attribution or targeting.
- » Hutchinson's work (2006) on Information warfare and Deception is not outmoded even in an environment where speed and scale are larger than the context in which he was originally working.
- » His analysis of RAND's model of deception planning holds well for the planning and attribution of IIWAM.

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