

Cybersecurity Definitions for Non-Experts

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PROBLEM

- No standard definition of cybersecurity, most targeted at academic or technical audiences
- Poses a challenge when trying to communicate the meaning of cybersecurity to **non-experts** not having cybersecurity expertise

RESEARCH QUESTIONS & METHODS



Phase 1: Systematic search and analysis of published cybersecurity definitions

1. In what terms is cybersecurity defined?
2. What do definitions have in common, and how do they differ?



Phase 2: Interviews of non-experts (in progress)

3. How do non-experts describe and define cybersecurity?
4. How do non-experts understand published cybersecurity definitions, including the common terms and concepts in those definitions?
5. Which published cybersecurity definitions do non-experts prefer, and for what reasons?

SYSTEMATIC SEARCH & ANALYSIS OF PUBLISHED DEFINITIONS

167 unique definitions from 152 sources



60 Institutional definitions (Edu, Research, Gov, Standards, Dictionary)



107 Industry definitions

Complexity Variability

the means by which individuals and organisations reduce the risk of being affected by cyber crime

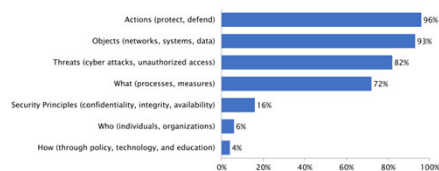
the process of protecting information and information systems by preventing, detecting, and responding to unauthorized access, use, disclosure, disruption, modification, or destruction in order to provide confidentiality, integrity, and availability

Word Frequencies

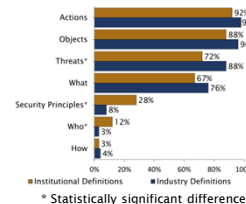


- Protect (112 definitions)
- Systems (83)
- Networks (82)
- Data (81)
- Attacks (75)

Definition Components



Components by Source Type



Trends

- Definitions are inconsistent in composition and terminology
- Vague or technical terms (e.g., *cyberspace*, *integrity*) may be difficult for non-experts to understand
- Industry definitions more threat-focused and institutional definitions more likely to include security principles

INTERVIEWS OF NON-EXPERTS



Semi-structured interviews informed by systematic search



Participants of differing ages, genders, and education levels from across the U.S.

- 1) Current understanding and own definition of cybersecurity
- 2) Step through 2 cybersecurity definitions to gauge opinions and potentially confusing terminology
- 3) Sorting exercise with 6 definitions
 - Favorites
 - Easy to understand
 - Comprehensive
 - Useful
 - After reveal of definition sources, do opinions change?

CONTRIBUTIONS

Novel exploration of definitions:

- Characterized definitions non-experts are likely to encounter
- Analyzed definitions qualitatively and compared institutional vs. industry

Anticipated:

- Evaluate appropriateness of current definitions for non-experts
- Identify potentially confusing terms
- Offer guidance to cybersecurity practitioners and researchers when communicating to non-experts