Cybersecurity at
MIT Sloan

AI IMPACT ON CYBERSECURITY CULTURE

GOAL: To understand how AI will influence, change, detract from, or assist organizations in building a mature culture of cybersecurity

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① AI is disrupting every aspect of business. We explore how it will help, and hurt, our cybersecurity culture

- This is a theory building project.
- In scope for this project:
    - AI applications that change cybersecurity culture
- We are not exploring:
    - Key challenges AI introduces to the organization as a whole
    - How managers use AI for business applications in general
    - Threat actor use of AI to disrupt business, outside of human risk management and culture

② Research methodology.

- Joint team of CAMS and KPMG reviewed past literature, created hypothesis and developed a survey to collect data to build a theory.
- Collected 39 surveys from various forums. Participants were leaders from diverse geographies, organizations, and industries.

③ About half of organizations have started testing ways to use AI, mostly around phishing exercises

- Almost **60%** of the respondents said they **believe there are both (positive and negative) impact** of AI on organization's cybersecurity culture. **33%** of the respondents believe there was only **positive impact** using AI on organization's cybersecurity culture. None of the respondents mentioned that AI had only negative impact on organizations cybersecurity culture.
- Around **40%** of the respondents mentioned that they **have taken steps to use AI to improve cybersecurity**. The respondents mentioned using AI for phishing simulations or evaluating AI use case POCs.
- Around **48%** of respondents mentioned **'No'** but they explained that either they are **unaware** of using AI for cybersecurity culture or they are still discovering it.

④ How AI is changing our cybersecurity culture

(Personalized just in time training; Augmented Behavior (Virtual Assistants); Better, adaptable simulations; Earlier identification of malware; Identify anomalies in behaviors; Reduce errors in human actions; Collect and digest larges amount of employee behaviors; User Behavior profiling; "Proactive angel on your shoulder")

⑤ Suggested AI uses to reduce human risk

- ✓ **Training** and **learning** by creating content and summarization
- ✓ **Assessing** and **providing performance feedback** by **personalizing** training tools and interjecting automated reinforcement.
- ✓ **Monitoring**, **identifying**, **assessing**, **quantifying** and **encouraging** secure behaviours
- ✓ **Rewarding** desired secure behaviours in the moment
- ✓ **Correcting** problematic behaviours with just-in-time training, **highlighting** corrective actions, and **reinforcing** desired results

⑥ Participate in our project: Take our survey and share your thoughts

Please provide your thoughts on the impact of AI on cybersecurity culture. Scan this QR code and take our 10 min survey. If you provide your name & email, we will send you a summary of the results. Questions? contact kerip@mit.edu.