Cybersecurity at MIT Sloan

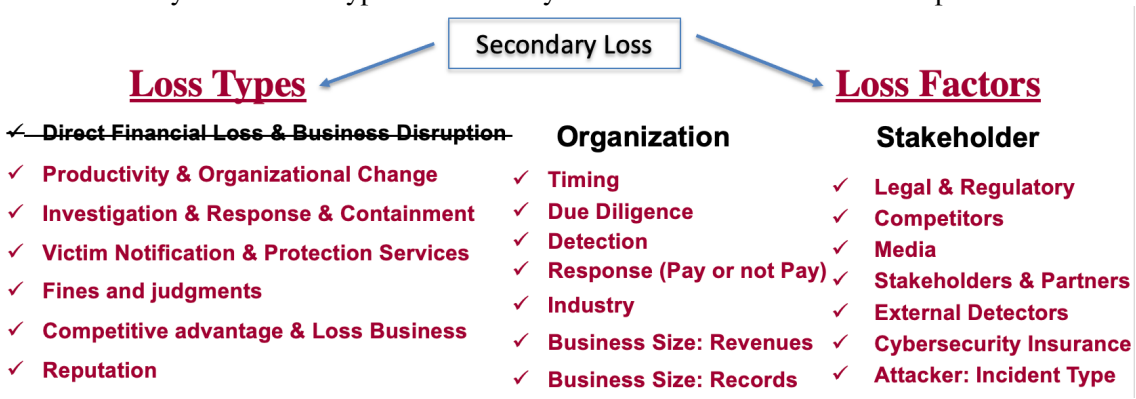
Lifesciences Roundtable
Quantifying Secondary Loss Factors for Cyber Risk Management

Cybersecurity at MIT Sloan brings thought leaders from industry, academia, and government together with MIT faculty, researchers, and students to address strategy, management, governance, and organization of cybersecurity of critical infrastructure using an interdisciplinary approach.

Evaluation of Cyber Incident Loss as a Whole

Successful cyber breaches can cause severe financial loss and business disruption. But there are additional losses when a company is attacked. This research studies secondary loss, defined as the 'loss that occurs as a result of secondary stakeholder reaction to the primary loss event". Evaluating and quantifying secondary loss helps managers improve foresight and supports the argument to test and shore up incident response plans. To quantify secondary loss, executives need to identify the relevant types of secondary loss and how to evaluate the impact.

"Incidents at small to medium enterprises (SMEs) account for almost all the ransomware claims." -NetDiligence



Datasets Available to Evaluate Secondary Losses

There are multiple data sets available to evaluate secondary losses. The SAS OpRisk Global is the largest, most comprehensive, and most accurate repository of information on publicly reported operational losses in excess of $100k. The Verizon DBIR analyzes 79,653 incidents and divides data breach impact into two basic categories: **direct impacts** are losses directly resulting from the threat actor's actions against organizational assets. **Indirect impacts** are losses resulting from a stakeholder's reaction to the incident. Another source is NetDiligence, which provides case records for cyber incident totals and cyber insurance claims from underwriters. From 2015-2019, there were 3,547 incident claims. Ponemon/IBM has a separate dataset that offers insights from 537 real breaches. Their data reveals that the global average cost of a data breach is $4.24 million. Advisen's cyber loss data is the most comprehensive list of historical cyber incidents. It includes more than 56k breaches across 35k organizations over 10 years. It tracks losses publicly disclosed in the wake of those incidents and it includes supplemental firmographic information on the organizations affected by cyber events and the broader economy.

IMPACT: This research highlights the types of secondary loss factors and the resources executives can use to quantify secondary loss factors in order to improve their cyber risk management strategies.

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