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Cyber breach: “Something that happens to others”?

CYBER BREACH

- According to an independent study conducted by an MIT professor Dr. Stuart Madnick [‘The Continued Threat to Personal Data: Key Factors Behind the 2023 Increase’, December 2023]:
  - The number of data breaches tripled between 2013 and 2022.
  - 98% organizations have a relationship with a vendor that experienced a data breach in 2021 or 2022.
  - 95% of breached organisations experienced more than one data breach.
  - **2.6 billion personal records breached in 2021 and 2022 alone.**

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INTERNET >< DATA >< PRIVACY

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WAS THE INTERNET DESIGNED TO HANDLE PRIVACY?

- Origins of internet: research networks used at Universities and Think Tanks
- Until about 2000, the internet was predominantly ‘read-only’.
- Then came the ‘read-write’ web or the social web with all the social media sites.
- Today, the internet is used for: email, research, job search, networking, social media, collaboration, entertainment, gaming, news, education, e-commerce, advertising, payments, trading and financial transactions, and the list goes on.
- We spend most parts of our day connected to some internet connected device or the other: smartphone, laptop, smart-watch, fitness trackers, smart cars, tablets, e-readers, smart speakers and headphones and of late everything from coffee machines to refrigerators.
- All of these websites, applications and devices are collecting data 24x7 on the same internet that was originally conceived not to handle private data but collaboration for academic research.
- On an average, we spend close to 7 hours in a day on the internet.

NON-PROFITS AND DATA

NON-PROFITS: WHAT DATA DO THEY HAVE AND WHY ARE THEY IDEAL TARGETS?

What data do non-profits have?

- Data Subjects: contributors, philanthropists, donors, children, members of marginalized communities
- Types of data: financial data, tax data, health data, payments data, political affiliation data
- Domains: Education, Healthcare, Poverty, Religion, Social Services, Media, Environment, Politics

Why are non-profits targeted?

- Sensitive data
- Inadequate security
- Lack of awareness and training

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CASE STUDIES

Target: Let’s call it ‘Flycatcher’ for the sake of this discussion. It is one of the oldest and most prestigious, international humanitarian organisations, that has played a key role in formalising several international treaties.

When?	2022
What?	Hackers used a vulnerability in the systems of Flycatcher to gain access to its servers.
Which data?	Names, locations, and contact information of more than half a million people from across the world. The people affected include missing people and their families, detainees and other people receiving services from Flycatcher as a result of the causes that Flycatcher is engaged with: conflict, natural disasters, migration.
Consequences?	● Flycatcher was force to shut down its computer systems and servers connected with a large international programme associated with rehabilitating conflict-stricken families. ● This in turn impacted its ability to locate missing persons. ● It impacted its ability to organize relief for victims of natural disasters. ● Reputational loss and erosion of trust.
Response?	● Take affected servers and systems offline. ● Stepped up roll out of a cyber security enhancement programme. ● Offered to communicate directly and confidentially with hackers. ● Made a call for States to cooperate to protect humanitarian organisations online.

Target: Let's call it 'Macaw' for the sake of this discussion. It is a confederation of 20 plus NGOs focused on global poverty alleviation.

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When?	2021
What?	Hackers used a vulnerability in Macaw's systems to gain access to sensitive data.
Which data?	Names, addresses, dates of birth, email addresses, phone numbers and gender of more than 1.7 million people across the world. In some cases, donation history and partial credit card data were exposed.
Consequences?	● The data was posted for sale on the dark web. ● Reputational loss.
Response?	● Macaw notified the affected people. ● Contacted their country's cyber security authorities.. ● Launched an investigation into the data breach and appointed a chief data officer.

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Target: Let's call it 'Raven' for the sake of this discussion. It offers cloud computing to nonprofits, foundations, corporations, education institutions, healthcare organizations, religious organizations, and individual change agents

When?	2020
What?	Hackers used security lapses in Raven's systems to gain access to its servers.
Which data?	Sensitive information such as demographic details, Social Security numbers, driver's license numbers, financial records, employment data, wealth information, donation histories, and protected health information.
Consequences?	● Paid the hackers a ransom in cryptocurrency. ● Investigated by the county's investigation agency.
Response?	● Ordered by regulatory authorities to delete unnecessary data and boost safeguards. ● Paid hefty amount to settle the matter with the various states in its country.

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TYPES OF CYBER SECURITY ATTACKS

WHAT FORMS DO CYBER SECURITY ATTACKS TAKE?

- Phishing /spear phishing
- Malware/ Ransomware
- DDOS
- Man in the middle
- SQL injection
- Insider threat
- Password attack
- Crypto-jacking

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DATA: DOUBLE-EDGED SWORD

Is Data a Toxic Asset?

- Data is valuable; so, everyone collects as much of it as possible.
- Can be used to commit fraud and identity theft at scale.
- Easy to steal
- Easy for perpetrators to remain anonymous.
- No certainty about data being deleted.
- *"It's cheaper to save all the data possible than to figure out how that data can be used."* – Bruce Schneier
- Securing data is often the last priority of organisations that collect vast amounts of data, which makes it easier for threat actors to steal.
- The fact is data security is complex but not unachievable.

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MITIGATION

Cyber Security Checklist

- Passwords and encryption
- Access Control
- Offsite Backups
- Information Security Policy
- Training and Awareness
- Disaster Recovery
- Vulnerability Assessments
- Incident Response Policy
- Cyber Security Insurance

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THANK YOU

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