When the world is evolving faster by the second, how can your cybersecurity keep up?

Cybersecurity disclosure report
May 2020

The better the question.
The better the answer.
The better the world works.
In a world where it’s not a matter of if you’ll be breached, but when, boards, investors, regulators and other governance stakeholders are becoming increasingly interested in how companies guard against, plan for and respond to cybersecurity threats.

As threats to cybersecurity and privacy become more complex and widespread, stakeholders are expected to scrutinize more closely what corporations disclose about cybersecurity in their public filings.

To help inform Canadian companies about the current level of disclosure, EY and the Chartered Professional Accountants Canada (CPA Canada) have joined forces to analyze the cybersecurity reporting practices of Canadian public companies. This initiative complements the EY US Center for Board Matters initiatives, which in 2018 began to explore what US public companies are sharing about cybersecurity risk and oversight.

The Canadian study analyzed public reports from the 2018 filings made by the top 60 large-cap TSX-listed companies to understand the nature and extent of cybersecurity-related disclosures in regulatory filings, including the annual information form, financial statements, management circular, management discussion and analysis (MD&A), and the material change report, as applicable.

For further details on the scope and methodology, see the appendix.
Key observations

While cybersecurity is a key matter highlighted by many companies, the level of transparency and disclosure varied for Canadian publicly listed companies. Below are the key highlights from our findings.

Summary of key findings

<table>
<thead>
<tr>
<th>Risk disclosure</th>
<th>Board oversight</th>
<th>Cybersecurity incident management</th>
</tr>
</thead>
<tbody>
<tr>
<td>98%</td>
<td>72%</td>
<td>42%</td>
</tr>
<tr>
<td>of Canadian companies cited cybersecurity as a risk factor.</td>
<td>of Canadian companies disclosed that at least one board-level committee was charged with oversight of cybersecurity matters.</td>
<td>of Canadian companies referenced response planning, disaster recovery or business continuity considerations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cyberattacks</th>
<th>Risk management</th>
<th>Privacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>78%</td>
<td>50%</td>
</tr>
<tr>
<td>of Canadian companies disclosed they have experienced some sort of cyberattack.</td>
<td>of Canadian companies referenced efforts to mitigate cybersecurity risk such as the establishment of processes, procedures and systems.</td>
<td>of Canadian companies disclosed specific concerns and actions defined to comply with privacy legislation.</td>
</tr>
</tbody>
</table>
The 2019 EY CEO Imperative Study revealed that investors and boards expect CEOs to respond to a broad range of global challenges, with cybersecurity topping the list at both the corporate and national levels.

In its 2020 Global Risk Report, the World Economic Forum identified the following three most significant technological risks for humanity:

1. Cyberattacks
2. Data fraud or theft
3. Critical information infrastructure breakdown

The privacy regulatory landscape is also evolving. The enforcement of the European Union’s (EU’s) General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA) are perhaps the most visible examples, but Canada is no exception. The Office of the Privacy Commissioner (OPC) is in the middle of a process and a series of public consultations to update Canadian regulations, including the Personal Information Protection and Electronic Documents Act (PIPEDA):

- Today, all Canadian companies must notify the OPC of data breaches when they represent a real risk of significant harm to affected individuals.
- In the near future, amendments to federal privacy regulations that support Canada’s Digital Charter will give more power to individuals, and authorities will align Canada with international privacy standards.

Canadian and US guidance on disclosing cybersecurity and privacy matters

The Canadian Securities Administrators (CSA) and other institutions have sent a very clear message: cybersecurity-related risks must be taken very seriously. In addition, public companies need to provide sufficient and timely disclosures to the market on what the organization is doing to respond to cyber risks in order to allow investors to make informed decisions.

The CSA has issued the following notices on cybersecurity, highlighting the relevance of disclosure and focusing on cybersecurity. These notices highlight the relevance of disclosure and the CSA’s expectation that Canadian public companies will accurately and frankly respond to cybersecurity and privacy challenges, and disclose them to investors.

Yogen Appairaju
Cybersecurity Leader, EY Canada
These notices help organizations understand the relevance of cybersecurity reporting and disclosures, and communicate actions the CSA has executed or will execute to respond to cyber challenges.

The US Securities and Exchange Commission (SEC) issued guidelines in 2018 to clarify public companies’ obligations to disclose cybersecurity risks, material breaches and their impact on business, finances and operations when trading stock in the United States. The objective was to enable investors to make more risk-informed investment decisions.

Figure 1 - CSA cybersecurity notices timeline

1. CSA staff notice 11-326
   September 2013
   Describes why the definition of cybersecurity measures should be important for issuers’, registrants’ and regulated entities' internal control systems.

2. CSA staff notice 11-332
   September 2016
   Declares cybersecurity as a priority area and reminds organizations about paying attention to cyber threats given their evolution.

3. CSA staff notice 51-347
   January 2017
   Presents the outcome of a review by the CSA of the disclosure provided by the constituents of the S&P/TSX Composite Index on cybersecurity risk and cyberattacks.

4. CSA staff notice 33-321
   October 2017
   Presents the results of a survey conducted by the CSA on cybersecurity and social media practices.

5. CSA staff notice 11-336
   April 2017
   Shares information on the results obtained from a roundtable session to explore cybersecurity issues and opportunities for better collaboration, communication and co-ordination in the event of a large-scale cybersecurity incident.

6. CSA staff notice 11-338
   October 2018
   Offers information on how to address a market disruption as a result of a cybersecurity incident.
EY and CPA Canada jointly analyzed cybersecurity- and privacy-related disclosures included in public reports issued by the top 60 TSX companies listed by market capitalization as of December 31, 2018. This represents 70% of the TSX market capitalization.

### Findings

#### Figure 2 - Cybersecurity-related findings from the filing of Canadian public companies

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risk disclosure</strong></td>
<td>Included cybersecurity as a risk factor</td>
<td>98%</td>
</tr>
<tr>
<td></td>
<td>Disclosed that at least one board-level committee was charged with oversight of cybersecurity matters</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td>Disclosed that the audit committee oversees cybersecurity matters</td>
<td>45%</td>
</tr>
<tr>
<td></td>
<td>Disclosed oversight by a non-audit committee (e.g., risk governance)</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td>Provided insights into management reporting to the board and/or committee(s) overseeing cybersecurity matters</td>
<td>72%</td>
</tr>
<tr>
<td><strong>Board oversight</strong></td>
<td>Disclosed frequency on reporting cybersecurity matters</td>
<td>67%</td>
</tr>
<tr>
<td></td>
<td>Disclosed the existence of cybersecurity incident management procedures</td>
<td>48%</td>
</tr>
<tr>
<td></td>
<td>Referenced response planning, disaster recovery or business continuity considerations</td>
<td>42%</td>
</tr>
<tr>
<td><strong>Cybersecurity incident management</strong></td>
<td>Stated that preparedness includes simulations, tabletop exercises, response readiness tests or independence assessments</td>
<td>38%</td>
</tr>
<tr>
<td></td>
<td>Referenced efforts to mitigate cybersecurity risk such as the establishment of processes, procedures and systems</td>
<td>78%</td>
</tr>
<tr>
<td></td>
<td>Disclosed use of education and training efforts to mitigate cybersecurity risks</td>
<td>47%</td>
</tr>
<tr>
<td><strong>Risk management</strong></td>
<td>Disclosed collaborating with peers, industry groups or policy makers</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>Disclosed use of an external independent advisor</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Privacy</strong></td>
<td>Disclosed specific concerns and actions defined to comply with privacy legislation</td>
<td>50%</td>
</tr>
</tbody>
</table>

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**Note:** The percentages indicate the proportion of companies that disclose the respective cybersecurity-related findings.
Risk disclosure

After analyzing the results, almost all Canadian organizations reviewed (98%) recognized the relevance of cybersecurity-related risks. The only organization that did not include cybersecurity in the risk disclosure section focused its disclosure on risks that could impact physical assets.

Board oversight

Approximately half (52%) of organizations reviewed have assigned just one committee to oversee cybersecurity matters; 20% have assigned more than one committee (for a total of 72%). Figure 3 summarizes the committees assigned to this function by the organizations reviewed.

Canadian companies are using both the audit committee (45%) and other non-audit committees (47%) to oversee cybersecurity considerations.

Communicating cybersecurity matters to the board is done by 72% of Canadian organizations. The specification of the frequency for reporting is disclosed by 67% organizations reviewed. Figure 4 illustrates this.

Figure 4 – Frequency of reporting

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annually</td>
<td>2%</td>
</tr>
<tr>
<td>Semi-annually</td>
<td>15%</td>
</tr>
<tr>
<td>Quarterly</td>
<td>28%</td>
</tr>
<tr>
<td>Every 5-8 months</td>
<td>17%</td>
</tr>
<tr>
<td>Monthly</td>
<td>3%</td>
</tr>
<tr>
<td>Not specified</td>
<td>3%</td>
</tr>
</tbody>
</table>
Cybersecurity incident management

Just under half (48%) of Canadian organizations disclosed the existence of cybersecurity incident management procedures to deal with unexpected situations directly impacting their electronic data processing activities. These incidents range from minor issues such as information technology device not working properly to more sophisticated challenges like a distributed denial of service or a privacy breach.

Regarding the use of response planning, disaster recovery or business continuity considerations, the study observed that 42% of organizations have elements to respond to contingencies affecting the operations beyond their electronic data processing capabilities.

More than a third (38%) of organizations disclosed that their preparedness for responding to unexpected situations includes simulations, tabletop exercises, response readiness tests or independence assessments.

Risk management

The majority (78%) of organizations made references to the efforts they have made to mitigate cybersecurity-related risks. The use of specialized processes and procedures, as well as implementing management systems, are among the key elements used to face these challenges. When specifying the frameworks used to support the cybersecurity strategy, ISO 27000,1 NIST2 and PCI-DSS3 were mentioned.

Education and training to mitigate cybersecurity risks is mentioned by 47% organizations. Cybersecurity and privacy awareness sessions are the most common ways organizations are addressing this.

Only 8% of organizations disclosed their involvement in the development of collaboration initiatives to interact with peers, industry groups or policymakers to share ideas and identify leading practices to respond to cybersecurity challenges. Meanwhile, 5% of organizations use an external cybersecurity advisor.

Carlos Chalico
Cybersecurity Senior Manager, EY Canada

“Defining a plan to know how to respond to unexpected situations and periodically testing it to confirm its effectiveness are leading practices to successfully overcome an incident.”

1 International Organization for Standardization 27000 series of standards.
2 National Institute of Standards and Technology.
3 Payment card industry – data security standard.
Privacy

In a time when the Canadian PIPEDA has been amended to make mandatory the notification of data breaches if they represent a real risk of significant harm to the affected individuals, 50% of Canadian organizations identified their interest in effectively responding to privacy regulations, including PIPEDA and the EU’s GDPR, amongst others.

One-fifth (20%) of all organizations reviewed disclosed they have experienced some sort of cyberattack. These organizations belong to different industries, including the financial, retail, consumer products, mining, technology, telecommunications and services sectors. Nine organizations who experienced a cyberattack described it as being non-relevant, while three described how the event was significant for them.

Your customers may be at the greatest risk during a cyberattack

Of the significant attacks, the largest impact was on an organization’s customers

Loyalty systems and programs were targets in a number of these cases

As a result of some of these attacks, class action lawsuits were filed
Conclusion

This report aims to enhance discussion around cybersecurity-related disclosures by offering insights on current disclosure practices, along with providing perspectives gathered through EY’s interaction with investors and boards.

Cyberattacks represent a real threat that companies must consider as a significant element in their enterprise risk management program. Public disclosures present an opportunity for companies to communicate how they are leading the way in responding to cybersecurity and privacy challenges. Transparency demonstrates not only a commitment to care and due diligence, but also to engagement with stakeholders.

“Cybersecurity, job losses due to technological change and income inequality are the top three global challenges for CEOs. This has made cybersecurity and data privacy one of the eight priorities for boards in 2020.”

Michael Massoud
Principal, Research, Guidance and Support CPA Canada
Questions for management and boards to consider

The following key questions may assist management and boards of reporting issuers when assessing their cyber risk disclosure practices:

Understanding industry risk level and stakeholder exposure

- Have we documented, and do we fully understand, the cyberspace in which we and our business partners and other stakeholders operate?
- Have we taken steps to understand investors’ concerns about our exposure to cybersecurity risk, and how we should address these concerns in our disclosures?
- Do we understand how our external auditors take cybersecurity risk into account when planning and performing their audit?
- Have we assessed cybersecurity risk disclosures made by other companies in our industry or in other industries but in similar circumstances?

Mitigating risk through employee education and governance structure

- Are we satisfied that cybersecurity risk and its mitigation receive appropriate attention in our governance structure? Is it clear who has the responsibility for overseeing this area?
- Does the individual or group responsible for overseeing cybersecurity risk devote sufficient time to these issues and receive appropriate input, support and resources from our organization as a whole? Is all this sufficiently clear in our disclosures?

Assessing and documenting internal policies and procedures

- Have we assessed the overall adequacy of our disclosure of cybersecurity risk with reference to the considerations set out in the CSA Staff Notices?
- Have we assessed each of our core periodic documents separately for the kind of operational, financial and regulatory cybersecurity-risk disclosures required? Do we have procedures in place to revisit this disclosure practice regularly?
- Have we defined internal procedures for assessing the materiality of cybersecurity breaches or other occurrences?
- Does the design of our disclosure controls and procedures to ensure cybersecurity incidents are communicated to management, and that consequent disclosure decisions are made in a timely manner?
- Have we developed internal key performance measures relating to how we monitor, detect and manage cybersecurity risk? If so, should we disclose these in our external reporting?
Related resources

For more information, the following resources may be useful.

**CPA Canada resources**

- Cyber Security: Establishing a risk management program and reassessing disclosure practices
- Cybersecurity: Is it on your radar?
- Cybersecurity practices and reporting trends

**EY resources**

- EY CEO Imperative Study
- Global Information Security Survey
- Eight priorities for boards in 2020

- What companies are sharing about cybersecurity risk and oversight
- EY Center for Board Matters
- IAPP – EY Annual Privacy Governance Report
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Cybersecurity Senior Manager, EY Canada
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Appendix:
Scope and methodology

This document is based on the review of the top 60 large-cap TSX-listed companies’ 2018 regulatory disclosure reports published to the System for Electronic Document Analysis and Retrieval (SEDAR). Disclosure documents reviewed were: annual information forms, management discussion and analysis, financial statements and information circulars.

Company selection
The 60 Canadian companies reviewed represent 70% of the market capitalization of the S&P/TSX Composite Index (TSX) and S&P/TSX Composite Venture Index (TSXV) across 10 major industry sectors. Companies were selected to ensure representation across sectors. The table below summarizes the number of Canadian companies reviewed per sector.

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Number of Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications &amp; Media</td>
<td>4</td>
</tr>
<tr>
<td>Financial Services</td>
<td>9</td>
</tr>
<tr>
<td>Industrial Products &amp; Services</td>
<td>14</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>7</td>
</tr>
<tr>
<td>Mining</td>
<td>7</td>
</tr>
<tr>
<td>Oil &amp; Gas</td>
<td>5</td>
</tr>
<tr>
<td>Real Estate</td>
<td>1</td>
</tr>
<tr>
<td>Technology</td>
<td>3</td>
</tr>
<tr>
<td>Utilities &amp; Pipelines</td>
<td>8</td>
</tr>
</tbody>
</table>

Grand Total: 60

4 Market capitalization percentage calculated as of December 31, 2018.
Analysis

The following list of key words was prepared based on the comments from the survey respondents to determine whether their comments should be considered as part of this report.

The collection of comments related to the key words was used to build the trends reported in this document. The following table presents the key words used as part of this exercise.

<table>
<thead>
<tr>
<th>Attack</th>
<th>Data set</th>
<th>Passwords</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attacked</td>
<td>Dataset</td>
<td>Penetration</td>
</tr>
<tr>
<td>Attacker</td>
<td>Disaster recovery</td>
<td>Personal information</td>
</tr>
<tr>
<td>Attackers</td>
<td>Disaster recovery plan</td>
<td>Personal Information Protection and Electronic Documents Act</td>
</tr>
<tr>
<td>Attacks</td>
<td>DRP</td>
<td>Phishing</td>
</tr>
<tr>
<td>BCP</td>
<td>Encryption</td>
<td>PIPEDA</td>
</tr>
<tr>
<td>Bot</td>
<td>GDPR</td>
<td>Privacy</td>
</tr>
<tr>
<td>Business continuity plan</td>
<td>General Data Protection Regulation</td>
<td>Protected information</td>
</tr>
<tr>
<td>Classified information</td>
<td>Hackers</td>
<td>Ransomware</td>
</tr>
<tr>
<td>Cyber</td>
<td>Hacking</td>
<td>Resilience</td>
</tr>
<tr>
<td>Cyber insurance</td>
<td>Incident</td>
<td>Restricted access</td>
</tr>
<tr>
<td>Cyber security</td>
<td>Incident response plan</td>
<td>Root</td>
</tr>
<tr>
<td>Cybersecurity</td>
<td>Information security</td>
<td>Sensitive information</td>
</tr>
<tr>
<td>Cyber-security</td>
<td>Information tech</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Cybersecurity disclosure</td>
<td>Intrusion</td>
<td>Unauthorized access</td>
</tr>
<tr>
<td>Data breach</td>
<td>IRP</td>
<td>Virus</td>
</tr>
<tr>
<td>Data breaches</td>
<td>Limited access</td>
<td>Viruses</td>
</tr>
<tr>
<td>Data leakage</td>
<td>Malicious software</td>
<td>Vulnerabilities</td>
</tr>
<tr>
<td>Data privacy</td>
<td>Malware</td>
<td>Vulnerability</td>
</tr>
<tr>
<td>Data risk management</td>
<td>Password</td>
<td>Worms</td>
</tr>
</tbody>
</table>
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