Executive Summary: There are four actionable technology governance approaches that boards and executives—especially those who are not presently deeply engaged in new technologies and digital change—should adopt to ensure the survival of their companies, according to governance expert and executive adviser Andrea Bonime-Blanc. Here, she reviews the approaches, along the way providing a checklist of questions for boards and executives, potentially positioning their companies to thrive during a time of disruptive change.

By Andrea Bonime-Blanc

The Fourth Industrial Revolution has ushered in a brave new world few of us can begin to fathom—including those who fancy themselves cutting-edge techno-geeks, super experts and digital business geniuses. Change is happening exponentially faster than any human can process and in a qualitative manner that no machine can understand.

It will take the focus and collaboration of all kinds of people—from traditional social scientists and futurists to highly specialized, bleeding-edge technologists and everyone in between—across silos, disciplines, sectors and barriers, with the assistance of every kind of new machine we create. To navigate the coming technological storm safely and successfully, the world will need deep horizontal and vertical collaboration at every level: individual, communal, local, social, corporate, national and global.

That said, in this article we only have time to focus on a narrow sliver of this daunting task—to look at what average, more traditional businesses (executives and board members) can do today to help their companies successfully navigate these churning, changing waters in a way that builds longer-term resilience and sustainability to the benefit of shareholders and other key stakeholders.

Besides the usual business development, numbers crunching and technological nitty-gritty that go into a company’s business planning and long-term strategy, there are four actionable technology governance approaches that boards and executives—especially those not presently deeply engaged in new technologies and digital change—should adopt immediately at the very least for the survival of their companies:

1. Adopt robust, triangular governance.
2. Engage in agile, strategic risk management.
3. Ensure ethical and responsible innovation.
4. Understand stakeholder trust and reputation risk.

While these concepts may seem to be somewhat abstract, they are not, as we will elucidate below. If C-suites and boards pay attention to these four critical components of technology governance, their organizations will have a better chance of surviving the current maelstrom and maybe even thriving in this age of disruption that we have only just begun to experience and still barely understand.

As we review these four components, we will focus mostly on a particular new technology—artificial intelligence—as it already has become pervasive (in ways that we don’t even know) and is predicted by experts to be as disruptive and far-reaching as...

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electricity once was. Indeed, experts say that AI and related technologies will have a much larger and more transformative impact than the age of computing ushered in a few decades ago.

1. **Adopt Robust, Triangular Technology Governance**

   What is triangular technology governance? Very simply, it’s making sure that the board, executive management, and operational and functional leadership of a company are all working in unison, collaboratively and in an integrated manner on the formulation, oversight and implementation of an appropriate technology strategy for the company. See illustration below.

   Simply put, boards and management have got to get technology governance right, and it starts with the board making sure management is engaging effectively in analyzing and integrating relevant technological trends and analysis into business planning and strategy formulation. While it is the primary responsibility for management to understand the contours and effects of the marketplace, competitive forces, research and development, products and services central to their business plan and strategy, it is incumbent that the board also become knowledgeable and proactive on how new technological developments will affect the integrity and long-term competitiveness and survival of the company.

   The core questions every business (its management from a strategy-making standpoint and its board from a strategy-oversight perspective) needs to ask itself include the following:
   - Should new technologies (e.g., AI) play a role in the development of our products and services?
   - If so, are those technologies part of our current business planning?
   - Do we have the appropriate data and internal talent?
   - Are these technologies part of our traditional competitors’ business plan and strategy?
   - Are there disrupters in the marketplace from other sectors (or a brand new one) about to eat our lunch?
   - What are the risks and opportunities of deploying a new technology strategy in our business?

   The following illustration is one I have used to depict what boards need to do for cybersecurity oversight as well as AI oversight, which applies just as well to any form of digital transformation oversight. The point: Boards need to go from sit-back to lean-in technology governance, and that means that the board itself needs to be equipped to do so (have the right directors, proper education and skillset, etc.).

2. **Engage in Agile, Strategic Risk Management—Think “Black-Swan”**

   Besides fully understanding what the possibilities might be to introduce AI into your business, it is critically important for management and the board to think about the risks and opportunities—to proactively plan for an AI or other technology black swan event that might obliterate the current business model.

   Think about what happened to Kodak when it invented digital photography and decided to shelve it as a commercial product. The rest is history, as they say. The same can happen many times over in this crazy age of invention, reinvention and obliteration. It’s do-or-die time, and all companies need to think about not only what the competition is doing but, even more importantly, where the new and
different competition is coming from. Despite how it has stumbled, look at the disruption Uber has achieved through technology at the severe expense of the taxi industry globally. Uber, in turn, knows that its existing business model may well be obliterated by self-driving cars, and that’s why it’s planning actively on morphing eventually into a fleet of self-driving cars.

Some of the basic questions boards and executives need to ask about risk and opportunity include:

- Does the company effectively identify, analyze and mitigate its risks, including environmental, social and governance (ESG) risks?
- Is the risk management approach holistic and strategic (such as through enterprise risk management), not only identifying risks but also looking at opportunities—i.e., understanding how to transform risk into a value creation strategy?
- Does the company have the right talent within management and within the organization itself to effectively integrate technology risk and opportunity into its strategy and everyday tactics?
- Has the company engaged in an effective technology risk identification exercise that has been integrated into business planning and product development?

3. Ensure Ethical and Responsible Innovation

One of the critical activities management and boards must engage in is understanding the overall ESG issues that affect their company. And sadly, few but the most enlightened leaders consider these issues to be a core part of their remit. That time is coming to a close with the critical strategic issues we are seeing in the ESG space globally: climate change, #MeToo, AI ethics, labor displacement, human trafficking, corruption, fraud and others.

It is incumbent on boards and

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**Table 1.2 Artificial Intelligence: Some of the big ESG Issues**

<table>
<thead>
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<th>Environmental</th>
<th>Designing &quot;safe&quot; AI into robotics and IoT products</th>
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<td>Understanding AI impact on sustainability issues:</td>
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<td>ensuring low impact on air, water, land</td>
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<td>Designing AI products that facilitate conservation</td>
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<td>Creating intersection between AI products and</td>
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<td>services and electrification</td>
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<td>Social</td>
<td>Data and information privacy in the age of AI</td>
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<td>Impact of AI on labor and employment</td>
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<td>Need for lifelong learning education policy shift</td>
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<td>Governance</td>
<td>AI requires new governance parameters from inception</td>
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<td>Boards and c-suites must learn about AI both</td>
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<td>generally and as it applies to their sectors</td>
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*Source: Extracted from Chapter 1 of The Artificial Intelligence Imperative.*
management to understand how technology affects key ESG issues. Pictured on the prior page (bottom) is a simple broad overview of how some of these ESG issues intersect specifically with AI (and one could extrapolate this table to a few other technologies as well).

Among some of the key threshold questions boards and management should be tackling around ethical and responsible innovation are the following:

• What is the state of your internal ethics and compliance program?
• Do you have one? If not, why?
• The same for corporate social responsibility (CSR or CR).
• Do you have a defined set of values that fuel your mission and strategy?
• Do you have a stated culture? If you do, is it window dressing and an exercise in public relations, or does it have teeth? (Is it measurable and actionable?)
• Do your defined ethics, values and culture have anything to do with how you create, design, develop and implement your products and services? If not, why?
• If technology is part of your equation now, have you integrated CSR and ethical implications into your use of technology and the design of your products and services?

4. Understand Stakeholder Trust and Reputation Risk

As part of a technology governance approach, boards and management should also pay close attention to key stakeholders, going beyond shareholders to identify primary stakeholders like customers, employees, regulators and partners. And beyond just knowing who they are, do you know how they feel about the critical ESG issues affecting your business?

Do they trust you? Do you have a good reputation with your stakeholders? If you are not transparent with key stakeholders, will they punish you when the truth comes out in this age of social media?

We live in a world where stakeholder trust has definitive reputational and financial consequences. Consider the reaction of Facebook stakeholders after the Cambridge Analytica fiasco first came to light (affecting the data of its key stakeholders: users).

Financial publications will reveal a stock shock. A reputation risk index, which is based on big data analytics on a wide variety of ESG issues, provides a view of reputational consequences. The index (left) shows very high and sustained ESG reputation risk of around 60 out of 100 based mostly on perceived violation of data privacy rights of users.

Gloom to Boom: Becoming Resilient

We are in a more complex and deeply interconnected, intersected and unpredictable time than humankind has
ever experienced. It is incumbent on all of us as individuals and members of society to educate ourselves. It is even more urgent for leaders—like executives and boards of businesses—to educate themselves immediately on the disruption that is here and now and that will upend business, environment, society and governance as we know them.

Above is a picture from my upcoming book, “Gloom to Boom: How Leaders Transform Risk into Resilience and Value,” in which I will delve much more deeply into these issues and will offer hope and practical advice on a slew of ESG and technological issues. The picture illustrates one of the best options for any type of organization today: becoming resilient. To get there, boards and executives must deploy good technology governance, agile and strategic risk management, an appreciation for key stakeholders, and a focus on ethical and responsible innovation for their organizations.

Hope is not lost, but much work needs to get done in the boardroom and the C-suite. Opportunity is knocking on the door like crazy, but so is disruption. What boards and management need to do now to avoid being disrupted out of their current products, services and even existence is to put on their collective thinking caps to understand the current and future landscape and the big “what ifs” that are now staring them in the face and pivot to a winning long-term strategy.

For More Information
Andrea Bonime-Blanc is author of numerous articles and books related to topics discussed in the accompanying article, including:

- **The transformative impact of AI.** Experts say that AI and related technologies will have a much larger impact than the age of computing ushered in a few decades ago. Along with coauthor A. Lauterbach, Bonime-Blanc delves into all of the reasons, antecedents, background, competitive landscape and business planning in a new book recently published by Praeger, “The Artificial Intelligence Imperative: A Practical Roadmap for Business.” http://amzn.to/2pnYFql

- **What reputation risk is and how it affects companies.** “The Reputation Risk Handbook: Surviving and Thriving in the Age of Hyper-Transparency” (Greenleaf 2014). http://amzn.to/11BHtih

- **Becoming Resilient.** Her upcoming book is “Gloom to Boom: How Leaders Transform Risk into Resilience and Value” (Routledge/Greenleaf 2019).