Ethical Edge of Innovation

SUMMARY: Fast-moving technological innovation is outpacing the legal and regulatory structures designed to protect public safety, promote business and trade, and foster ethical practices. While new technologies often roll out ahead of laws, in the coming decade the public pressure to curb unintended consequences will intensify.

Forecasts

- Differing views on the role of technology and regulation in society will lead to a spectrum of laws and regulations in different regions of the world, with variations governed by factors such as views of privacy, bioethics, and free speech. Some countries may surge ahead of others due to looser regulatory environments—for instance, China and CRISPR-based genetic modification.
- There could be resurgent consumer interest in government regulation in the face of transformative but alarming technologies, such as self-driving vehicles and pervasive user tracking and profiling.
- Wider adoption of artificial intelligence—and the black-box algorithms that often power it—will make questions around tech adoption and control relevant to many organizations.
- The nature of free speech online will be worked out in the 2020s: what is allowable, who controls speech, and whether social media and its platforms constitute public forums.

Key Uncertainties

Speed of adoption of these technologies, including AI systems

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Attitudes toward online vs. "real-life" actions and goods (e.g., cyber-bullying, theft of online goods)

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Definitions of algorithmic bias

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Tolerance for "black-box" algorithms

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Nature of regulation of technology platforms, for instance as utilities

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Harmonization of international rules governing technology

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Consumer desire for technological innovation vs. demand for regulation

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Supporting Trends

- **Ethical algorithms.** Attention to ethical problems in artificial intelligence is rising.
- **Faking reality.** Technologies for creating convincing fake audio and video are advancing rapidly, leading to worries about how to determine real from fake.
- **CRISPR gene editing.** The CRISPR technique for making precise changes to DNA is moving into both more basic-research applications and therapeutic use.
- **Data-trail control.** People are generating vast data trails of personal information, leading to growing questions about who should own and control that data.
- **Algorithmic sexism.** Besides threatening more women's jobs than men's, work automation risks infusing gender biases throughout society's core systems.
- **Regulators targeting big tech.** Concerned about negative network effects, regulators in the EU, Asia, and the United States are heightening regulation of the activities of the world's tech titans.
- **Criminal use of blockchain.** Blockchain is being used in criminal activities ranging from identity theft to drug trafficking, money laundering, and phishing.
- **The right to repair.** Laws about intellectual property and the "right to repair" one's possessions are shifting as products become more reliant on proprietary software.

Related Drivers of Change

- Fast Data
- Who Owns the Data?
- Fraying Cybersecurity
- Taming Big Tech Dependency

Notable Data Points

HIGH COST OF CYBERCRIME

From 2011–2017, Americans **lost more than $100 billion** to identity theft, though only 25% of identify thefts are reported to police.

Source: Nick Selby. "Local police don't go after most cybercriminals. We need better training." The Washington Post, April 21, 2017.

AI AND FAKERY

China's Baidu Deep Voice AI can reproduce and manipulate a person's voice, even changing its gender and accent. Apps such as FakeApp **can create seamlessly realistic video footage** and have been used to insert people's faces onto pornographic content.

Source: Tristan Green. "Baidu's voice cloning AI can swap genders and remove accents." The Next Web, February 26, 2018. Kevin Roose, "Here Come the Fake Videos, Too." The New York Times, March 4, 2018.

NEW TECH, NEW CRIMES

A 2018 attack on the city of Atlanta will **cost the city more than $2.5 million** to clean up.

Source: Aaron Diamant. "Ransomware attack cost city $2.7 million, records show." https://www.wsbtv.com/news/local/atlanta/ransomware-attack-cost-city-27-million-records-show/730813530

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Strategic Insights

- Due to a range of factors—government inaction, consumer eagerness, speed of technological innovations and deployment—there will be a sizeable gap between the commercialization of technology and the creation of rules about its use. Associations and their industry members have an opportunity to fill in these gaps by developing best practices and acceptable rules for tech adoption and use. Associations can also help organizations head off unwanted regulation and get ahead of issues, including corporate social responsibility issues.
- Besides the opportunity to fill in regulatory gaps, associations will have the opportunity to shape new laws and regulations in multiple areas of technology, allowing leaders to suggest acceptable fixes.
- Care will be needed when operating in technological fringe areas as public outrage following a tech-driven incident can damage an organization's reputation—even when no law has been broken.
- Associations are scattered across the spectrum from cutting edge to late adopters in dealing with the legalities of technology, creating an opportunity to transfer knowledge from leaders to laggards.
- Algorithmic-enhanced HR analytics are advancing. The black-box nature of many HR algorithms may leave organizations open to charges of discrimination, even when they had no such intent.

Timing

- **Stage:** Inherently emergent.
- **Speed:** This change is rapid, as it is driven by rapidly advancing IT.

Potential Alternative Futures

- **A shorter leash:** Regulation ramps up in the face of multiple technological and sociopolitical issues.
- **Rise of "ethical tech":** Technology companies seeking to get ahead of stronger regulation subscribe to publicly known codes of ethics. Adherence to these codes becomes a competitive mandate.
- **Fake everything:** The application of advanced technologies such as AI to fake video and audio dramatically exacerbates the fake news problem. Everything is considered fake unless verified by a trusted source.

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Take Action

- **Lead the way forward in legal and ethical practice.** Association leaders will need to anticipate the implications of new technologies and be at the forefront of defining and advocating for laws and business practices that protect the reputations of the many from the misdeeds of the few.
- **Stay true to your purpose to navigate unsettled issues.** Depending on your association's purpose and your members' interests, you may be more or less ready to expose problems and seek solutions. If your association serves a public purpose, you may be compelled to step into the breach on unsettled law. Associations serving business interests may choose to keep their deliberations out of the spotlight until they settle on a course of action.
- **Create the first drafts for laws and regs.** Standard-setting and credentialing organizations often create the framework on which laws and regulations are later built. Some states, like California and Massachusetts, tend to be first to respond with new laws. Work with chapters and local partners in these states to get these precedent-setting laws right.
- **Embrace ethics to minimize harm.** Help your members rely on ethics as a guide where legal precedent does not clarify gray areas. Look to other industries for parallel developments that could offer insights into how your members might respond to similar situations in their world.
- **Rely on a diversity of perspectives for deeper understanding.** You'll never regret involving diversity in any project, especially for innovations where consequences may be difficult to anticipate. You may need technical and legal expertise as well as the perspectives of affected stakeholders. Innovations can be created for one purpose and, once they are adapted or commercialized for other purposes, lead to alarming consequences.

Keyword Search

To continue researching this change driver, use combinations of these search terms:

technology, law, ethics, biotechnology, bioethics, deep fakes, algorithms, AI, artificial intelligence, blockchain, algorithmic bias, algorithmic discrimination, ethical technology, privacy, regulation

Who Will Be Affected

Associations representing professionals and companies in scientific, engineering, computing, and biotech and biomedical fields are at the forefront of this issue. Associations and nonprofits whose mission relates to public health and safety will be drawn into the frontlines of these public debates. Any field where disruptive innovation is occurring will experience legal and ethical gaps between what is possible and what people agree is acceptable.

About ASAE ForesightWorks

ASAE ForesightWorks is a deliberate, evidence-based research program and emerging line of products to provide association professionals with a *continual* stream of intelligence about the changes facing the association industry, including:

- regularly updated action briefs;
- tools for applying insights from the research in your association;
- guidance in performing environmental scans; and
- opportunities to engage with peers around the research.

Ultimately, the program's mission is to empower association leaders to create a culture of foresight in their associations and to lead their organizations confidently into the future.

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