

Disruptive Policy and Innovation

Disruptive Policy

The business world has embraced the notion of disruptive technologies and, in large part, so has the public sector, and yet so many of the most significant innovations have been tipped by disruptive policies, not technologies.

A brief look back shows that policies can drive innovation in established industries or they deepen the advantages of incumbent technologies and companies. Indeed, it's dangerous to singularly pursue new technologies or new business models without simultaneously pursuing (or at least tracking) changes in policy.

Disruptive technologies, according to Christensen, initially underperform in existing markets but as they improve ultimately go on to disrupt established markets. Incumbent companies that don't recognize the disruptive nature of new technologies risk obsolescence.



But disruption isn't an inherent quality of a new technology?it's an outcome. It's the observable changes to an industry's technological, organizational, and economic structure before and after something happens. In other words, anything that causes disruption is disruptive.[1]

Under this definition, when policies overturn existing the technological, organizational, and economic structure of an industry or, indeed, of multiple industries, they are disruptive.[2] Consider a few:

The **Pure Food and Drug Act of 1906**, the first serious consumer protection law, led to the creation of the Food and Drug Administration. It disrupted what were, at the time, entirely unregulated food and drug industries, by requiring products to list ingredients like alcohol, morphine, opium, and cannabis as well as requiring federal inspection of food and drug manufacturing. While greatly reducing the risks of dangerous ingredients in food, it also dramatically increased the costs of compliance for small-scale, local production of food and easing the entrance and growth of large-scale, mass-produced national brands.

The **Rural Electrification Act of 1935** established utilities, paid for distribution systems serving rural areas, and installed electric lights and outlets in every home (and kitchen). Before, electric power was widely available only in profitable urban markets. Afterwards, the stage was set for the broad rise of electric power and the ensuing explosion of electric devices for cooking, cleaning, washing, refrigeration, etc.

The **Federal-Aid Highway Act of 1956** authorized the construction of the Interstate Highway, connecting towns and cities and indeed entire regions. Along the way, it disrupted transportation by enabling long-haul trucking; disrupted retail by enabling mass-produced, locally distributed goods and the supermarkets and department stores (e.g., Walmart) that sold them; and disrupted the restaurant industry by enabling broad distribution of standardized, bulk-prepared food items sold through national chains (e.g., McDonalds). Local economies were never the same.



The **Airline Deregulation Act of 1978** removed government control over fares, routes and the entry of new airlines into the market. The new competition led, over the next two decades, to bankruptcies and liquidations by major carriers like Eastern, Midway, Braniff, Pan Am, Continental, America West Airlines, Northwest Airlines, and TWA as well as 100+ smaller airlines (including most of the dozens of new airlines founded following deregulation). At the same time, it fostered the creation of new business models (low-cost airlines like Southwest) and new technologies (e.g., the regional airliner).

The **Breakup of AT&T in 1982** (and the **Telecommunications Act of 1996**) opened up the telecommunications market to new entrants and freed old entrants to engage in related industries, and (ultimately) opened access to and required interconnectivity within the existing communication infrastructure. This enabled MCI, Sprint, and a variety of service and equipment providers to enter the market; it also accelerated the development of satellite and cellular networks; and, finally, it deprived AT&T of the profits that had funded Bell Labs, where much of the original work of the information technology revolution (e.g., semi-conductors) was done.

Many more belong here than can fit: think of the disruptive impacts of the Land Grant acts of 1862 and 1890, the Civil Rights Act of 1964, or the Antitrust Laws (1890?1914). And these are just the peaks. Every industry has its own range of locally disruptive policies that rarely get the attention of scholars of innovation, let alone private and public sector proponents of innovation and change. In sustainability, a number of recent policies are promising but still too young to declare: California's AB32 and Low-carbon Fuel Standard are promising, as are the Renewable Portfolio Standards implemented at the state and federal levels.

In contrast to disruptive policies, sustaining policies ultimately strengthen the advantages of incumbent technologies, organizations, and industries: think of the Citizens United ruling, the Financial Services Modernization Act of 1999, and fossil fuel subsidies as well as more subtle policies like those preventing the release of information on fracking formulas or well leaks, on antibiotic use in livestock, or on GMO ingredients in food. These all serve to maintain the status quo.

And there are neutral policies that regulate and direct industries while threatening neither to sustain nor disrupt them: for example, the Clean Air Act (1970) or CAFE standards (1975) had powerful effects but remained within the established systems.

Bringing disruption into the policy arena

So what does this mean for public and private efforts to innovate against our biggest [global challenges](#)?

First, the right policies can drive innovation, not just stifle it. With this in mind, we can and should look more closely at the dynamics behind disruption, and how new policies enable new technologies, new companies, and new business models to emerge, evolve, and grow. Ask, for example:

- Does this policy reduce the barriers to entry for new technologies or new companies?
- Does it favor the scope of emerging alternatives over the scale of existing solutions?
- Does it provide critical infrastructure on which new technologies and companies can operate and grow?
- Does it reapportion the social costs of competing alternatives, changing the value proposition of emerging technologies and business models?

Obviously, there are more and more nuanced questions to be considered. This is just a start.

Second, new policies, new technologies, or new business models (and new businesses) co-evolve together. In new industries like the

internet and information technology, policy lags. But in established industries like electric power, telecommunications, and agriculture, policy innovation may be required to open the door for competing technologies and business models.

Finally, a better understanding of what drives disruption would make for better policy. Short answer: it's not just the technology. Over a half century of innovation studies?in the diffusion literature, in strategy & management, in economic history, and in technology studies?has found this time and again yet had little effect on public policy. For policy to effectively drive disruption, that will need to change.

The popular conversation around innovation has rarely acknowledged its dependence on the disruptive (or sustaining) nature of the policy landscape. At the same time, the conversation around policy has focused very little on its dependence on the process of innovation. It's time the two got together.

Note that supporters of Christensen's theory of disruptive innovation have since broadened the definition to include not just underperforming technologies but also high performing technologies, new business models, and anything else that improves on a product or service in ways that the market does not expect (in other words, that disrupts). If that sounds dangerously tautological, you're right. ?

Similarly, when policies strengthen the existing structures and benefit established interests, they are sustaining policies. ?