

Listen, technology holdouts: Enough is enough

By [Larry Downes](#) February 24, 2017, Washington Post



Even as fanatic customers can be counted on to line up outside the Apple store for the latest iPhone, there are still millions of Americans who don't use a smartphone at all. For that matter, there are still plenty of happy owners of tube televisions, rotary dial telephones, film cameras, fax machines, typewriters and cassette tape players.

The accelerating pace of disruption means more and more products are facing an early retirement. But even as computers, electronics and health products move quickly from must-haves to museum artifacts, a small but loyal following often carries a torch for the old stuff, sometimes out of nostalgia, sometimes from sheer stubbornness. For them, familiar and functioning technologies are good enough.

My "Big Bang Disruption" co-author Paul Nunes and I refer to these have-wont's as "legacy customers," users who simply refuse to migrate to disruptive innovations even after they've become both better and cheaper, and even after almost everyone else has made the shift.

Legacy customers are a niche market, although not necessarily a bad one. Much of Brooklyn, it seems, has been turned over to rediscovering handmade goods — which, ironically, are sold over the Internet.

But in some cases the devotion of the laggards can cause major headaches. When the market for outmoded products shrinks, most manufacturers just stop making them. By law, however, some technologies can't be put to sleep until regulators give permission — usually long after the dying market has become unprofitable.

Car manufacturers must keep up to a decade's worth of spare parts, for example, even for discontinued models. And the U.S. Postal Service, teetering on bankruptcy for over a decade, still has to deliver mail to 155 million households, even as first-class volume continues to decline precipitously.

As the post office has learned, the cost of keeping old technologies on life support skyrockets when expensive networks of equipment and people must be spread over a dwindling number of users.

Although the vast majority of consumers have long since abandoned the analog telephone network for better and cheaper Internet voice, to take another example, 5 to 10 million households still rely solely on the old system. But as equipment manufacturers exit and older workers retire, maintenance costs now far exceed what the remaining customers pay. Yet carriers can't junk the old technology without approval from the FCC and state regulators.

No surprise, our research found legacy customers are largely older consumers who long ago gave up trying to keep up with the latest and greatest. Many are perfectly happy with worse and more expensive products; perhaps even take pride in still knowing how to use them. I was slow to embrace smartphone technology myself, and I still resist upgrading to the newest models even when it's clear they offer better value and more features that I'd likely use.

But like me, legacy customers are often wrong about both the costs and benefits of embracing disruptive new products and services. As recently as 2010, 80 percent of profits at AOL came from subscribers, many of them older, paying \$25 a month for dial-up service they no longer used, but who thought the fee paid for (free) email service.

Worse, data recently issued by the Commerce Department finds that 13 percent of Americans still don't use the Internet at all, even though it's now available nearly everywhere. (More homes have access to Internet service than indoor plumbing.)

You might think the holdouts just can't afford it, which certainly remains an important factor despite programs that subsidize both wired and wireless broadband. But the real holdup is that non-adopters — mostly older, rural and less-educated — just aren't interested in Internet access, at any price. As other factors such as price and usability fall, a perceived lack of relevance now dominates.

Public and private efforts to overcome that perception are crucial for two important reasons. The first is that the resisters are wrong — the Internet has become the starting point for government services, news, employment, entertainment and, increasingly, health care and education. Life without it is increasingly and unnecessarily isolated.

The second is that non-adopters ultimately cost more to serve. Printing information is increasingly a waste of scarce resources as digital alternatives continue to get better and cheaper. And all of us pay for the waste. A few consumers may prefer standing in line at the bank branch to using an ATM or banking app, but the higher cost is spread over all customers.

To overcome the inertia of legacy customers, it may be appropriate for governments to step in. The United States has long had programs aimed at making broadband more affordable for lower-income Americans and more accessible for those living in sparsely populated areas. On Thursday, the FCC unanimously approved the allocation of up to \$2 billion in additional taxpayer funds for rural broadband build-out in areas where private investment cannot be cost-justified. Total support for rural broadband could reach \$20 billion over the next decade. (The devil, however, will be in the details. A government audit found that an earlier Agriculture Department effort to expand rural broadband wasted \$3 billion of stimulus money.)

At the other end of the life cycle, some technology dinosaurs need help being euthanized. Here, regulators can serve as a catalyst, providing the final nudge for legacy customers. Once it was clear that smart LEDs would become better and cheaper than inefficient incandescent lightbulbs, for example, governments around the world began passing laws banning production of the older technology.

And while things got a little messy at the end, in 2009 Congress succeeded in turning off analog TV, switching the few remaining holdouts over to digital. To ensure no one had to go without “Let’s Make a Deal,” lower-income families were given converter boxes for older tube TVs.

As a bonus, the more efficient digital signals have made it possible for the FCC to reclaim and auction prized radio frequencies to feed exploding demand for mobile services. So far, the auctions have deposited nearly \$20 billion in the treasury, with additional auctions going on right now that will soon bring in much more.