

Shoshana Zuboff

Creating value in the age of distributed capitalism



Artwork by Celia Johnson

As mass consumption gives way to the wants of individuals, a historic transition in capitalism is unfolding.



The problem

Capitalism is changing dramatically, from a focus on mass production to offerings customized for individuals.

Why it matters

The transformation is spreading rapidly from its digital roots. Over time, the way all companies create value must change.

What you should do about it

Using four strategies, rebuild your business from the perspective of individual consumers:

Federate: Create loose coalitions of enterprises to meet individual needs.

Mine hidden assets: Use underutilized assets outside your organizational structure, including assets from individuals.

Emphasize distributed-work systems: Divide the work into segments that can be accomplished by individuals, sometimes the same ones whose needs you hope to meet.

Focus on individualized metrics: Assess your performance by how well you are meeting individuals' needs.

Capitalism is a book of many chapters—and we are beginning a new one. Every century or so, fundamental changes in the nature of consumption create new demand patterns that existing enterprises can't meet. When a majority of people want things that remain priced at a premium under the old institutional regime—a condition I call the “premium puzzle”—the ground becomes extremely fertile for wholly new classes of competitors that can fulfill the new demands at an affordable price. A premium puzzle existed in the auto industry before Henry Ford and the Model T and in the music industry before Steve Jobs and the iPod.

The consumption shift in Ford's time was from the elite to the masses; today, we are moving from an era of mass consumption to one focused on the individual. Sharp increases in higher education, standards of living, social complexity, and longevity over the past century gave rise to a new desire for individual self-determination: having control over what matters, having one's voice heard, and having social connections on one's own terms. The leading edge of consumption is now moving from products and services to tools and relationships enabled by interactive technologies. Amazon.com, Apple, eBay, and YouTube are familiar examples of companies solving today's premium puzzle. Lesser-known companies like CellBazaar (in emerging-market mobile commerce), TutorVista (in tutoring), and Livemocha (in language education) also abound.

It would be easy to construe these as isolated cases of innovation and industry change, but I believe they represent much more: a mutation in capitalism itself. What's the difference? Innovations improve the framework in which enterprises produce and deliver goods and services. Mutations create new frameworks; they are not simply new technologies, though they do leverage technologies to do new things. Historically, mutations have superseded innovations when fundamental shifts in what people want require a new approach to enterprise: new purposes, new methods, new outcomes.

In the same way that mass production moved the locus of industry from small shops to huge factories, today's mutations have the potential to shift us away from business models based on economies of scale, asset intensification, concentration, and central control. That's not to say factories are going away; their role in supplying quality, low-cost goods, including the technologies underpinning the shift to more individualized consumption, is secure. Yet even mass production is becoming less homogenous (consider the ability to order custom sneakers from Nike). And for many goods and services, new business frameworks are emerging: federations of enterprises—from a variety of sectors—that share collaborative values and goals are increasingly capable of distributing valued assets directly to individuals, enabling them to determine exactly what they will consume,

as well as when and how. This shift not only changes the basis of competition for companies but also blurs—and even removes—the boundaries between entire industries, along with those that have existed between producers and consumers. The music and newspaper industries ignored this shift, to their great detriment. I believe *all* businesses will have to find ways to adapt to this new world if they want to grow.

The economist Joseph Schumpeter cautioned his readers not to expect new forms of economic development to announce themselves with a grand flourish. “The ‘new thing,’” he wrote, “need not be Bessemer steel or the explosion motor. It can be the Deerfoot sausage.”¹ My hope is that this article will help executives see the links between today’s “Deerfoot sausages,” recognize the magnitude of the economic transition these mutations portend, and begin setting—or at least contemplating—a new course in this changing world.

It won’t be easy. But enterprises that can leverage technology *and* real-world social connections to solve their piece of the premium puzzle—creating individualized ways to consume goods and services at a radically reduced cost—will prosper as they realize wholly new sources of value that remain invisible to companies still bound by conventional business models.

Mutation and distributed capitalism

The last chapter of capitalism unfolded in the early 20th century and was epitomized by Henry Ford and his Model T. At first, the Model T was simply regarded as the affordable car that finally made the Ford Motor Company profitable. But it turned out to be much more. The Model T embodied a mutation we now call mass production. It solved the premium puzzle of its time, reducing the price of an automobile by 60 percent or more, and thrived in the emerging environment of mass consumption.

Ford’s Model T not only changed the entire framework of production but also set the stage for another automotive pioneer, Alfred Sloan, to establish the modern, professionally managed, multidivisional company as the basis for wealth creation in the 20th century. In the end, the Model T’s power had nothing to do with cars per se. Mass production could be applied to anything—and it was. It provided the gateway to a new era because it revealed a parallel universe of economic value hidden in mass-market consumers and accessible to companies that could create affordable versions of previously unattainable goods such as cars. That potential for wealth creation remained invisible to those who clung to the 19th-century framework of small-factory, proprietary capitalism.

¹ Joseph Schumpeter, “The creative response in economic history,” *Journal of Economic History*, 1947, Volume 7, Number 2, pp. 149–59.

The mass-production business model has come under assault during the past decade, perhaps most successfully by the combination of Apple's iPod and its music service, iTunes. The iPod is a cool gadget, but (like the Model T) it is also a gateway product, one of the first to achieve both scale and commercial success while expressing a new mutation. The iPod and iTunes reinvented music consumption by starting with the listener's individual space, which I call "I-space." Apple rescued musical assets from a faltering business model—the compact disc—and bypassed the industry's costly legacy systems and routes to market. It supported users in reconfiguring their music as they saw fit. Apple is the largest music retailer in the United States today. But I would argue that the real breakthrough had nothing to do with music per se. The true source of value, which had been invisible to the music industry, resided in Apple's ability to reinvent the consumption experience from the viewpoint of the individual, at a fraction of the old cost.

The iPod—and its successors, the iPhone and the iPad—are part of the first wave of what I call "distributed capitalism," which encompasses the myriad ways in which production and consumption increasingly depend on distributed assets, distributed information, and distributed social and management systems.² Distributed capitalism could not thrive without the technologies associated with the Internet, mobile computing, wireless broadband, and related developments in digitization and software applications. But just using these technologies does not ensure success.

Winning mutations—those that create value by offering consumers individualized goods and services at a radically reduced cost—express a convergence of technological capabilities and the values associated with individual self-determination. The iPod and scores of other successful mutations have infiltrated the economy sufficiently to provide preferred alternatives to established sources of goods and services across many industries. Taken together, they have begun expressing a distinctly new "genetic code" that encompasses five essential functions:

Inversion. The old logic of wealth creation worked from the perspective of the organization and its requirements—for efficiency, cost reductions, revenues, growth, earnings per share (EPS), and returns on investment (ROI)—and pointed inward. The new logic starts with the individual end user. Instead of "What do we have and how can we sell it to you?" good business practices start by asking "Who are you?" "What do you need?" and "How can we help?" This inverted thinking makes it possible to identify the assets that represent real value for each individual. Cash flow and profitability are derived from those assets.

²Distributed capitalism—and the shift away from business models based on economies of scale, asset intensification, concentration, and central control—was first described in my 2002 book, *The Support Economy: Why Corporations Are Failing Individuals and the Next Episode of Capitalism*, which I wrote with Jim Maxmin.

Rescue. Once valuable assets have been identified, they must be rescued from old, costly industry structures. Assets—such as knowledge, music, books, medical diagnoses and treatments, teaching, information, skills, and people—have been concentrated inside organizations, where they can be managed and controlled to fulfill corporate goals, procedures, and targets. Rescuing assets means digitizing them whenever possible for easy and affordable distribution to users in I-space.

Bypass. Many current mutations have arisen outside the domain of existing institutions, and often in spite of their determined resistance. By leveraging digital technologies and new social arrangements, these mutations are bypassing existing institutional structures—human, physical, organizational, technological, or financial—and connecting individuals directly to the assets they seek. Just as a coronary bypass ignores a damaged blood vessel and takes blood to its destination another way, so mutations like iTunes or distance learning simply bypass the unnecessary costs, outdated assumptions, and value-destroying practices of legacy systems.

Reconfiguration. Once individuals have the assets they want, they must be able to reconfigure those assets according to their own values, interests, convenience, and pleasure. A teenager, for instance, may use her iPod Touch and an application called Pandora to assemble an entire personalized “radio station” while at the same time learning Mandarin Chinese at the kitchen table on Sunday afternoon through an online classroom based thousands of miles from her home.

Support. Successful mutations offer consumers the digital tools, platforms, and social relationships that support them in living their lives as they choose. The new sources of economic value can be discovered and realized in I-space only when consumption strengthens the sense of personal control, delivers opportunities for voicing ideas, and enables freely chosen social connections. The emerging logic of distributed capitalism rewards enterprises that realign their practices with the interests of the end consumer and punishes enterprises that try to impose their own internal requirements or, worse yet, maximize their own benefit at the expense of the individual end user.

Sometimes mutations can stumble and betray their genetic inheritance, as in Facebook’s missteps regarding user privacy. But what’s important is that all these early mutations address individual needs that are invisible from the perspective of a typical company and target the kinds of trapped assets that are both valuable to individuals *and* easily digitized.



The next test for distributed capitalism

Can distributed capitalism go further? What happens when it confronts forms of physical assets and social support that cannot be reduced to information—arenas where face-to-face experience is essential? This is when distributed capitalism, which until now has manifested itself almost entirely in the digital world, will begin to mature as it takes aim at core economic functions with a second wave of more complex mutations that combine virtual and real-world assets.

Early mutations in health care

The premium puzzle has become the defining characteristic of most individuals' health care experiences: the health care one can afford is rarely the health care one wants. This problem has been felt most acutely in the United States, where expenditures on health care have grown faster than GDP for three decades, while quality and performance have declined. But it is sure to intensify elsewhere as aging populations make it harder for governments to finance today's systems.

In the vacuum created by these frustrations, many people concluded that they must first try to help themselves and their families before turning to professionals. Mutations such as WebMD arose, aimed at capturing, interpreting, and distributing information once held closely within the medical enclave. Such sites are now credible ways to access information that doctors just won't provide at a price people can afford—and sometimes at any price.

Another group of mutations has emerged in the areas of home-based diagnosis, monitoring, and testing. Each mutation is designed, in its own way, to invert the process of information gathering, rescue critical diagnostic capabilities from professional enclaves, connect those assets directly to the individuals who want them, enable users to configure them as they wish, and support their use with timely feedback. There are tests for everything from blood pressure to marijuana use to HIV infection. Distribution has even gone mobile, with cell phones that monitor blood glucose levels and heart rates, connect you to hot lines, signal the calorie count of your cheeseburger, or register the energy you burn as you walk your dog.

Radical mutation in elder care: A case study

One of the most intractable premium puzzles in the health care system today is elder care. The average annual cost of nursing-home care in the United States approaches \$80,000. Only a small percentage of US residents can afford these prices, while state and federal funding is shrinking. Further, nursing homes tend to be for-profit businesses in which cost imperatives lead to understaffing and low wages. Dismal data on bedsores, medical errors, and elder abuse suggest that elder care as generally practiced is a euphemism for human warehousing on the cheap.

A Maine-based start-up called Elder Power (EP) has taken direct aim at the elder care premium puzzle. It showcases new capabilities and strategies that integrate digital and face-to-face support, and its initial success provides important guidance on solving today's premium puzzle in the physical world. EP has broken through the economic barriers of elder care. The average monthly cost in Maine exceeds that in the United States as a whole for nursing-home care (\$7,000 in Maine versus \$6,500 in the rest of the United States); for assisted living (\$4,000 versus \$3,100); and for 24-hour home care (\$24,000 versus \$16,200). In contrast, EP has enabled seniors to remain at home at an average monthly cost of \$702—\$378 for technology and \$324 for personalized support. EP enables seniors to be secure, socially enriched, and personally empowered for 3 percent of the average cost of conventional home care in Maine, 10 percent of the average cost of a nursing home, and 18 percent of the average cost of assisted living.

Before explaining how this is possible, I want to offer two caveats. First, the reason I have such detailed information about EP is that my husband and collaborator, Jim Maxmin, is one of its architects. Jim holds shares in the company, which is a for-profit community network whose profits are entirely reinvested in the network to support its neediest participants. Second, EP is a tiny experiment, with (as of March 2010) 56 members. This group does not, however, represent an easy-to-serve population: many have mild to severe Alzheimer's disease.

EP has a significant technology component. Each elder person's home is equipped with a "digital spine," with members opting for various technology levels, from the basic tools (emergency alert, a stationary webcam, a videophone, and a computer interface) to more elaborate systems that include multiple webcams, sensors, and around-the-clock monitoring. A Web site provides access to a community calendar, local services, a story and poetry corner, video clips, advice, e-mail, and an EP Facebook page. There is also a Web-based Elder Power TV network, which features local events such as plays and church services. The technology reassures families that the elder person is well and the network is there to help.

As is crucial to second-wave mutations, the EP model extends beyond the digital realm. EP is a social network that includes members; their families, friends, and neighbors; volunteers; paid staff; and professionals. Each member has a personal advocate within the network who helps coordinate the use of EP's services. In addition, EP expects members to take an active role in their own well-being and to help others in the network. A partially disabled housebound member, for example, oversees the daily monitoring.

Financial surpluses generated by the EP model help to offset the expenses of volunteers and to reward them with meal vouchers, gasoline, film

tickets, and the like. This combination of paid and unpaid support services means that one registered nurse employed by EP can serve more than 60 remote seniors. EP estimates it would take 40 to 50 volunteers to support 1,000 seniors.

Strategies for radical mutation

Elder Power exemplifies four new strategies for pulling off radical mutations in arenas where real-world—not just digital—assets are integral to the individual experience. First, it's a federation, by which I mean a branded constellation of enterprises drawn from many industry sectors that revolves around the individual—such as a local utility that gives EP members top priority in the monitoring and emergency maintenance of home electrical and heating systems. Second, EP identifies, uses, and remunerates underutilized community and network resources (services, spaces, people, capabilities, and goods) that are “hidden in plain sight,” such as the local high-school cafeteria, where elders dine weekly after the regular lunch period ends, or an extra bedroom in a member's home that can be used for another elder to recuperate after a hospital stay.

Third, EP leverages available resources by distributing work: one volunteer or member might make two daily phone calls. Another might transport a group of seniors to lunch once a week. A third might coordinate the evening meal for three seniors in her neighborhood. Finally, EP relies on what I call “I-metrics,” which realign business practices with the experience, values, and priorities of the people an enterprise serves. For EP, I-metrics reflect subjective evaluations such as “I feel safe and happy at home,” “I feel needed,” or “I can get down to the back meadow to see the spring flowers.”

Elder Power is far from the only place where the importance (and sometimes the difficulty) of implementing these strategies is revealing itself. Consider federation: since Apple understood that its iPod users wanted to be connected to one another, it didn't say, “Go buy a cell phone, because connection isn't our business.” Instead, it broadened the scope of its offerings, creating new partnerships and business models at each turn as the stand-alone iPod morphed into the iPhone. The choice to host applications on the iPhone further accelerated this process, reimagining the iPhone as a portal to an ever-widening “protofederation” of support providers.

But creating effective federations is challenging. Apple, like Facebook, has struggled to define its relationship with application developers. Both companies began by regarding applications as simply hosted transactions—a manifestation of the old genome—but are evolving toward a recognition that applications are a seamless extension of their end users' experience. And both are confronting the following challenge: how much control will they, as the coordinators of their respective federations, exercise, compared with other member enterprises and with end users?

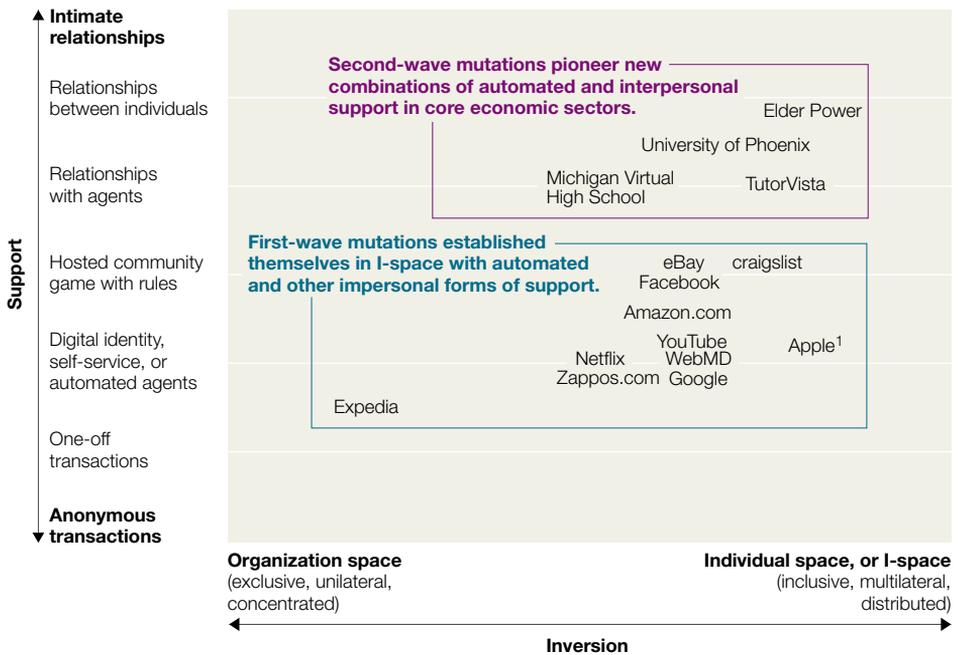
Amazon.com has exerted control by requiring companies that participate in its marketplace to comply with its customer standards and be subject to its methods of “engineered trust,” such as published customer evaluations. These kinds of relationships are the early building blocks of federated support networks.

Embracing distributed capitalism

While Elder Power is operating on a tiny scale, its way of solving the premium puzzle in elder care offers a vivid demonstration of what I believe will be core features of the 21st-century economy: creating new social and enterprise frameworks that operate on behalf of individual end users, enabling them with the tools, platforms, and relationships to live their lives as they choose. The range of individual support underlying many of today’s mutations is wide (exhibit).

What should executives do to ensure that their organizations will grow in this new world? For starters, it’s critical to question the old logic and vocabulary of competitive strategy. For example, one executive asked me

A new wave of business mutation is bringing personalization and tailored support to the core of the economy.



¹iPod, iPhone, iPad, and applications.

Source: Shoshana Zuboff

One way for executives to shake up their strategic thinking is to start with the radical question of how a mutation could destroy the boundaries of their industries.

recently, “How do I play out what a mutation might look like in my industry?” But in fact, mutations do not arise within industries; they arise as reconfigurations of assets defined by the unmet needs of individual end users. Mutations take root in individual space, and they quickly blur the boundaries of industries, sectors, and enterprises—ultimately making those boundaries obsolete. Is Amazon.com, for instance, in the retail, the logistics, or the Web-services industry? The question no longer makes sense.

As mutations move into the physical world, it’s easy to imagine a similar blurring of boundaries: road construction might become part of transportation or sustainability solutions; airlines might be core elements of leisure, logistics, or environmental solutions; banks could become part of well-being, education, or active-aging solutions. In short, mutations that upend industries can come from anywhere, and conventional forms of market analysis and competitive strategy will miss those mutations.

One way for executives to shake up their strategic thinking is to start with the radical question of how a mutation could destroy the boundaries of their industries. In my mind, that danger increases under the following circumstances:

- 1.** The products or services you offer are affordable to few but desired by many.
- 2.** Trust between you and your customer has fractured. The average person’s trust in business has been in steep decline for the past 30 years, and the distance between what today’s businesses can deliver and what individuals want is only growing. This problem makes all consumer-facing industries—especially financial services, health care, insurance, autos, airlines, utilities, media, education, and pharmaceuticals—particularly vulnerable.
- 3.** Your business model is concentrated, with a high level of fixed costs, a large percentage of which could be distributed, delegated to collaborators, or shifted to the virtual world. Here, too, most existing industries are deeply vulnerable.

4. Your organizational structures, systems, and activities can be replaced by flexible, responsive, low-cost networks. A neighborhood watch, citizen journalists, online peer support, and peer-to-peer reviews and information sharing are all examples.
5. There are hidden assets, outside institutional boundaries, that are underutilized but could replace your fixed costs, add capacity, or add new capabilities.
6. You don't have all the tangible or intangible assets required to meet your customers' needs.
7. Your end users have needs and desires that you haven't imagined and have no way to learn about. Unless you make a strategic commitment to explore I-space, you'll learn about this vulnerability only when your end users migrate elsewhere. This has already been the experience of executives in industries such as recorded music, newspapers, broadcast news, and travel.



Despite the drama and significance of historic transitions in capitalism, they do not announce themselves. The pattern of change is one of overlapping and interwoven fields of transition rather than clean, unidirectional breaks. For those of us living through these transitions, they can be confusing and frustrating; resources invested in innovation serve only to fix what was, bringing us no closer to the future. But these times are also rich with unique opportunities for companies able to decipher the emerging pattern of mutation and to convert that understanding into new business models that support the complex needs of the 21st-century individual. ○

Shoshana Zuboff, the former Charles Edward Wilson Professor of Business Administration at the Harvard Business School, is the author of *In the Age of the Smart Machine: The Future of Work and Power* (Basic Books, 1989), among other books.