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Computing: By unloading work on to their customers, firms can grant them more control—and save money in the process

MEET your airline's latest employee: you. You may not have noticed, but you are also now working for your phone company and your bank. Why? Because of the growth of the self-service economy, in which companies are offloading work on to their own customers. It is, you could say, the ultimate in outsourcing. Self-service can have benefits both for companies and customers alike. It is already changing business practices in many industries, and seems likely to become even more widespread in future.

The idea is not new, of course. Self-service has been around for decades, ever since Clarence Saunders, an American entrepreneur, opened the first Piggly Wiggly supermarket in 1916 in Memphis, Tennessee. Saunders's idea was simple, but revolutionary: shoppers would enter the store, help themselves to whatever they needed and then carry their purchases to the check-out counter to pay for them. Previously, store clerks had been responsible for picking items off the shelves; but with the advent of the supermarket, the shoppers instead took on that job themselves.

On the heels of supermarkets came laundromats, cafeterias and self-service car washes, all of which were variations on the same theme. But now, with the rise of the web, the falling cost of computing power, and the proliferation of computerised kiosks, voice recognition and mobile phones, companies are taking self-service to new levels. Millions of people now manage their finances, refinance their home loans, track packages and buy cinema and theatre tickets while sitting in front of their computers. Some install their own broadband connections using boxes and instructions sent through the post; others switch mobile-phone pricing plans to get better deals. They plan their own travel itineraries and make their own hotel and airline bookings: later, at the airport, they may even check themselves in. And they do all of this with mouse in hand and no human employees in sight.

Self-service appeals to companies for an obvious reason: it saves money. The hallmark of all of these self-service transactions is that they take place with little or no human contact. The customer does the work once done by an employee, and does not expect to be paid. So to work well, self-service requires the marriage of customers with machines and software. That union, says Esteban Kolsky of Gartner, a consultancy, is now doing for the service sector what mass production once did for manufacturing: automating processes and significantly cutting costs.

"From the corporate side you hear, 'Well, we want to make sure the customer gets what he wants,' or whatever, but, bottom line, it does reduce costs," says Mr Kolsky. Francie Mendelsohn of Summit Research, a consultancy



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based in Rockville, Maryland, agrees. "People don't like to admit it, but self-service is used to reduce head count and therefore improve the bottom line," she says. "It's not politically correct, but it's the truth."

Netonomy, a firm that provides self-service software to telecoms operators, reckons online self-service can cut the cost of a transaction to as little as \$0.10, compared with around \$7 to handle the same transaction at a call centre. As operators offer new services, from gaming to music downloads, the logical way to manage their customers' demands, says John Ball, Netonomy's co-founder, is to let customers do it themselves. There can be advantages for customers, too: convenience, speed and control, says Mr Kolsky. "Rather than wonder if we're going to get good service, we'd much rather go to a website or a kiosk or an ATM and just do it on our own," he says.

A win-win situation, then, in which companies reduce their costs and customers gain more control? Not necessarily. If companies extend self-service too far, or do it in the wrong way, they could alienate their customers. In particular, consumers will embrace self-service only if the systems are well designed and easy to use. Shopping online, for example, with round-the-clock access and no crowds, traffic or pesky salespeople, lends itself to self-service. But when customers want a question answered or a problem with a transaction resolved, automated systems often fail them—and may deter them from doing business with that company again.

If companies are going to jump on the self-service bandwagon, says Mr Kolsky, they had better be prepared to do it right. "They have to look at self-service strategically, not just as a cost-cutter," he says. Most airlines, for example, are simply using online self-service to cut costs, rather than to cater to their customers' needs, he suggests. Booking a complex itinerary online is often difficult or impossible. And, says Mr Kolsky, "you can book a ticket on the web, but how many times have you tried to cancel a ticket online?"

Help yourself

Airlines are having more success with another form of self-service: kiosks. Automated teller machines (ATMs) and self-service petrol pumps have been around for years, but other kinds of kiosk now seem to be proliferating like rabbits. Most airports and large railway stations in America, Europe and Japan are lined with touch-screen machines that will sell you a ticket or spit out a boarding pass in far less time than it takes to queue up and deal with a human being. According to this year's Airline IT Trends Survey, 33% of airlines expect that by the end of the year, more than half of their domestic customers will buy their tickets from kiosks.

Kiosks are also showing up in cinemas, shops and car-rental centres, and moving into hotels, amusement parks and malls, allowing customers to buy what they want with the swipe of a credit card and then quickly move on. According to Ms Mendelsohn, the number of retail kiosks worldwide will grow by 63% over the next three years, to 750,000.

This is partly because a new generation of customers is more comfortable with using computers, keyboards and screens, whether at home or in the mall. The technology has improved in recent years, too. "Kiosks have been around for decades, but the technology wasn't always up to the job and people were far more fearful of using them," says Ms Mendelsohn. But the main reason for kiosks' growing popularity, she says, is that they let users jump the queue.

Kiosks are even proliferating at the birthplace of self-service itself. Some retailers are experimenting with automated check-out counters that allow shoppers to scan their own groceries. The most sophisticated systems actually "talk" to customers, telling them

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Netonomy provides self-service software. Summit Research is a consultancy specialising in kiosks. Speechworks has an audio file of "Julie" in action. Britain's Royal Mail uses IVR software from Nuance and Aspect.

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"Just as mass production transformed manufacturing, self-service can allow services to be delivered at low cost and in large volumes."

what each item costs as it is scanned and walking them through the process step-by-step. Less fancy kiosks simply let shoppers scan purchases, pay and move on. Either way, the customer is doing all the work. But shoppers do not seem to mind. "People tell me, 'This is faster. This is fun'," says Ms Mendelsohn. "Actually, it is not faster, but when was the last time you applied the word 'fun' to shopping in a supermarket?"

In a study commissioned by NCR (a maker of ATMs and other kiosks), IDC, a market-research firm, found that nearly 70% of customers in five different countries said they were willing to use self-check-out. In America, the figure was 78%. That would suit the supermarket chains just fine, since a kiosk can handle the workload of two-and-a-half employees at a fraction of the cost.

Photo kiosks, which can make prints from digital-camera memory cards, are now popping up in many shops. After that, kiosks could start to colonise fast-food restaurants. McDonald's is trying out several systems with varying degrees of success. And Subway, a sandwich chain, is installing kiosks to free employees who make sandwiches from the job of having to take orders and handle payments (though it has, so far, stopped short of simply asking customers to make their own sandwiches). Despite their growing popularity, however, kiosks have not been universally embraced. Some, it seems, talk too much. "They get vandalised," says Ms Mendelsohn—not by customers, but by people who work in the vicinity, and who cannot stand to listen to their incessant babbling.

Self-service need not involve websites or kiosks. It can also be delivered over the phone. The latest systems do away with endlessly branching touch-tone menus in favour of interactive voice-recognition (IVR) technology, which supposedly allows customers to talk directly to machines. IVR systems greet callers with a recorded human voice and then use voice-recognition software to engage in something like a human conversation.

The talking cure?

In 2001, America's perennially cash-strapped rail system, Amtrak, introduced a perky IVR system called "Julie" (after the human owner of the service's voice), created by SpeechWorks, a software firm based in Boston. Julie greets callers in a lively but businesslike manner, and then, very informally, explains how the system works. The same old branching system is there, but since callers are answering "Yes" or "No" or providing other simple one-word answers to Julie's questions, it does not feel quite as tedious.

If you say "reservation", for example, Julie walks you through the process, asking for your starting point and destination, and filling you in on schedules and costs. By keeping the "conversation" simple, the software reduces misunderstandings and moves the process along pretty smoothly. If you get stuck, you can still reach a human simply by asking for one. (Julie tells you how to do that, too.)

Amtrak says the system now handles a third of the rail system's bookings, and surveys show 80% of callers are happy with the service. In its first two years of operation, Julie saved Amtrak \$13m. Last year Julie was given the ability to handle credit-card transactions directly, without passing the call on to a human agent, which should lead to further savings.

Phone companies, brokerage firms, utility companies and insurance firms are all now replacing old touch-tone systems with IVR. In Britain, the Royal Mail installed an IVR system in 2003 that combines technologies from two software companies, Aspect and Nuance. Last year it handled 1m customer inquiries, reducing customer-service costs by 25%.

While a carefully designed IVR system can work well, a recent study by Forrester, a consultancy, suggests that not all of the kinks have been entirely worked out. The firm surveyed 110 large companies and found that IVR systems met the needs of their customers a paltry 18% of the time, less than any other form of customer contact. "Clearly," says Navi Radjou of Forrester, "usability needs to be improved."

And that seems to be the ultimate self-service challenge. Machines are fast, reliable workers with prodigious memories. But they are more inflexible than even the rudest salesperson. "As customers realise they can't get everything they need, they give up and then you have dissatisfied customers coming through other channels," says Mr Kolsky.

But when done correctly, self-service systems have proved that they can both save money and make customers happy. This suggests that they could indeed transform the service economy in much the same way that mass production transformed

manufacturing, by allowing services to be delivered at low cost in large volumes. Though it may take five years before most transactions are conducted via self-service, says Mr Kolsky, "we're definitely moving in that direction." In other words, you never know who you might be working for next.

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