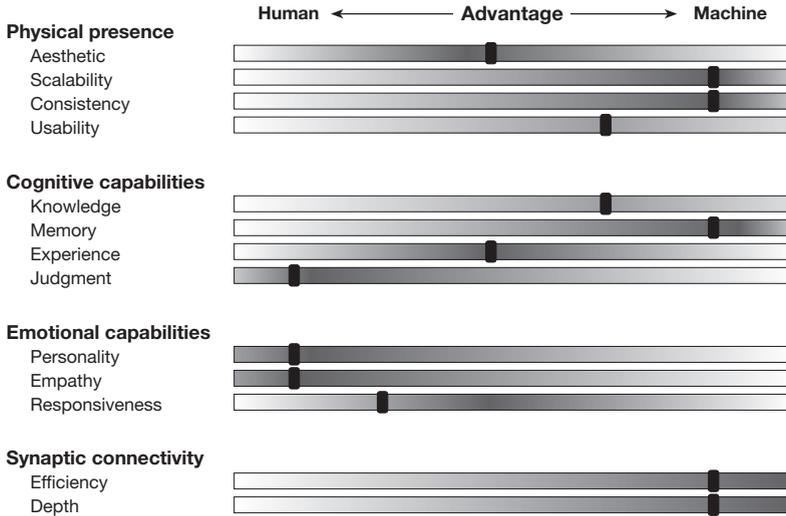# 6

PUTTING THE AMALGAM OF PEOPLE AND MACHINES TO WORK

As we have seen, people-dominant interfaces have long prevailed in traditional frontline services. But technological evolution and customer readiness among other factors are now enabling deployment of machine-dominant interfaces on the front lines of many businesses. Each approach has its strengths and weaknesses. People excel at conveying empathy and handling exceptions but are challenging to manage and costly to deploy and train, especially in large-scale service operations. Machines excel at processing information and performing rote or repetitive tasks but can depersonalize or homogenize interactions. In effect, the front office needs machines to compensate for people's shortcomings and people to compensate for machines' shortcomings.

That's why we believe that tomorrow's mainstream service interface will be hybrid—one that creatively amalgamates the strengths of people and machines (see figure 6-1). In structuring such innovative interfaces, businesses will deploy two variants of

FIGURE 6-1

What Humans and Machines Do Well

Ability to dependably offer:

	Human ←———— Advantage ————→ Machine
Physical presence	
Aesthetic	
Scalability	
Consistency	
Usability	
Cognitive capabilities	
Knowledge	
Memory	
Experience	
Judgment	
Emotional capabilities	
Personality	
Empathy	
Responsiveness	
Synaptic connectivity	
Efficiency	
Depth	

the hybrid interface archetype: one where people operate in the foreground and are supported by machines, and one where machines operate in the foreground and are supported by people. We call these people-led and machine-led hybrid interfaces, respectively. Such hybrid models optimize the trade-offs between efficiency and effectiveness in customer interaction and relationship management. Of course, many hybrid interfaces will involve people in the foreground, enabled by machines in the background, enabled by still more people and machines. Even though such multilayer or multilevel interfaces may become commonplace, this chapter deals with the fundamental building blocks of complex interfaces—the hybrid forms.

The reality of hybrid interfaces can seem by turns wildly innovative and yet comfortingly familiar. For example, many years ago, the MIT researcher, Steve Mann, tried living his life in constant

communication with the world's knowledge networks. Beginning in 1982, before the laptop and Wi-Fi, Mann assembled a portable PC to wear on his back and a "heads-up" display over one eye, with a chorded keyboard in his pocket that enabled him to enter data and commands with one hand, and a wireless network that connected his equipment continuously to the Internet. If you began discussing an obscure subject with him, he might have little to say initially; but, after accessing data online, he could speak knowledgeably about your topic.[1] Mann's latest wearable computing system, WearComp7, consists of a seemingly ordinary pair of sunglasses functioning as a heads-up display, connected to tiny electronic components hidden in his clothing that supply computing power, memory, and wireless connectivity.[2]

What started as a wild experiment in an MIT laboratory has become reasonably mainstream in business today: the handheld tracking and scanning devices of FedEx delivery personnel, the small computers appended to the belts of Staples or Target clerks for accessing product information, and the wireless phone headsets that clerks at retailers like Old Navy and Banana Republic wear. The upscale London-based restaurant chain, Wagamama, specializing in New Age Asian noodles, utilizes the hybrid approach. In the dining area, servers take customers' orders on handheld PDAs with wireless connections to the kitchen. If customers order everything at once—food and drinks—their beverages may arrive before the server taking their order even leaves the table.

A recent advertising campaign for BlackBerry—the handheld device that acts like a PDA with e-mail—juxtaposes the human-dominant and the hybrid interfaces. In the first scene, the service person in the maintenance hangar tells the owner of a private jet that the part he needs *may* be in the distributor's inventory. In an alternate scenario, the service rep uses a BlackBerry to confirm that the part is available and will arrive the next morning.[3] The ad captures the powerful union of the strengths of humans (in this case, face-to-face empathy and reassurance) with those of machines (access to real-time data in far-flung complex systems).

Such technology-enabled interfaces can transform average workers into heroes and stars.

The reverse of the aforementioned hybrids is machines enabled by people in equally wild, yet familiar incarnations. Remember that odd creation of the Depression Era in New York City—the Horn & Hardart Automat? It was an ostensibly "modern" service, devoid of frontline service workers except for the lone woman who sold tokens in a booth inside the restaurant's entrance, with walls of windowed metal boxes displaying food and beverages that customers could open by inserting special tokens in the slots. Behind the boxes, you could glimpse a bustling industrial kitchen, full of white outfits replenishing the windows emptied by hungry patrons. Like vending machines today, the interface consisted of machinery but was enabled by people.[4] Contrast that with the now familiar experience of dialing directory assistance. A recorded voice answers you by asking for the city and listing. Once you reply, a live operator actually handles the call, unless you happen to connect with a fully automated system such as Tellme. You may or may not hear the operator's voice as the operator identifies the number and authorizes another recording to recite the number and thank you for calling. For continuity between spoken machine prompts and live conversation, operators often record their own voices to intone greetings and commands, whereas voice-synthesizing chips generate the phone numbers. By unbundling the call structure—where standard components are automated and custom components are delivered "live"—operators can handle more calls per hour and speak fewer words. Idle chitchat decreases, and productivity increases.

Perhaps the starkest contrast of the two types of hybrid interfaces comes from the U.S. Department of Defense in its deployment of two attack planes, the Stealth Bomber and the Predator Missile. The Stealth Bomber is so complex and so unwieldy that no human being or crew of humans can keep it aloft, let alone pursue a target, while attending to its many systems. The Stealth is like any commercial aircraft in that on-board computers control many of the variables that enable flight. But, where commercial

planes can be flown without machine assistance, the Stealth cannot. In contrast, the Predator is actually an unmanned aircraft that can fly repeatedly into hot war zones to attack military targets without risking a pilot's life. The Predator's pilot maneuvers the plane from a command module that picks up in-flight sights and sounds from sensors built into the aircraft.[5]

In aviation, these two approaches to hybrid interfaces—pilots supported by machines (Stealth), and machines supported by pilots (Predator)—rely on radically different architectures. This chapter focuses on the business applications and implications of such hybrid interfaces. We will look first at people-led interfaces, then at machine-led interfaces, and finally at the best practices of a U.K. bank that successfully used a variety of hybrid interfaces to reinvent retail banking.

People Enabled by Machines

What constitutes a machine? To broaden our perspective, consider Wal-Mart, now the largest retail chain in the world, selling products ranging from consumer packaged goods to packaged media and an employer of more than 1.5 million people.[6] Recent studies reveal that 25 percent of U.S. productivity gains in the late 1990s came from increases in efficiency at Wal-Mart alone.[7] That resulted from Wal-Mart's retail automation, along with its purchasing power and channel muscle. Its stores may look low-tech, but its operations are high-tech: innovations such as efficient consumer response, category management, and cross-docking yield enormous distribution efficiencies. Wal-Mart puts a human face on retail distribution through its many store associates and greeters, typically senior citizens who embody such small-town qualities as kindness, warmth, and hospitality. Its greeters welcome you when you enter and thank you when you exit, so that you have positive first and last impressions (which weigh most in determining customer perceptions of service) within a highly automated environment.[8] In essence, Wal-Mart is a machine with a human face.

But Wal-Mart's retail personnel need not understand the machine's inner workings. Retail clerks hired for their human qualities can focus on behaving warmly, considerately, and respectfully. Other personnel can deal with mechanics behind the scenes. This division of labor has backed many retail formats. For example, teenagers—not adults—operate the typical suburban shopping mall in the United States today. Rarely will you see an adult employee on the retail floor or in the back office of an Abercrombie & Fitch or a Best Buy. Unlike mom-and-pop retailers, these chains have control systems like Wal-Mart's: regional offices or headquarters, not staff in the stores, determine and centrally control merchandising, inventory management, product displays, pricing, discounting, and other aspects of store operations. Such centralization allows national chains to employ teenage clerks for their friendliness, pulchritude, and style, not for their retail systems experience, product knowledge, or merchandising skills.[9] Through machine systems, chain retailers can use energetic or attractive lower-cost labor to deliver distinct, live, branded interactions. Of course, the system grows more complicated when brands attempt to integrate the qualities of people and machines more tightly.

Machines Speaking Through People: Ritz-Carlton and Fairfield Inn

The efficiencies of mass-market retailers appear prosaic, if nonetheless impressive, beside those of the people-led hybrid interfaces when people and machines work in tighter integration. Ritz-Carlton, with fifty-seven hotel properties and resort locations worldwide, has experimented for several years with this configuration. While Four Seasons caters to elite society, Ritz-Carlton focuses on affluent business travelers. Its scale prevents Ritz-Carlton from relying solely on human resources to deliver personalized guest experiences; it uses technology to differentiate how its frontline staff serves guests. Facing commoditization at the high end of the hospitality market in the mid 1990s, Ritz-Carlton created a sys-

temwide advantage through machines, specifically database technology. The chain invested in two systems for its properties—a national cross-property database of guest records called COVIA (named after the IT unit at United Airlines that originally developed the system) and a local property-specific customer database called Encore. The goal was to track the preferences of the chain's most frequent guests through observation and database technology to anticipate their future needs.

Consistent with the Ritz-Carlton brand, technology enables the front office but is largely invisible to guests. Upon phasing in the systems, management instructed each frontline service employee to collect information on the chain's most loyal customers. It used this data to populate the local Encore systems and then headquarters aggregated the multiple streams of Encore data into COVIA. To feed the system, every Ritz-Carlton employee must now carry a Guest Preference Pad, a small tablet of forms for recording guest observations, such as a guest's favorite type of pillow.

Ostensibly, little is new here. Airlines have long collected customer data in frequent flier programs. But only in the past few years have airlines used this information to generate individualized direct-marketing offers and to deliver targeted services to customers in real time. For example, when you reach elite levels of major airlines' frequent flier programs, you can access a range of privileges triggered by status markers in the airlines' databases, such as more liberal upgrade policies, priority on overbooked flights, and more lenient application of airline rules. More recently and less consistently, airlines have attempted to modify their service personnel's attitudes and behaviors according to a passenger's status in the system.[10] Of course, airlines process millions of passengers annually and deploy tens of thousands of frontline workers daily, whereas systems-based information in hotel environments can more effectively shape the behavior of frontline service personnel toward individual guests. Every morning at each Ritz-Carlton property, the staff is briefed on individual guests in the hotel whose preferences are in the system. Conceptually, they strive to accomplish three

goals with each guest—observation-based personalization of service, anticipation-based customization of service, and service recovery, an important, though often overlooked, aspect of managing customer interactions. Making amends has enough value in economic terms to Ritz-Carlton that every worker on its payroll has a $2,000 budget to help a guest recover from a service problem right when something goes wrong.

The $2,000 per employee may sound dramatic, but the logic underlying this allocation of funds is impeccable. Loyalty research indicates that, all things being equal, the average rate of customer intent to repurchase is 78 percent.

- If a customer fails to complain, then the company misses the opportunity to address the problem; the customer is never made whole and will probably never return.

- If a customer complains to someone on staff and the company does nothing, then intent to repurchase actually rises—apparently, just getting a complaint off your chest can increase the chance of your returning.

- If a customer complains and the company responds slowly but effectively, then the likelihood of repurchase can exceed 78 percent.

- If a customer complains and the company acts quickly and effectively, then the customer will likely become more loyal to the company than if nothing had ever gone wrong.

Hence, some have called this notion "the profitable art of service recovery."[11] The logic of service recovery is embedded in Ritz-Carlton's service delivery systems, so much so that its staff members never refer to a guest's having a problem; rather, they will say, "Mr. Smith had *an opportunity*." Mr. Smith probably experienced something unfortunate and complained grievously. Ritz-Carlton's resulting business opportunity calls for the chain to respond so decisively that Mr. Smith will become more loyal than before. But a company cannot build such loyalty without human

workers authorized to address negative situations in real time on the front lines and systems to track incidents and service recovery in the back office.

Data-driven systems have effectively focused Ritz-Carlton on the quality of customer interactions.[12] Requiring employees to note guest preferences provided a powerful mandate to change their attitudes and behavior. Once the chain populated its data-bases, frontline service personnel could interact quite differently with guests. For example, the system could cue a front desk clerk to upgrade Mr. Smith to a suite, due to a recent "opportunity" at another Ritz-Carlton property. Enabled by the machines, she can right a wrong and thrill a total stranger, which is a satisfying experience *for her*. Not bad for a day's work.[13]

Of course, optimizing the outcome depends on fulfilling re-lated requirements: Personnel must collect information subtly to respect the guest's privacy and handle customer information so deftly that Mr. Smith does not conclude that he's living in Eastern Europe before the Wall came down. Also, the Encore and COVIA systems need sufficient security and IT protocols to prevent abuse of guest information by hackers and misguided employees. Finally, data handling—from input to management to inferences—must operate with utmost integrity to prohibit erroneous recommenda-tions or outright violations of privacy.

Not surprisingly, Ritz-Carlton's parent company, Marriott, has experimented with multiple hybrid interfaces. At its economy limited-service chain, Fairfield Inn, it has relied on a management system built around Scorecard, a device that measures the chain's performance, customer by customer and property by property, against specific drivers of customer-perceived value, corresponding to specific service standards. The typical one hundred fifty-room Fairfield Inn—conceptualized in the mid-1990s by reverse engi-neering the needs of traveling mid-level businesspeople or "road warriors" who care deeply about service standards along several critical dimensions—lacks a pool, a restaurant, and kid-friendly facilities. According to initial research, road warriors' loyalty

rested disproportionately on six factors, including overall cleanliness of rooms, friendliness at check-in and -out, and the speed or efficiency with which transactions were handled. Scorecard itself, an inexpensive PC located at the front desk of every Fairfield Inn, gathered guest feedback while clerks processed their paperwork on checkout. The machine presented five questions in random rotation and asked customers to rate the property's performance on a 10-point scale. Roughly two-thirds of customers completed Scorecard, because it took no more than 30 seconds.

Scorecard data gave property managers a dynamic picture of how well they were meeting customers' needs. Since Scorecard linked results to individual employee performance, matching guests and their rooms with housekeepers who cleaned those rooms, the data factored considerably into reward and recognition programs. Every employee's compensation was calculated as a function of overall guest satisfaction with the property and individual performance based on the service dimensions that Scorecard tracked. The system created accountability among individuals on their performance with guests *and* with each other, because an individual's underperformance eroded overall bonus income for each property's team. So employees focused on two goals: Am I delivering on key dimensions that drive guest satisfaction? Are all teammates delivering appropriately on the collective goals? The system exposed slackers whom coworkers—not management—quickly rooted out. By attracting and retaining those best equipped to contribute in such an explicitly measured system, Fairfield began developing a higher-quality, motivated, and more team-oriented work force with higher morale and a more productive work place. The increased productivity of employees has translated into more vacation days and richer benefits, while preparing them to host celebratory events involving employees and customers. Fairfield Inn's employee turnover is minimal compared to the hospitality industry overall, and pay substantially exceeds that of the limited-service segment.[14]

The Fairfield system is not as sophisticated as Ritz-Carlton's: Fairfield uses machines as blunt quantitative instruments to shape employee attitudes and behaviors, whereas Ritz-Carlton uses them in subtle qualitative ways to enrich the interactions between the chain's frontline employees and its guests. In both cases, however, machines connect what customers want with what employees deliver and service innovations depend on hybrid service interfaces with people out front.

Marrying People and Machines: McDonald's

Field-based research cannot substitute for rolling up your sleeves and serving customers yourself. So we secured employment at a local McDonald's for a weekday evening in New England. In the realm of front-office innovations, the fast-food restaurant sector has done little more than computerize cash registers and install drive-thru windows. The result: More than one of every two fast-food orders in the United States are filled incorrectly.[15] How can a major industry survive with an error rate of over 50 percent? Because customers buy nearly half of all fast-food meals consumed in the United States through drive-thru windows, and only a devoted few will drive back to complain after discovering an error.[16]

We wanted to witness firsthand the effects of front-office re-engineering on fast-food operations. This particular McDonald's featured newly installed software designed to run the restaurant's frontline operations (order taking, money handling, and food assembly). Every one of the dozens of items on a McDonald's menu comes in countless variations—multiple portions (regular or super-sized fries? how many McNuggets?), flavors (which sauce? which topping?), and so on. Options have even proliferated in combination meals and Happy Meals, designed partly to simplify the order-entry process. Since labor is divided among those employees who take orders and handle money and those who prepare food and assemble orders, order takers must enter the details of

each order into the system so that "expediters" can put the right food in the bag before it reaches the customer.

The new software system deployed a set of employee-facing interfaces—high-resolution, color touch screens driven by two on-site servers—to manage the complexity of the menu and to make relevant tasks simpler and more intuitive. Touch screens on registers, order-entry PCs, and money-handling stations featured icons with links to menu options and cues to ask customers follow-up questions about their orders. As a result, information flowed through the restaurant in symbolic and visual forms. Food preparers could see orders as they progressed through the queue. Assemblers could await their instructions from screens that showed orders from both the counter and the drive thru. Cash register operators received visual cues for money in and out as well as pictograms of possible combinations of change. Everyone wore wireless headsets to alert one another of problems and to hear interactions at the drive-thru window.

Fast food's menu and pricing complexity has grown to such an extent that humans cannot easily process the data deluge without erring. Despite the physical character of the business, most of what happens in a McDonald's involves information processing. Of the fifteen people working while we were there, only four actually prepared food. The rest worked in front-office functions— real-time information processing (orders, money, fulfillment) and customer interaction management (greeting customers, delivering food, thanking them for their business). Our crew of frontline workers did what people do best in such a setting (relate to other humans) while the machines did what machines do best (crunch numbers and move data).

By mid-evening, when traffic volumes were down and our skills were up, we were no longer automatons in a chaotic factory. We recognized that customers coming through the restaurant's two main service channels had very different needs and expectations. The drive-thru segment had no interest in relating to a human being (much as we tried greeting them exuberantly as they

drove up). Rather, they wanted an efficient transaction that met certain functional criteria, such as speed, accuracy, and responsiveness. In contrast, walk-in customers wanted to relate to a real person behind the counter. One apparent regular, a middle-aged man who looked as if he had spent too many years at high-tech start-ups, came in late. He eyed us suspiciously, placed his order hesitantly, then declared, "Something here is not normal. . . . It looks as if this McDonald's was taken over by Genuity."

We learned a profound lesson here about personalization. Businesses often believe that personalization means making a particular interaction personal through the service provider (i.e., "Hi, I'm Bob. I'll be your waiter today!"). But it's not. Personalization should be about designing service interactions that address individual customers' needs and expectations. We call this the *personalization paradox*—the notion that a personalized interaction or relationship may not always be personal. For example, one customer filling a prescription at a pharmacy counter may wish to have a dialogue with the pharmacist instead of his doctor; another may desire an anonymous transaction that safeguards her privacy at the point of sale. The pharmacist provides "personalized" service by treating the first customer in a familiar chatty way and the second, with professional reserve and neutral efficiency. Each approach is personalized—but by design, one interaction is extremely personal and the other is coldly impersonal. When the pharmacist consciously delivers interactions of such contrasting character, she is personalizing service delivery. Our customers that evening at McDonald's self-segmented along similar lines. Transaction-seeking customers came to the drive thru. Relationship-seeking customers walked into the restaurant. Each segment valued completely different employee behaviors in the interaction.

Fast-food restaurants as well as hotels and drugstores often lack access to sophisticated individuals for frontline positions in their operations. Generally speaking, fast-food franchises recruit high school students who spend an average of four or five months in these jobs. (Turnover in fast food is 138 percent a year.[17]) Yet

people in these restaurants—like the Ritz-Carlton hotels and the chain pharmacies—do information-intensive work: getting a customer's Happy Meal configured correctly is largely a data-management challenge to personalize an interaction (with tangible output) and meet individual customer needs appropriately. Information complexity in large-scale service businesses can become daunting. Managers in such settings must not only increase per capita output of frontline workers but also increase the quality of their interactions with customers. Machines enabling frontline workers can enrich customer interactions (e.g., with customer information at Ritz-Carlton), resulting in increased *leverage* for a company's human talent. Machines enabling frontline workers (e.g., with enterprise software at McDonald's) can also liberate workers' time and energy for customer interactions, resulting in increased *productivity*. Companies deploying such people-led hybrid interfaces can realize gains in efficiency and effectiveness in the delivery of services and management of customer relationships.

Machines Supported by People

The alternate hybrid form deploys machines in the foreground enabled by people in the background. Again, these hybrid interfaces create new sources of value in two ways. First, machines in the foreground can provide people with leverage by distributing their personalities in scalable ways, similar to how the media builds entertainment brands and celebrities. Second, frontline machines can increase people's productivity by channeling their work more efficiently, as call centers do by delivering customers to service providers rather than sending service providers to customers. For example, Web sites such as drkoop.com and drDrew.com broadcast personality on an interactive platform, delivering celebrities to potentially millions of customers and increasing the leverage of purported human talent. (Dr. C. Everett Koop, who is no longer affiliated with the site, was the Surgeon General of the U.S. in the 1980s; Dr. Drew Pinsky is the host of MTV's popular *Love-*

line, a talk show for teens featuring dating and relationship advice.)
A service such as LivePerson—an outsourcing company that pro-
vides live online customer support on demand for third-party sites—
directs customers to service providers for text-based or click-to-
callback conversations, increasing the productivity of frontline
workers who deliver the services.[18] In each case, machines enable
substitution (the interface is not human but machine) and dis-
placement (the human talent is not proximal but remote), which
are the twin drivers of front-office reengineering.

The case studies and the integrated example in the following
sections explore the effects of leverage and productivity of hybrid
interface designs where machines are supported by people.

Leverage and Productivity Through Technology Interfaces

If you have listened to the weather report on a popular radio station
in a major city, then you have probably experienced the leverage of
the hybrid interface where a machine—your radio—sits in the
foreground. In Boston, for example, most denizens will recognize
the voice of former local radio personality Joe Zona, known over
many decades for his weather reports. Zona had the newsreel-style
voice of early radio days and the brisk cheer of a man on the go. A
few years ago, we observed Zona at work: He recorded his local
forecasts from a tiny sound studio in the basement of a Victorian
house in Bedford, Massachusetts. The facility was operated by the
nation's foremost source of weather-related information, Weather
Services International (WSI), a little-known company that employs
dozens of skilled meteorologists. WSI prepares the weather page
for every daily edition of *USA Today*, the largest-circulation daily
newspaper in the United States, and it furnishes crop reports and
long-term weather predictions over squawk boxes linking its pro-
fessionals to commodity trading pits at the Chicago Mercantile
Exchange. In addition, WSI analyzes weather data to determine
government and school closings across the United States during

winter storms and maritime decisions on boat movements around the world. The company also generates thousands of weather reports for U.S. local and national media in every region of the country. Given the scope of WSI's business, we suspected that Zona's reach went far beyond Boston. Indeed, it did: He was also the "local" weather man in hundreds of radio markets across the nation, from New England to Honolulu.[19]

Now, *that* was interesting. All these trusting citizens heard the same familiar voice that we did. Yet, *their* Joe Zona was not *our* Joe Zona. Our Joe Zona actually experienced the same weather that we did. Reassuring as that might be, there is nothing local about weather prediction. Meteorologists in the U.S. develop their predictions based on three elaborate statistical models maintained by the National Weather Service. Each meteorologist may adjust or combine the outputs of the models, but she does so by analyzing complex data streams, not by looking out the window. This most physical aspect of our world, the weather, is better predicted by mathematical means than through direct observation. (WSI used to get calls in Bedford from a Hong Kong-based real estate magnate who would inquire periodically whether a particular day was propitious to sail his yacht across Hong Kong Bay.) So why *should* Zona be local—for Boston or any other market? The machines enabling weather prediction made location irrelevant; and the machines enabling the distribution of predictions facilitated displacement and substitution of personality, so that Zona could do the work of hundreds of local weathermen from his remote location.

Joe Zona's situation reveals the strange contradiction between rational fact and emotional meaning in machine-mediated interactions. An illusion of local presence for the vast majority of his listeners, he was also a higher quality (and lower cost) form of talent than any local station with a lean budget could source in local markets. For these reasons, the Zona model is hardly an isolated case. Sinclair Broadcast Group, which operates sixty-two TV stations across the country, has begun producing TV programs—"local" news, weather, and entertainment reports—at a central location

and then shipping them to their owned and operated properties. Sinclair calls this "central-casting."[20] Clear Channel Communications, the nation's largest owner and operator of radio stations, pursues its own form of central-casting through nationally standardized program lineups; these appear on the airwaves as local programming across its more than 1,200 stations. Even the newscasts of TV network affiliates typically blend local production and central-casting, presenting local and national stories reported by on-air personalities whom viewers might readily assume are all local.

Such hybrid interfaces distribute human talent to generate far greater leverage than humans could on their own. For example, when Johnny Carson relinquished his thirty-year seat at NBC's *Tonight Show*, many fans experienced a sense of personal loss. After all, he "visited" millions of U.S. homes every night, going where "real" people could not go. Today, the appeal of late-night talk show hosts, such as David Letterman and Jay Leno, attests to the strong affective connections with viewers that human talent, through media, can forge over repeated exposures. Daytime-television personalities like Oprah Winfrey and Katie Couric are not literally our friends, but the hybrid interface of television—a machine enabled by people—makes us feel as if they are.

In this way, whether traditional or interactive, electronic media illustrate one aspect of the alchemical power of the hybrid interface wherein machines amplify human personality. This engine builds equity in consumer products or brands intimately associated with real or imagined human personalities. Marketers have long used the technique to forge personality-based emotional connections to sell otherwise unmemorable products such as grills (George Foreman), chicken parts (Frank Perdue), airline seats (Sir Richard Branson), and food processors (the Juiceman of Las Vegas). Like Joe Zona, each of these personalities becomes a synthetic point of personal attachment between a personality and a customer, and between a brand and a consumer. Each depends on technology to deliver the credible spark of humanity behind it. In a world that can bring human personality to life through automated

or interactive interfaces online or via VRUs (in Tellme's original incarnation, you could play blackjack with an automated, if synthetic, Sean Connery over the phone), the opportunities are hardly limited to the media world. Before you dismiss the leverage model as unique to the media business, ask yourself, "How could key human actors have more leverage in my business?" The corporate world today could exploit such untapped leverage by deploying, for instance, an interactive representation of the CEO or a company spokesperson online or using kiosks. How else did Donald Trump and Sir Richard Branson build their personal and corporate brands? Their clever use of media and promotion to leverage their names and faces only hints at the potential. Consider what "The Donald" has gained through his prime time TV show, "The Apprentice," expanding his person and personality from book jackets, the business pages, and casino games to the participative interface known as reality television, even as his gaming business goes bankrupt.

An Integrative Example: First Direct

While the leverage model of machine-led hybrid interfaces may seem more familiar, the productivity model has also become mainstream. As we have noted, every call center representative actually operates a hybrid interface, where a machine (the telephone) substitutes for the physical presence of those who serve clients from centralized, remote locations. Using phone lines to "transport" customers to service workers, and not the other way around, increases service productivity. For example, a retailer could put tens of thousands of clerks in hundreds of retail stores or merely thousands of representatives in a call center. Or a brokerage or a bank could open a branch in every major city—or use a few call centers. That's what First Direct did to exploit the power of the hybrid-interface productivity model.

Headquartered in Leeds in the British midlands, First Direct began as a wholly owned subsidiary of Midland plc (now a unit of HSBC), then one of the Big Four national banks in the United Kingdom. Its genesis and separation from its parent company

stemmed from in-depth customer studies commissioned by Mid-
land. Midland never considered itself a market leader in terms of
customer service. In fact, none of the so-called High Street banks
pleased customers especially; after all, their U.K. oligopoly kept
them viable even with marginal service quality. But, according to
its customers, Midland was the *most hated bank* in England, fifth in
a four-bank race according to one Midland manager. Still, Mid-
land's researchers believed that they had found a small segment of
extremely satisfied account holders among the more than 10 mil-
lion extremely dissatisfied ones. Why were these few hundred
thousand souls so satisfied? Because they never entered a branch.

A New Customer Segment

These individuals, who comprised a customer segment that would
define the First Direct offering, had pieced together their own in-
terface systems, combining telephone, ATM, and Royal Mail.
Most had interacted with a branch manager early in their banking
relationship, whom they could call when they had problems. Other-
wise, they used available remote channels and never visited the
premises. Predictably, this segment was younger, better educated,
more technology-savvy, and concentrated disproportionately in
professional jobs, with significantly better earning prospects than
the general population.[21] These account holders did not maintain
the highest bank balances, but they also did not require much at-
tention. In terms of customer lifetime value, this segment was
highly profitable for First Direct or any bank to serve.

Midland decided to base a new bank on the interaction model
of this segment. Thus, First Direct was born. The new bank would
operate from a single call center in Leeds.[22] It would do business
entirely over the phone. When customers needed cash, they
would use Midland ATMs and, later, those belonging to other
banks. The bank would reinforce customers' visual impressions of
its brand with a distinctive promotional campaign. Before opening
up its phone lines, First Direct mounted a TV blitz. Chiat/Day in
London created the ad campaign to be "disruptive" in agency

parlance.[23] The central theme was that First Direct's banking proposition was not for everyone and that its approach to banking services would divide consumers into two segments: early adopters who embraced innovation, and laggards or Luddites who rejected it outright. First Direct's management had anticipated that it would have to educate the market about doing business with a bank that did not look like a bank, and bore no resemblance to the Big Four institutions. To introduce the concept, Chiat/Day mounted an early "roadblock" commercial, the technique of placing a TV advertising spot on several networks simultaneously, so that viewers could not easily avoid it by channel surfing. What purported to be a sixty-second spot for a newly released Audi Quattro sedan was interrupted by an apparent broadcast signal failure. In a matter-of-fact way, an attractive professional woman appearing in a new scene calmly announced, "This is a broadcast from your future." She said that she was speaking from 2010, at which time branchless banking had become commonplace. Around her, images of happy people floated through space with large shiny coins and the sound of laughter. The woman advised viewers to choose between an optimistic view of the future and a pessimistic one. The optimists, she said, should stay tuned to one channel, and the pessimists should flip immediately to another. Given the road-blocking placement across two channels, viewers received different instructions in each version. After these directions, the advertising message on each channel diverged. The optimistic one featured a British comedian wearing a white three-piece suit and top hat, dancing through the City of London on a crowded business day, and singing a humorous song about First Direct's wonderful branchless banking services. It concluded with First Direct's telephone numbers. The pessimistic one had the same comedian wearing a black suit and hat, wandering haplessly through the same streets, and wailing about the awful service at brick-and-mortar banks. It ended simply with "Thank You for Watching."[24]

The launch of First Direct was a resounding success. The bank reinforced its image among account holders through branded

collateral materials, including distinctively packaged checkbooks, account ledgers, and file boxes to contain them—all jet black with large lower-case sans-serif white lettering. This stark clarity reinforced the bank's plain-speaking, no-nonsense approach to financial services and gave customers a sense of autonomy and mastery over their financial affairs, as opposed to the powerlessness and confusion that many customers experienced with traditional banks. In essence, First Direct launched a new kind of bank and, in the process, created a new lifestyle brand. By the early 1990s, it was the United Kingdom's fastest-growing bank and the only bank with significant brand equity. It had achieved customer satisfaction rates above 90 percent and nearly perfect levels of account retention. First Direct went on to qualify at the top of the U.K. banking industry's customer satisfaction rankings for twelve years, starting in 1991.[25] Only one of every two hundred customers submitted a complaint in 2002, and 74 percent of them appreciated how the bank handled their complaints.[26] The primary causes of account defection were moving out of the United Kingdom (the bank's only market) and death.

A New Breed of Banker

Not just its advertising set First Direct apart. The bank cultivated a new kind of banker, called the "banking representative" (BR), to deal with customers exclusively over the phone from its call center in Leeds. First Direct executives sought people "with the life skills that work well in our environment," individuals who were "used to juggling different demands and [who had] excellent communication skills," but had never worked in the Big Four banks.[27] Unlike the Big Four, First Direct recruited candidates from Leeds, not London; from redbrick universities, not Oxford and Cambridge; and from households, not offices. The recruits, mostly women taking a few years off from their careers as lawyers, accountants, and business managers to care for newborn children, needed jobs with flexible hours. First Direct required them to participate in

extensive months-long training programs so that they would not only earn their banking licenses but also learn First Direct's unique approaches to customer relationship management. In Leeds and Yorkshire today, thirty-seven hundred BRs work from two warehouse-like call centers with attractive cafeterias, day-care facilities, and large open spaces filled with bright light and fresh air rather than cubicles.[28] The vibrant culture of these call centers differs dramatically from those of the large call center operations of other financial institutions. Moreover, First Direct's call centers are so decidedly relationship-focused that there is no visible evidence of such back-office functions as printing account statements or handling money; and the turnover rate among call center personnel is nearly one-third the U.K. average—12 percent as opposed to 30 percent.[29]

However, its homegrown bankers—even if they *were* smarter, kinder, more reliable, more solutions-oriented, and more empathetic—and its creative management went only so far to differentiate First Direct's services. The bank's customer channel was the telephone, but its capacity to serve customers effectively depended on providing each BR with a machine, namely a PC workstation. These workstations gave the frontline service workers access to the bank's customer information systems, which stored profiles and account information. These systems tracked three levels of information on account holders.

- First, they tracked customers' *identity* data—name, address, phone number, age, and income; how they came to the bank; and when they opened their account. An early application of caller-ID technology allowed a BR to see the caller's identity information on her PC the moment her phone rang, though BRs rarely greeted customers by name—too invasive—until the customers introduced themselves. Security information also appeared on this initial data screen. First Direct used a customer-friendly system of three or four rotating words, selected by customers. Banking representatives would ask customers, for example, for the third letter of a given password, which obviated the need for account holders to remember

otherwise meaningless alphanumeric codes or their most recent deposits. No one has ever cracked this security system despite its fanciful character.

- First Direct also tracked histories of customer accounts, such as deposits, withdrawals, transfers, changes of job or address, and banking products or services. Though most banks viewed such histories as transactional, First Direct considered them *behavioral*, a source of insight into customers' future needs and desires. For example, an account holder who inquired about traveler's checks during one call might buy them on the next, and so the system would alert the next BR to an emergent cross-selling opportunity.

- The system tracked *emotional* data, such as a BR's observations of customer moods, personalities, and dispositions, which enabled other BRs to answer phones and interact with callers according to each customer's preferences and individual styles. In other words, at the start of each call, the system signaled not only *what* to discuss but also *how* to discuss it.[30]

Our research at First Direct revealed that this combination of customer profiling data, behavioral tracking, and insight into personality was a significant driver of the bank's high levels of customer satisfaction. When we asked customers to characterize their feelings toward First Direct, most would describe the experience as the most personal relationship that they had ever had with a financial institution—or, for that matter, with any large business. This finding sparked our curiosity in several respects. Obviously, First Direct provided no means of face-to-face interaction between employees and customers, and it acknowledged this abstract nature in several early TV spots. (In one TV commercial, an articulate, elegant man sat near a fireplace sipping tea; after a few seconds, he looked into the camera and, as if sharing a revelation, said, "I've never seen the people at First Direct, but I believe—*I believe!*—they exist."[31]) Also, unlike other direct-banking or brokerage firms, First Direct did not assign specific BRs to customers.

In fact, its capacity to provide live personal service on demand de-
pended on routing incoming calls across hundreds of BRs regard-
less of who handled prior interactions. No customer would likely
speak to the same BR twice during a typical multiyear banking re-
lationship. Finally, First Direct offered no products or services be-
yond those of a traditional retail bank; its distinctiveness rested
solely on its service delivery.

So why did First Direct's relationships feel so personal to ac-
count holders? The answer begins with the machine interface, the
telephone, which enabled First Direct to centralize its operations
in a few contiguous geographic locations. It staffed those locations
with professionals hired for attitude, not skill, and trained to capi-
talize on those attitudes in retail banking. It confined its person-
to-person interaction to phone lines so that it could utilize the
unique intimacy of nonvisual media (as Joe Zona did through radio),
and it gave account holders an array of consistently branded tangi-
bles. By combining the emotional intelligence of its people with
the machine intelligence of its front-office information systems,
First Direct could lead its employees, as one executive expressed
it, to "focus [not only] on sales or productivity, but also on the
quality of the dialogue that they're having with the customer,
[which] drives individuals' incentive payments at the end of the
year."[32] The multifaceted insight into customers and their ac-
counts established the quality of interaction with customers. In
addition, expert systems immediately suggested not only what BRs
should sell or cross-sell but also how they might meet customer
expectations and anticipate future or emergent needs (as at Ritz-
Carlton) most effectively. With the additional capacity to tailor
styles of interaction—which depended critically on having the right
human talent and the right machine systems—the bank matched
its interactions on a segmented basis to customer personality types.

Could First Direct have established such a sense of intimacy in
any other medium besides the phone? In face-to-face interactions,
for example, BRs could not have integrated data from their PCs
without losing eye contact with customers; they would sacrifice

customer insight for customer connection. That need not happen over the phone. In this sense, First Direct selected the phone as the ideal machine interface for its purpose and arrayed its other interfaces to reinforce the phone. (First Direct launched online banking in November 1999, but only recently trialed a virtual agent named Cara who could field natural-language questions on-line.[33]) Still, there are challenges. While First Direct became profitable in 1995 and broke even on its initial investment in 1999, it has not grown far beyond a million accounts as some might have predicted several years ago.[34] In the global market, ING Direct has overtaken it by limiting its product lines to a few basic offerings (such as savings accounts with above-market rates), achieving scale through international expansion (operating in eight countries), and pursuing a particular segment of rate-sensitive customers in each country market (value shoppers), who have responded positively to flawless execution of basic direct-channel services—all of which keep costs low. Nonetheless, First Direct has consistently amassed the world's most satisfied and loyal banking customers by effectively deploying one of the most satisfying service interfaces in the financial services sector.

The Results

First Direct's operating statistics underscore what machines supported by people can do to enhance productivity (and leverage, too) of frontline workers who manage customer relationships, resulting in long-term competitive advantage. The productivity of First Direct's BRs dramatically exceeds that of traditional banking personnel; and over the past decade, that productivity gap has widened. In 1990, the bank's ratio of accounts under management to total employees was 367; at the Big Four banks, it was 139. By 1999, the gap had widened as these ratios had risen to 417 at First Direct and 161 at the Big Four. First Direct's customers have the greatest lifetime value in the retail banking industry, with 31 percent between ages 18 to 34, 50 percent between ages 35 and 54,

and only 20 percent for 55 and over. While the Big Four banks compete through direct operations, not all offer 24-hour service, and they still operate through their parent bank's departmentalized organizations that require multiple specialists to deal with even standard customer requests. First Direct data indicate that more than half its customers call outside normal banking hours, and 90 percent of those calls are addressed and completed by the first person who answers the phone. Finally, by expanding its portfolio of services—from bill payment to car insurance to home loans and more—First Direct has capitalized on trust-based relationships to increase its customers' lifetime values.[35] It has aligned its approach to the market with the critical attributes that matter to customers. Even though First Direct does not operate ATM networks—its customers use HSBC's ATMs or those of the other Big Four—its customers are on average 15 percent more satisfied with their ATMs than other U.K. banking customers, including HSBC's.[36] Now that's a kind of alchemy at work.

First Direct showcases the four drivers discussed in previous chapters. The bank's use of the phone as its anchor interface renders its services *ubiquitous*; its distinct treatment of its related communications and collaterals reinforces this ubiquity, creating a compelling, consistent *physical* brand. Its use of databases and expert systems gives its machine-led hybrid interface distinct *cognitive* attributes, enabling effective execution of services, especially with the *intelligence* and *interactivity* of its banking representatives, who collect and use information to feed its databases and to interact appropriately with customers. Those representatives, selected for their attitudes rather than banking skills, forge *affective* bonds with customers through targeted personalization of interaction style and services. Finally, the cultural and systems-based *connectivity* among BRs within First Direct's operations enables any staffer to handle any call. Since customers can call at all hours on any day (including Christmas), the bank resembles an online service, but with live human warmth, empathy, and respect built into its primary interface.

Conclusion

One might argue that First Direct's interfaces are more complex than the archetypes explored earlier in this book. Indeed, the central hybrid interface that manages bank customer interactions is multilayered—machines (phones) answered by people (BRs) supported by machines (databases). This chapter explored how interface systems work and how to orchestrate them.

- *The hybrid interface archetype involves people supported by machines and machines supported by people.* Where neither people nor machines alone can do the job, managers and strategists must ask themselves, Which interface will put our company's best face forward to its customers? More often than not, the most efficient and effective outcomes involve hybrids, but these require managers to determine whether people or machine attributes will define the customer's experience of their interactions with a company and which should lead a given interaction.

- *Optimizing hybrid interfaces depends on ascertaining the optimal division of labor between people and machines in interactions with customers.* As we have seen, hybrid interfaces can create customer value that neither people nor machines alone can deliver. To combine these two elements of the work force, one must understand what people do best, what machines do best, and what people and machines do best together.

- *The two variants of hybrid interfaces generate different kinds of economic value with respect to human talent.* When machines enable people, people often produce more. Hence, call centers deliver sales and service more efficiently than workers who visit customers door to door. When people enable machines, people often gain leverage. Hence, media platforms such as the Web or the broadcast networks help personalities, endorsers, and celebrities to deliver their

impact more effectively. Nonetheless, the themes of leverage and productivity describe the economic impacts of both people-led and machine-led hybrid interfaces.

- *There is synergy in hybrid interfaces.* Since people and machines in combination can bring such distinctive and valuable attributes to service interactions, their combined presence can often catalyze favorable customer impacts. For example, when a human service provider, informed by database systems, knows exactly what a customer wants before the customer can articulate her needs, the company exceeds customer expectations dramatically. A person without information could not have done so, nor could a machine without the reassuring human touch. Together, people and machines can interact with customers to increase the perceived value of companies and brands.

- *Ultimately, managers must determine the composition of any hybrid interface to optimize trade-offs between efficiency and effectiveness.* Machine automation in services (as in manufacturing) generally drives efficiency, and people delivering services generally increases effectiveness. As we have seen, however, the distinction is not so simple. For example, machines on the front lines can also drive effectiveness (by enabling personalization, enhanced customer privacy, and speed). By combining people and machines, managers can transcend the constraints of conventional thinking, driving top-line growth while compressing costs. But they can do so only if they understand what drives efficiency and effectiveness in human, machine, and hybrid interfaces, and how to combine and deploy such interfaces to optimize systems. Those capabilities are central to the new division of labor between people and machines.

In chapter 7, we focus specifically on the challenges of arraying simple and complex interfaces into optimal configurations of the attributes of people, machines, and hybrids.