The True Information Survival Skills

Get out your crap detector.

By Karl Albrecht

Question: What critical skills, knowledge, and attitudes will you need for personal and career success in the information age? The short answer: We don't know for sure. The long answer: It will depend on your personal assumptions about what life will be like in this brave new world.

You might as well consciously adopt some particular set of assumptions—rather than none—and base your personal development plan on a worldview of your own choosing. If you believe that we will all morph into large heads carried about by vestigial bodies and that life will be all about processing enormous amounts of information in our brains, then by implication you should develop a particular set of survival skills. If you believe that human physical contact will become obsolete and that we'll be connected electronically to all other humans at the same common denominator of digital intimacy, you should seek a different set of survival skills.

If you believe that societies will partition into information haves and have-nots, with the haves holding the advantage in material standard of living, you should have still another set of skills. And if you think none of those gee-whiz scenarios will materialize, you might already have (or know how to acquire) the skills you'll need.

The first information survival skill we will all need is the ability to decode propaganda and demythologize the highly commercialized and entertainment-based U.S. culture. Psychologists politely call it "resistance to enculturation." Writer Ernest Hemingway had a less elegant term: "crap detecting." Whatever term you prefer, you can start practicing it on the topic of the information environment. How does it work?

First, we have to realize that most of the breathless pronouncements we're hearing and reading about things digital are basically conjectures, regardless of

Illustration by Bill Milne

"An immense and ever-increasing wealth of knowledge is scattered about the world today; knowledge that would probably suffice to solve all the mighty difficulties of our age, but it is dispersed and unorganized. We need a sort of mental clearing-house: a depot where knowledge and ideas are received, sorted, summarized, digested, clarified and compared."

—H.G. Wells in *The Brain: Organization of the Modern World*, 1940

the air of confidence or the decibel level of the various pundits as they bombard us. We also need to keep in mind that the vast majority of people trying to explain the information age to us have a vested financial interest in the scenarios they promote. They are the hardware and software firms, Internet service providers, content providers, Website operators such as portals and gateways, IT consultants, authors, publishers, technical magazines, business magazines, and even the popular press. They stand to gain from the popularity of digital technology. They're the ones willing and able to pay the costs of getting our attention.

Currently, several notions dominate the popular discussion and much of the unconscious thought process about the information age and particularly the Internet (it's time we stopped capitalizing that word, but I bow to *T&D* Style). If we're going to think like good futurists in considering the likely scenarios, we need to question and measure a whole range of assumptions against the yardstick of common sense.

Three assumptions in particular deserve careful scrutiny.

1. The Internet will change everything and everybody. We hear that the Internet, and particularly the Web, will change virtually everything about society, more profoundly than any other technology that has ever come before. Will that, in fact, turn out to be true? Not really. Let's not get swept along with the religious fervor of people who hope to make their living by selling the rest of us a whole range of techno-toys and techno-services. In the end, we can buy what we find valuable and pass up the rest.

Consider the Internet industry—meaning not people who use the Internet as a practical tool but those who want to sell Internet "solutions" to people who do want it as a tool. Internet marketers portray their target audience as (variously) a global community, a mysterious form of collective intelligence, or a giant marketplace. But let's get a grip.

Strip away the fantasy and the Internet is basically a distribution system, much like many others we use every day: oil and gas pipelines, the electric power grid, mail distribution, railroads, telephone lines, parcel shipping, radio and TV, airlines, and so forth. Something of value—data—flows through the Internet, much like water flows through the pipeline distribution system in your city. To assume that one or another of these distribution systems is somehow profoundly more important or more meaningful than all of the others is to fall prey to the kind of fantastical thinking that Internet promoters need to sell us their products.

The Internet and the Web, as valuable as they are, will probably turn out to have roughly the same impact on societies as do other major distribution systems such as U.S. interstate highways. All of these systems speed things up, reduce costs, and make the movement of valuable commodities more efficient. But what is the evidence for the assertion that moving data around the world quickly and cheaply is more significant and valuable than, say, moving people around the world in airplanes? Both systems create value in different, but comparable, ways.

2. Eventually, all human beings will be connected. Ads and commercials for Internet access services—and more recently, a whole raft of wireless Internet access devices—unfailingly project the same unspoken supposition: You gotta have it! The ever-present mantra of inevitability signals a foregone conclusion that everybody wants the same thing from digital technology—constant, uninterrupted access.

The view of the Internet as a kind of giant electronic nipple hints at a rather pathetic form of psychological dependency. The implication that a person can no longer survive without constant access to email, voicemail, and streaming data portrays the human of the future as addicted to some kind of digital fix.

Except for a small fraction of people in certain circumstances, few of us will ever need to be continuously connected. I don't carry a cell phone everywhere I go, and I read email about once a day, except in unusual circumstances. I don't measure my importance or my worth as a person by the number of people who can interrupt me whenever they please.

A corollary to the proposition of the PCH (permanently connected human) is the notion that we're all waiting for broadband—the widespread availability of high-

1960 Media

- **4,500 magazine titles**
- **18 local radio stations**
- **4 television channels**

2004 Media

- **18,000 magazine titles**
- **44 local radio stations**
- **200 television channels**
- **2,400 Internet radio stations**
- **20 million Internet sites**

Source Forrester Research; information derived from Magazine Publishers of America, National Association of Broadcasters, Massachusetts Institute of Technology, and Network Solutions

speed Internet access by cable TV hook-up, satellite, or special phone lines such as DSL and T1. That putative next big breakthrough will supposedly attract everyone who isn't already a PCH into the ranks of the enlightened.

It won't, of course—for a number of reasons. One, only a few specialized (or compulsive) users really need to move huge amounts of data in and out of their PCs. Two, although broadband promoters tend to gloss over this fact, an enormous monetary investment is yet to be made in the capital infrastructure needed to extend high-speed service beyond the 5 to 7 percent of the American population who could possibly sign up for it now. The big telecom companies of the world will find the total consumer demand for broadband access insufficient to justify the outlays needed for 100 percent availability.

The notion of finite consumer demand seems completely alien to the thinking of Internet promoters, who take as an article of faith that everybody wants the same thing.

3. People will have to learn a completely new way of thinking. This is another of those glittering generalizations that are fun to say but ultimately mean little. There's no future in any prediction that rests on the assumption that a very large number of people will behave in a highly uncharacteristic way. Notwithstanding the brave new world scenarios about technology changing people, the fact is that the opposite is true: People will change technology. How? By the simple process of buying some of it and turning up their noses at the rest. The proper study of technology is not technology, but human beings. Even in affluent societies such as America, human differences in appetite for information will prevail, and those differences will ultimately drive the architecture of technology.

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Peter Drucker's concept of the knowledge worker needs updating. We must recognize two categories of workers: knowledge workers and data workers. Knowledge workers include scientists, researchers, planners, managers, writers, teachers, designers, consultants, doctors, lawyers, and others whose contributions depend on their grasp of information and their ability to apply it.

Data workers, forming a lower caste as it were, are people who handle formatted information in predetermined ways. Information technology has made a whole range of low-skilled workers more productive—not by transforming them into different kinds of thinkers, but by transforming their work into data work. The 19-year-old McDonald's worker doesn't have to know how to add up a customer's order or even what prices to charge. He or she just punches a coded button, and the software does the knowledge work. At the upper end of the scale, semi-skilled medical technicians now use information technology to perform laboratory analyses that were beyond the skills of experts a decade ago. In those and many other cases, the technology actually reduces the demand for knowledge and information skills rather than increases it.

One could argue for an in-between category—the information worker, who does more than manipulate data in routinized ways, but who doesn't create new knowledge or deploy it in original ways. The escrow clerk in a real estate office, for example, may need to know a few basic things about property transactions. But, for the most part, this person carries out higher-level tasks designed by someone else.

It's an illusion to think that a bank teller has a more knowledge-intensive job than, say, an autoworker who attaches bumpers to cars. They handle different kinds of raw material, but the knowledge content they add to their respective products is roughly equivalent.

The most successful IT applications will not fit people to the technology, but will fit technology to the people. Ultimately, there will be little choice. The corollary to the questionable proposition of the DMH (digitally minded human) is the notion that people without computer skills will be left out of the job market.

Try this exercise: Make a list of as many jobs as you can think of that require very lit-

According to a 2000 survey by the Institute of Management, keeping up with email ranked number 10 as a major source of workplace stress. Data also confirmed that keeping up with email significantly contributes to the number 1 pressure: constant interruptions.

Source Knowledge Ability

The Business Cost of Information Overload

- **38 percent of managers waste a substantial amount of time trying to locate the right information**
- **43 percent of managers think decisions are delayed as a result of having too much information**
- **47 percent say the collection of information for decision making distracts them from their main job responsibilities**

tle knowledge work or perhaps even very little data work. Start with the millions of food-service workers, then add construction workers of all kinds. Add transport workers who drive trucks, buses, and cabs. Add assembly-line manufacturing workers and front-line retail salespeople. Add domestic workers who clean and maintain buildings, auto-repair workers, bank tellers, and telephone customer-service reps. Add barbers, hair stylists and beauticians, mail carriers, security guards…you can stop here for now.

How many of those jobs will information technology eliminate or revolutionize? The answer: Almost none. Information technology may well make some workers more productive by enabling them to accomplish more with the same skills. But there is little support for the idea that they will somehow have to transform their minds.

And, by the way, the much-ballyhooed telecommuters will remain a small part of the overall workforce.

The digital pecking order

A highly developed society has two kinds of people: infophiles and infophobes. Infophiles habitually seek information, read actively, study, enjoy learning and manipulating ideas, and feel comfortable and competent in analyzing things. Walk into a typical bookstore and you'll see mostly infophiles.

Infophobes, on the other hand, have never developed a comfortable relationship with facts, figures, and ideas. Consequently, infophobes deal with information only by necessity. You seldom see them reading nonfiction books, business magazines, or classical literature. They're unlikely to attend courses voluntarily, and they typically don't hang out in libraries or museums.

I assert that most people fall into one of those two distinct categories and that their habitual preferences dominate much of what they do in their lives. Infophiles tend to choose occupations involving the skillful use of knowledge; infophobes tend to choose occupations that do not. The worker who put the roof on your house might possibly have a secret life as a museum curator or Website designer, but most people in the roofing occupation don't. Conversely, one doesn't meet many illiterate college professors. A preference for or antipathy toward information, knowledge, and the conceptual process is strongly associated with education. Regardless of whether you think a particular person's infophilia or infophobia is genetic or learned, the distinction tends to be clear and permanent throughout his or her life.

It's a simple but important truth that people who are fascinated with information technology tend to be infophiles. What few of them seem to understand, however, is that most members of the population are infophobes, for whom dealing with information holds no fascination and that often makes them feel uncomfortable and inadequate.

Unfortunately, infophiles tend to project their mental preferences into their perceptions of everyone else, with little consideration of the differences. Thus, they assume that everyone is as fascinated as they are with computers, software, and the Internet.

Undigital skills still rule

So much for the brave new world of digital humans, permanently connected. Once the promotional diatribe fades, we'll discover that the personal success formula hasn't changed all that much in the information age. Thinkers and thought leaders, by and large, will still be in charge and will still make the rules. A homespun philosopher I knew said, "You know, if they took all the money in the world away from everybody, put it all together, and then divided it up equally, within about six months the ones who had it before would have it back again."

The critical coping skills of the information age have little to do with handling data and everything to do with handling knowledge. Education (not to be confused with schooling) will remain the primary distinguishing factor between the winners, the also-rans, and the losers. As the general educational level continues to rise (even in America), we may well see a larger number of people growing up to be infophiles, but it's doubtful that they will ever outnumber infophobes. Data workers are not much more likely than physical workers to be infophiles. Knowing how to work a PC, use word-processing software, and surf the Internet have become practical, entry-level skills, not key competencies.

So, what macro skills will the successful infophile need in this not-so-brave new world? How does one become one of the elite of the elite? What will it take to get that next promotion, make that next sale, or close that next big deal? Here are my candidates.

Interpersonal effectiveness. Look be-

yond the invented media stereotype of the bewildered geek who has blundered into fabulous wealth and you'll see an ancient and immutable truth: The ability to sell, explain, persuade, organize, motivate, and lead others still holds first place. Making things happen still requires the ability to make people like you, respect you, listen to you, and want to connect with you. And by *connect*, I mean connect personally, not digitally. Paradoxically, information technology connects, but it cannot create intimacy; indeed, it limits and regulates it rather than amplifies. The more wired human beings become, the less truly connected they will feel. The human connection will always, always, always outrank the digital connection as a get-ahead skill.

Filtering: the ability to see through the clutter. As the sheer quantity of information increases, its quality inevitably decreases. *Mass* and *class* are incompatible. The steady proliferation of agendas of all types—and the tendency of the Internet and news media to level all information to the same common denominator of mediocrity—make it crucially important to evaluate the quality of what you see, hear, and read. In short, *caveat expertus.*

If you're willing to base your investment decisions on the advice of a bunch of strangers in an Internet chat room, you deserve what happens to you. It has become quite easy now to fall into information overload, but, simply, you don't need and couldn't process all of the information that's pouring over you. Now, you must consciously reject much more than you accept. It makes good sense to find a few sources of high-quality information and ideas you can trust and tune out the rest. You really aren't missing much if you don't watch TV or hang around chat rooms. And, for the record, emailing insipid jokes to 50 people at a time adds to the clutter. Please take me off your list.

Propaganda resistance. Over the past 50 years, people in developed countries such as America have experienced an exponential increase in the flow of imagery injected into their sensory systems. Today's citizen experiences and reacts to a vastly greater diet of synthetic experience than ever before in history. We have moved from a culture of oral and written tradition to one of pictorial tradition—a video society. Along with visual technology has come the inevitable tendency to manipulate or "improve on" the truth. Witness the cynical decision by the editors of a major news magazine to doctor the police mug shot of O.J. Simpson.

The popular media, from whence most people derive their "knowledge" of the contemporary world, are securely in the hands of business operators who value entertainment far above knowledge and intellect. The commercial news media routinely practice the journalism of sneer, jeer, and leer. The Hollywood values of emotionality, immediacy, self-gratification, sexualism, and anti-intellectualism dominate the interpretation of virtually all subjects—from wars to presidential elections to the Olympic games. A deeply cynical journalistic establishment tries to create the illusion of unbiased, critical news coverage, but it has succeeded only in alienating a whole generation of young people from their own culture. The U.S. national political discourse is reduced to sloganizing and name calling by a cadre of narcissistic talk-show hosts, whose only qualifications seem to be loudmouthed and opinionated. Several right-wing commentators have rediscovered an ancient truth: Make people think they're thinking and they'll love you; make them really think and they'll hate you.

Anyone who listens to, watches, reads, and recites the content of those sources without consciously superimposing his or her own judgment and interpretation risks becoming a third-wave zombie, incapable of original thought.

Breadth of knowledge. Although specialization will be a path to career success for many people, there will also always be a need for big-picture thinkers. People who can reach far beyond the current topic of preoccupation to find inspiration, meaning, context, examples, analogies, metaphors, lessons, and primal themes have the edge when it comes to figuring out what comes next. The best futurists have enormous intellectual reach. Knowing a bit about Homer's *Iliad*, the Magna Carta, archaeology, anthropology, world history, geography, psychology, DNA, and black holes enables a mind to stretch its boundaries and entertain possibilities not previously conceived. Science fiction writer Robert Heinlein said, "A human being should be able to change a diaper, plan an invasion, butcher a hog, conn a ship, design a building, write a sonnet, balance accounts, build a wall, set a bone, comfort the dying, take orders, give orders, cooperate, act alone, solve equations, analyze a new problem, pitch manure,

The Human Cost of Information Overload

- **Two out of three managers state that tension with work colleagues and loss of job satisfaction arise because of stress associated with information overload.**
- **49 percent of managers work late either often or very frequently or take work home as a result of having to deal with too much information**
- **61 percent of managers report that their social activities are cancelled in order to deal with excessive information**

Source Dow Jones Reuters Business Interactive Limited

program a computer, cook a tasty meal, fight efficiently, die gallantly. Specialization is for insects."

Tolerance for ambiguity. Alvin Toffler defined *future shock* in his 1980 book of that title as "a feeling of unease and apprehension, associated with the loss of a sense of permanence and certainty caused by rapid and unrelenting change." Not only are the infrastructures of modern societies changing, but the social fabrics that kept them together are also changing. In the United States, there is no longer a single dominant "all-American" value system overshadowing all others. We have moved into an age of cultural and ethical relativism: Do your own thing, and don't worry about what anybody else thinks.

Paradoxically, while people are bombarded by universal images and icons, they're also becoming more differentiated and tribal in their self-identification. Racial and ethnic divisions, age and gender gaps, and a proliferation of social and political agendas are taking away the comfortable sense of certainty and simple answers. Issues such as gay marriage, capital punishment, abortion, the right to die voluntarily, and genetic engineering have created a sense of irresolvable conflict and ambiguity across whole cultures. In business, information technology is destroying whole industries, creating others, and turning still others upside down.

A person with a high psychological need for structure and order will face more and more stress as the rules and answers become less and less clear. Conversely, the skill that psychologists call "tolerance for ambiguity" will become more and more important for a person who wants to thrive, succeed, and lead others in this new age.

Intellectual courage. During the peak of the dot.com mania when delirious investors were clamoring for shares of the so-called new economy miracle companies,

it became fashionable for stock market pundits to poke fun at Warren Buffett, long considered one of the world's wisest investors. Buffett's value investing approach seemed antiquated as the profitsomeday.com firms became the darlings of Wall Street and shares of Buffet's Berkshire Hathaway sagged. "It looks like the grand old man has had his day," they said. "He just doesn't get the new economy." With characteristic humility, Buffett responded, "I only invest in things that I understand."

It turned out that the Oracle of Omaha understood the game far better than those who had condescendingly pronounced him over the hill. As the dot.com bubble burst, e-commerce firms began dropping like flies and venture capitalists stopped chasing geeks with hypothetical business plans. The smart money returned to value. As Berkshire Hathaway's shares steadily rose to far outperform the NASDAQ and Internet 100 indexes, Buffett was entitled to the last laugh. He didn't take it. He knew that capital eventually flows to value, and he knew that psychological bubbles don't go on forever.

Intellectual courage is the ability to discern truth when the truth is unpopular and to trust your own wisdom instead of following the herd. As our world becomes more complex and the message environment becomes more confused and conflicted, intellectual courage becomes more valuable as a survival skill.

Only fools worship tools. Ultimately, all of the digital gadgets—computers, printers, scanners, copiers, faxes, networks, cell phones, personal digital assistants, and whatever—are just devices. They are means to accomplish certain ends. If we can't figure out what we want from them, we certainly can't distinguish the means from the ends.

Albert Einstein counseled his colleagues, "The concern for man and his destiny must be the chief aim of all scientific endeavor. Never forget this amongst your diagrams and equations." ❑

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