By Elena Larsen and Lee Rainie

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History is driven by new ideas and new technologies. The domestication of plants and animals led to food supplies sufficient to allow the creation of cities and specialization of labor. Electric lighting freed us from the strictures of the sun and revolutionized our work and sleep patterns. Last January, a book proposal by inventor Dean Kamen on breakthrough technology, described only by the code name “Ginger,” set off a flurry of speculation in the media. Predicted to turn

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Going Online

A classic technology adoption story
patterns of transportation, city planning and energy consumption on their heads, the invention was backed by tech computer industry giants Jeff Bezos of Amazon.com and Steve Jobs of Apple Computers.

In marked contrast are the many potentially revolutionary innovations that are stifled before they can make their mark, as they fall prey to politics or resistance from entrenched interests. Other ideas or technologies may be adopted and adapted for something quite other than their original use.

Over the last half century, researchers led by Everett Rogers, professor of Communications and Journalism at the University of New Mexico, have looked into the question of why and how people adopt, adapt, or reject new ideas. The “innovations” studied have ranged from the boiling of drinking water in rural areas to the planting of genetically modified seed.

Disparate as the innovations themselves are, the patterns that dictate adoption or rejection are remarkably consistent. The same factors that affect people’s use of new water purification methods, new agricultural techniques, and immunizations can be applied to understanding how and why we embrace new communications tools.

In short, this scholarly work can shed much light on the current exploration of the growth of the internet in America, and the debates that swirl around access to the internet and its impact on American society.

Take, for example, Rogers’ story of the plight of South American coffee growers in the 1960s. Agricultural experts wanted to introduce new coffee strains to Colombian farmers. The new breeds promised dramatically increased harvest yields—but with significantly increased up-front costs. The trees required use of costly new chemical fertilizers and weed-killers. This meant that only the wealthy, the well-informed, and the highly-committed were likely to take the risk of adopting the new practice. They were in the best position to assume the initial expense and the three-year wait for the new varieties to bear crops.

The early adopters of the new trees and nurturing techniques were amply rewarded for their patience and investment. Over the course of seven years, they earned twice the cash per acre of later or non-adopters. They used this income to buy more land and plant more coffee. At the same time, the acreage of those who could not afford to adopt the new strains dwindled (often from being sold to richer farmers), and almost a third of the poorer farmers gave up altogether to look for day labor or jobs in the city.

Adopting a new idea takes confidence—an optimistic cast of mind that is often born of having the social or media contacts to hear about ideas, the education to evaluate them, and the financial resources to absorb any potential loss.

In Rogers’ scheme, individuals who represent the leading wave of those embracing a new technology are called “innovators” or “early adopters.” They are cosmopolitan, well-connected people who have the means to recognize the potential benefits of new ideas and to pursue them. Adoption of a new idea may hover exclusively in the realm of these individuals for a few months or several years before it becomes visible and attractive to larger portions of the population, who then follow suit.

Rogers calls the next wave of adopters the “early majority.” Once the first steps have been taken by the innovators, they readily see how the new technology can be put to practical use in their own lives.

Some parts of the population may not jump on the bandwagon until much later. They are the “late majority.” Not necessarily members of the local Luddite chapter, those in the late majority may simply need the chance to see an idea in action before they will embrace it, and that may require a trickle-down effect from the early and mid-term adopters. Often in a “show-
By the end of 2000, surveys by the Pew Internet and American Life Project recorded that 56% of American adults had access. Moreover, the internet population was looking more and more like the rest of America as it became majority female (by a hair), as 43% of African-American adults and 47% of Hispanics gained access, and as those with high school educations or less and those in households earning less than $50,000 jumped sharply.

The demographics and motives of those at various stages of the adoption process have shifted along the lines laid down by Rogers and his colleagues (see Figure 1). Nowadays, the internet population is approaching saturation among the well-off (those in households earning more than $75,000), the well-educated (those with college or graduate degrees), and the young (those under 30). More than three in four of the people in these groups say they have internet access, and they are the most likely to say they find it useful in a variety of contexts—for instance, managing their health and finances and doing their jobs.

Many of these people have been online for three or more years—that is, they are innovators. A healthy majority (almost 60%) reports that their initial reason for getting access was related to the availability of the internet at work or at school. They and their institutions were quick to see the value of connectivity, and they hardly needed persuading. They had little doubt they could master and exploit the new technology for both professional and personal reasons.

By late 1998, a survey by the same organization (now called the Pew Research Center for the People and the Press) showed a tripling of the number of adults who had access, as more women, minorities, adults with less than college educations, the middle-aged, and people from moderate income households got wired.
The development of smarter information organizers and web sites will make it easier to find specific information online. And anxiety over online privacy will be alleviated by the next generation of web browsers and other privacy-protection schemes.

Many of these concerns are cited by non-internet users as the reasons they have no interest in going online. Thus, it is likely that improvement in these areas will help convince them that their reasons for resisting the internet have diminished.

Still, about half of current non-users say they have no intention of going online. Many are older Americans who have lived much of their lives without the internet and are not sure it can bring any benefit to them. For that reason, it might take another ten to fifteen years before internet access reaches the same level of penetration in American society as the telephone and the television.

However, there is no reason to doubt that day will eventually come. Like all powerful technologies before it, the internet is progressing along a normal evolutionary path to becoming a standard tool in the lives of virtually all Americans.