

INTRODUCTION

We live in a moment of history where change is so speeded up that we begin to see the present only when it is already disappearing.

—R. D. LAING

Where are the flying cars?

For me, born in the early 1960s and one of the millions who watched all the Apollo moon landings, the prediction of the future that stands out in my mind best is that we would all be commuting in cars that flew. No more traffic jams. No more toll roads. Perhaps they all had small nuclear reactors in them so there was no need for gas or any other fuel. The plan was for *The Jetsons* to look like a reality television show.

Almost forty years after man first landed on the moon, my car is still permanently land-based, I still pay tolls, and I'm still filling it with gas. What did the promised transportation revolution deliver instead? The Segway. The company first marketed itself as “the next generation in personal mobility,”¹ which apparently meant traveling at about 12.5 miles (20 km) per hour with a range of 24 miles (38 km) before you had to recharge the

¹ See <http://www.segway.com/products/>.

lithium-ion battery packs. As revolutionary as *The Jetsons*? This can't even compete with the Batmobile.

The inventor of the Segway, Dean Kamen, once predicted that “the Segway will be to the car what the car was to the horse and buggy.”² I remember the buzz that the Segway would mean the end to walking. It is hard to support the idea that the next transportation revolution should be the end of walking.

Dean Kamen is a smart guy—certainly smarter than I am. But the Segway was obviously designed in a vacuum, devoid of consumer input. The “if you build it, they will come” model of product development—focused on engineering rather than consumer research—is based on hope and, as the cliché goes, hope is not a strategy. So I try to contrast my ideas—whether you think they are any good or not—with those of engineers, like Kamen. Since I'm not an engineer, I consider myself instead a *technologist*, which I define as such: the optimist sees the glass half full; the pessimist sees the glass half empty; and the technologist wonders why the engineer didn't talk to anyone before building a glass that was twice as large as anyone wanted or needed.

THE FUTURE IS HERE

Much of the rest of the world is way ahead of the United States in embracing and implementing the wireless, paperless, and cashless revolutions I describe in this book. As the science-fiction author William Gibson is credited with saying, “The future is here. It's just not widely distributed yet.” The reasons for this are often cultural or regulatory, not technological. For the United States, the good news about being the second or third mover in the marketplace is that it could offer us a chance to catch up eventually by eliminating the need to try technologies that failed elsewhere. And by the time we implement these technologies, some economies of scale may have kicked in and dramatically lowered their costs, both for MNOs and for consumers.

Culture and regulatory issues change more slowly, but change does come. The Internet and the World Wide Web are case studies in how technology can change culture and force governments to embrace a new regulatory vision.

² Rivlin, Gary. (2003, March). Segway's Breakdown. *Transportation Alternatives*. Retrieved May 12, 2008, from <http://www.transalt.org/press/media/2003/030301wired.html>.

Can you imagine the government not trying to tax anything and everything it can? Yet most interstate e-commerce transactions in the United States are not taxed. It is remarkable. And not too long ago filing your income taxes online was impossible from a regulatory standpoint, even though the technology had been around for more than a decade. Regulatory change does come, however slowly, when people demand that the government allows them to do what technology allows them to do.

So it is with good ideas, technology, products, and services—they can change as people change and as technologies around them change. Of the three revolutions I address in this book, the most important one is the wireless revolution, because it enables and enhances the other two. Man is inherently a mobile creature, and wireless technology—coupled with the Internet and the World Wide Web—allows us to store and retrieve information anywhere, anytime, on the move. The wireless revolution enables a modern world where BlackBerrys are more commonplace on a belt than in a cobbler. But certainly wireless isn't important just because it is making the migration to a more paperless and cashless society possible. The mobile phone is the most sought-after consumer electronic product globally, ahead of the personal computer or the car. In many parts of the world, a mobile phone is the user's personal computer. I have been to more than thirty countries on six continents, and only the near ubiquity of the mobile phone is common everywhere I go.

The second revolution can seem less welcome. For many of us, going paperless seems like something we should do or something we have to do, not something we want to do. It's like eating vegetables as a child, and most of us never volunteered for lima beans. For the first of what will be many times in the pages that follow, let me state the following clearly: paperless doesn't mean no paper. The overwhelming majority of you reading this are doing so with a device that doesn't need electricity to run, starts instantaneously, and never needs to be rebooted: a book. The irony of writing a book about going paperless is not lost on me.

Nonetheless, the paperless revolution is important for two reasons. Paperless communication allows for the digitization of ideas, which makes them faster and easier to share across distances. If the global citizenry is capable of accessing information using mobile phones, then let's not only print information in big, heavy, expensive books. Let's also put it on the World Wide Web

so the broadest possible audience has access to that information at the lowest possible price. The paperless revolution is also inherently eco-friendly, since it means cutting down fewer trees, using fewer chemicals and less energy in recycling paper, and fewer printer ink cartridges to dispose of.

While writing this book, I tried to complete the paperless section paperlessly. Instead of using the usual research techniques of getting books, photocopying pages, and clipping magazine articles, I did almost everything digitally. I stored the research on my computer (I converted the articles to .pdf just in case the content disappeared from the Web) and did my edits onscreen rather than with a red pen on printed paper. It was not easy at first, as old habits are hard to break. But as someone who travels a lot, I enjoyed the convenience of always having all my research with me without having to drag around manila folders stuffed full of articles and photocopies. But paperless is possible and, like eating most vegetables, you should probably do it whether you like it or not. I still wouldn't volunteer for lima beans.

Of the three revolutions under discussion, the cashless future might be the easiest to envision given the huge role that credit and debit cards already play in the U.S. and global economies. The notion of a cashless society is appealing because I think the end of cash will mean a huge reduction in cash-related crimes like muggings and bank robberies. No cash means no cash to steal, no money for the government to mint and for us to lose, and no more having too much or too little change. Cashless means convenience and safety.

The ideas, technology, products, and services that are part of the wireless, paperless, and cashless revolutions have changed and will continue to change. What we know today as cellular phone technology was designed solely to talk to other people, not text message, get driving directions, or access the World Wide Web. Life without paper hasn't been viable since shortly after Gutenberg commercialized movable type. And to almost everyone in the United States—at least those who haven't read this book—using a credit or debit card at the register is the full extent of the cashless revolution. But change is coming, and with a look to the early-adopter culture of South Korea (included in each chapter of the book) we can get a pretty good idea of what it will be. The question is now only this: are you ready for the revolutions?