

e-business & Economic Self-Reliance

By Stephen W. Liddle

I am often asked to speak on the subject of e-business—its ramifications for modern organizations and its impact on our students who will soon be entering the workforce. E-business is the use of information technology and electronic communication networks to exchange business information and conduct transactions in electronic, paperless form. From online retail operations to Web-enabled self-service technical support, organizations around the world are transforming in significant and far-reaching ways.

We often hear about the so-called digital divide between the technology rich and the technology poor. No doubt we can—and surely will—do better, but I agree with Davies’s assessment that technology can be the catalyst that creates opportunity for people in developing communities around the world to improve their standard of living. As Thomas Friedman argues in *The World Is Flat*, the advent of inexpensive and ubiquitous networked information technology is empowering individuals in significant new ways, even in communities that have previously been shut out. As just one example, today I can go to Overstock.com and purchase a beautifully handcrafted, king size Guatemalan patchwork quilt for the relatively low price of US\$116.99 (including shipping), and a significant portion of that purchase will go directly to the artisans who created the quilt.

Overstock’s “Worldstock” line of business is an ideal match that pairs consumers with artisans in a new e-business model that benefits both parties.

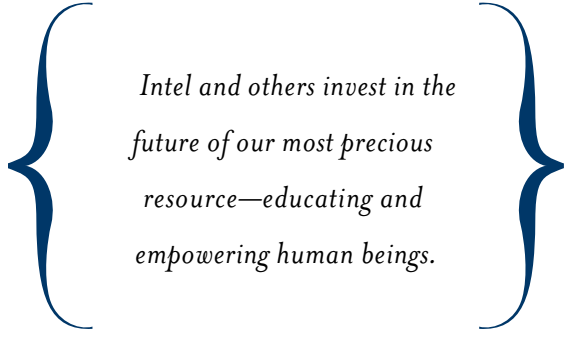
I point to three underlying forces that are driving e-business: Moore’s Law, Metcalfe’s Law, and the principles of disruptive innovation. According to Moore’s Law the number of transistors on an integrated circuit will roughly double every twenty-four months and will cost half as much to produce. This holds true for many types of technology measurements: storage capacity, computing capacity, network transmission speed, and so forth. Technological capability progresses geometrically, so that now we routinely carry in our hands technology that was barely imaginable a generation ago.

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Metcalf's Law helps explain why we converge so rapidly on IT standards: there is a "network effect" that rewards us for using a common technology standard. Because the World Wide Web operates with standardized, open technology platforms, it is easy for me to connect with artisans in Guatemala or anyone, anywhere who has access to the Web. Technological connectivity means that *I* can connect to other *people* all over the world. The device connections are just a proxy for human interaction, which is really what interests me. With Google's world-class search service, I am connected not just to billions of Web pages across the globe, but also to hundreds of millions of creative human minds—actually, 1.09 billion as of 11 January 2007, according to www.internetworldstats.com.

The third force is the nature of disruptive innovation. As the Internet began to boom in the 1990s, Clayton M. Christensen studied relationships between generations of technologies. He observed that entrenched technology players were often displaced by newer, relatively unknown upstarts. Christensen discovered that, for a variety of reasons, incumbents could not see the approaching train wreck that consistently displaced the mature technology with a newer, less expensive one. (I highly recommend Christensen's definitive book, *The Innovator's Solution*.) It turns out that one of the best ways to foster a disruptive innovation is to focus on an under-served market; it's not hard to compete with non-use. Sophisticated users like you and me may not be satisfied with Intel's Classmate PC because we insist on having the technology found in a laptop costing US\$1,000 to US\$2,000. But over time, it is likely that some innovations created for the Classmate PC will find their way into the mainstream market where they will displace elements of our current best-in-class laptops. In the long run serving the under-served markets of the world is a win-win. Intel and others invest in the future of our most precious resource, educating and empowering human beings, while simultaneously driving innovations that could serve their currently most profitable markets.

The Web is growing up; we have left the so-called Web 1.0 era where we connected computers and published Web pages, and now we are in the Web 2.0 era where we are connecting people through new tools such as blogs, wikis, social networks, and all kinds of col-



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laborative mechanisms. By connecting people to the global information resource, the Internet, we are giving them the tools they need to be a part of this transformation. Perhaps we do need to train 10 million new teachers to capture the imagination of the next billion children, but how much richer we all will be when children everywhere can collaborate with us in cyberspace. I have many years of formal education, and yet I learn something new from the Web every day. Maybe something I create can be of use to those billion children, but I believe it is even more likely that one of those newly empowered children will create something of great worth to me.

Moore's Law frees us to think of what might be without being so concerned about the technological constraints—technology will catch up eventually. Metcalf's Law helps us see how there are inexorable forces driving us toward an increasingly global and connected community. And the principles of disruptive innovation reassure us that our philanthropic efforts are not merely altruistic, but they also help ensure our own future. The question is not whether technology can assist development, but rather how technology can be best deployed to do so. [ESR](#)

ABOUT THE AUTHOR

Stephen W. Liddle is an associate professor of information systems and director of the eBusiness Center at Brigham Young University. He has been the Grant and David Fellow at BYU since 1999. Liddle received his bachelor's and doctoral degrees in computer science from BYU in 1989 and 1995, respectively.