



TECHNOLOGY AND HOW WE WORK

*We are all growing volcanoes approaching
the hour of their eruption.*

—Friedrich Nietzsche

I started working with workplace technologies way back in the mid-1990s. Over the course of my career, I have spent more than my fair share of time in front of a computer. I have used a panoply of different tools, graphical user interfaces (GUIs),¹ programming languages, operating systems, databases, system architectures, systems, productivity applications, and reporting tools. Although no one has seen and worked on everything, I have come just about as close as anyone I know. After 10 years in the corporate world, let's just say that I know my way around a computer.

I look at technology today and am simply amazed. It's so different on so many levels compared to 15 years ago. I'm old enough to remember a time *before* e-mail, Internet browsers, and Microsoft Office.² Back then, just about all companies used applications and systems that are very different from what they use today.

In my days as a technology consultant, I have worked with many different types of companies. I've advised single-person home-based businesses

¹ Including the now antiquated green screens.

² I absolutely despised early versions of WordPerfect, the antithesis of "what you see is what you get" or WYSIWYG. Imagine today printing out a document and having no idea about how it would be formatted.

and 50,000 employee multinational corporations—and just about all types in between. I can also lay claim to working with companies in many different industries: health care, nonprofit, telecommunications, hi-tech, public sector retail, manufacturing, and professional services. It's fair to say that all organizations use technology, with some doing so much better than others.

The Consultant's Perspective

Technology consultants are for the most part change agents. For a variety of reasons, we are contracted to help organizations move from one platform, system, or application to another. Consider a typical project for someone like me. A company purchases a new technology, and absent the requisite internal expertise, brings in consultants to make it work. Of course, we consultants can do only so much. We're not miracle workers, despite what salespeople might have said before contracts were signed—and despite what clients themselves wanted to hear. On particularly contentious or difficult projects, such as most of the ones detailed in *Why New Systems Fail*, consultants tend to shoulder most of the blame.

In my career, I've seen people make some horrendous decisions deploying new technologies. As a conscientious consultant, I attempted to steer them away from decisions ultimately not in their organization's best interests—or theirs, for that matter. Sometimes I've been successful; sometimes I've just irritated them and have had to admit defeat. This has happened to me with companies of all sizes: small, medium, and large.

Truth be told, however, I'm much more of a small business type of guy. I simply prefer working in smaller environments, where people generally rely less upon strict policies and procedures and more on plain old common sense.³ Finding a solution to a problem tends to be more important than interminably debating the pros and cons of each alternative in endless meetings, childish bickering, internal politics, and extensive CYA.⁴

³ Again, this is a general rule. There are plenty of pragmatic folks at enormous organizations and probably just as many irrational folks at mom-and-pop stores.

⁴ Consultant-speak for "cover your ass."

Traditional Impediments to Small Business Technology Adoption

As a general rule, technology at many small businesses has historically lagged technology at larger companies for six main reasons.⁵ They include these:

- Resource availability
- Perceived need
- Priorities
- Bad decisions
- IT project failure stories and statistics
- Finding the right scale

Let's explore them.

Resource Availability

Many small businesses have lacked the financial and human resources of their larger brethren. Historically, they often could not afford best-of-breed systems and technologies.

Perceived Need

Many small businesses have made do with paper files, spreadsheets, and other technological Band-Aids. Historically and at a core level, many have not recognized that they needed proper systems or applications. Although it's hard to argue that the local food store needs the same powerful and expensive inventory management systems as Walmart and Amazon, both kinds of organizations need to electronically track inventory. The only difference is scale.

Priorities

Even many small businesses that recognize the need for proper systems and applications have never deployed proper systems. At these companies, information technology (IT) folks have been primarily concerned with "keeping the lights on." The focus here has been on the usual suspects: securing the company's IT assets, maintaining networks, fighting fires, creating user and e-mail accounts, and handling hardware issues.

⁵ Of course, there are plenty of exceptions to this rule. Some of my smaller clients have implemented amazing and simple technologies. At the same time, many larger companies have suffered from too much technology: an eye chart of overlapping legacy systems that generally got in the way of each other.

In other words, the people responsible for deploying technology have been far too busy to upgrade their company's technology. Despite recognizing the need for better technology, more compelling business priorities have forced these companies to get by with a pastiche of paper files, spreadsheets, and other "low-tech" solutions.

Bad Decisions

Many organizations originally made bad technology-related decisions that they ultimately intended to address. Unfortunately, for whatever reason, many of these mistakes have never been corrected. Even the best of intentions get derailed. Applied within the context of this book, years ago many small businesses outgrew their original, limited applications and technologies. They have not had the time, money, or desire to upgrade them.

IT Project Failure Stories and Statistics

Horror stories from other organizations have often deterred many small businesses from making the jump into new technology. To be sure, large system implementations fail more frequently and spectacularly than relatively small IT projects. However, the latter often miss their mark.

Finding the Right Scale

Many traditional client-server applications were geared toward businesses of a certain size. A small company in the midst of decent growth would typically pause to consider before buying and implementing an enterprise-wide system. Consider the following conundrum:

- Growth in the number of employees, transactions, or physical locations would make a starter system obsolete. If growth continues, in a few years, the company would have to revisit the process of choosing a new system.
- If growth abates, the company would have purchased too much technology. It would be stuck indefinitely with excessive IT support and maintenance costs, inhibiting future growth and potentially threatening the success of the company.

The scale issue often deterred many small companies from making much-needed investments in technology.

The Paradox of Dramatically Increased Choice

As has been discussed, the last five years has produced a massive technological explosion. Make no mistake: this has been an explosion of both

breadth *and* depth. New technologies have emerged, as has the number of existing options *within* existing technologies. (This is true even against a backdrop of an enormous amount of simultaneous merger and acquisition activity in the software world.) As a result, today many companies are simply unsure about what to do. Although increased choice with regard to technology is hardly a bad thing, many small business owners are inundated with options, unsure about “the best” solution for their companies. Call this paralysis by analysis.

For example, consider the number of different products offered by one very large technology company. Google has done many amazing things on many different levels.⁶ In recent years, it has moved far beyond merely providing the world’s most popular search engine. Consider what some of the company’s applications can do for its business customers:

- Allow for customized e-mail domains (Gmail for Business).
- Share and manage online schedules (Google Calendar).
- Create team websites as easily as drafting documents (Google Sites).
- Collaborate in real time on documents, presentations, and spreadsheets (Google Apps and Google Docs). Indeed, over 30 million people use these tools.⁷
- Analyze traffic data for websites (Google Analytics).⁷

And Google isn’t alone. Other companies such as OpenOfficeⁱⁱ and Zohoⁱⁱⁱ (discussed later in this book) offer similar arrays of related, integrated, and easily deployable services aimed at small businesses, although larger organizations can use them as well.

This is not to say that software vendors have long neglected the small business market. Nothing could be further from the truth. Indeed, companies such as Sage Software^{iv} have long sold applications geared toward the small business. At the risk of excessively generalizing, however, today’s small business applications are far superior to their antecedents on several levels:

- They offer increased integration, both out of the box and in terms of future development after the purchase.
- They are relatively easy to deploy and customize.

⁶ Ken Auletta’s excellent book *Googled* details how Larry Page and Sergey Brin rarely strayed from their overall vision in creating a revolutionary search engine.

⁷ This is hardly a comprehensive list of Google’s offerings. For such a list, see http://en.wikipedia.org/wiki/List_of_Google_products.

- Especially for SaaS solutions, there's comparatively little internal maintenance involved.

Collectively, these factors mean that small businesses can be up and running with integrated and powerful software in a much shorter period of time than in years past. By extension, small business owners and employees can focus on growing their businesses, not on IT headaches and deployment nightmares. However, before any company can reap the benefits of these technologies, it has to choose to deploy them. For many small businesses, that's no longer an easy decision. This is the paradox of increased choice.

An Era of Constant Technological Change

In the words of Mitchell Kapor, pioneer of the personal computing revolution: "Getting information off the Internet is like taking a drink from a fire hydrant." Few would dispute that we have entered an era of severe information and technology overload. Nearly every day (or every hour, if you're like me), we seem to hear about a new technology, website, gadget, or technology-inspired event that can affect our lives. In large part, today's environment stems from what many technology pundits and thought leaders have called "the consumerization of IT."⁸

Forget the ancient times of needing to read the newspaper to know what's happening. Think back to the days in which e-mail fundamentally changed the way many of us communicate. Those days now seem quaint in comparison to today's deluge of information. We instant message (IM), tweet, text, and "friend" others from our nearly ubiquitous portable devices. Some people, particularly those in Generation Y (aka *Millenials*), think nothing about divulging amazingly personal details about themselves on social networking sites such as Facebook. Five years ago, cell phones were common, although they were hardly the minicomputers they are today. Kindles, iPads, and Nooks are just a few of the devices altering the way that we consume information. Not too long ago, almost everyone used a PC equipped with Microsoft Windows and Office. Now, mobility, cloud computing, and open source software allow for things previously unfathomable. And most important, this flurry of activity isn't letting up anytime soon.

In the world of small businesses, this flood of technology has produced mixed results. Relatively few are thriving, doing more with less. Others are seeing only mild benefits. Many if not most are standing still, unable or unwilling to effect change.

⁸ In a nutshell, most people no longer see and touch technology only at work.

This is hardly surprising. In fact, it has *always* been the case with new technologies and inventions. In this sense, the era of Web 2.0 is not unique. Other periods rife with disruptive technologies have also brought a mixed bag of results.

So what exactly has changed now? In a word, speed.

The Challenges of Staying Current

I need to keep abreast of a wide variety of dynamic topics, not only for myself but for my clients. Trying to stay current is easier said than done. If I'm on a consulting gig for as little time as a week, I routinely wonder about what I'm missing outside my client's walls. If I'm writing a piece for one of my clients on a specific topic, such as social media, I can't help but think about what's happening in other spheres. You could say such is life for the perennially curious man in the twenty-first century. Although the old adage "So many books, so little time" is still true, it could also be updated to "So many technologies, so little time."

These technologies are changing the rules by which we live and do business. They are taking people out of their comfort zones. Today, most people in organizations of all sizes need to deal with a great deal of technology-oriented change. Although I don't have a crystal ball, I just don't see this abating anytime soon.

Books such as *Distracted: The Erosion of Attention and the Coming Dark Age*⁹ and *The Shallows: What the Internet Is Doing to Our Brains*¹⁰ cover the potential long-term effects of this frenetic pace of activity. These books ask profound questions. Have we opened a new Pandora's box? Despite the benefits of our constantly connected world, do we fully understand its costs? Do we really know all of the pros and cons of these new technologies?

For most businesses, the answer to each of these questions is a resounding no. In the spring of 2010, I spoke at a few professional organizations about emerging technologies, social media, and website design. One in particular stands out. In April, I addressed a local Chamber of Commerce in Florham Park, NJ. I spoke to a group of about 40 small business owners who wanted to know more about recent developments in technology. My talk was originally scheduled for half an hour, but I knew within five minutes that I had struck a nerve with the audience. They kept peppering me with questions about blogging, cloud computing, software as a service (SaaS), and other new topics with which they were vaguely familiar. I

⁹ By Maggie Jackson and Bill McKibben.

¹⁰ By Nicolas Carr.

suspect that, had they not had to go work, we would have chatted all day. Our conversation lasted nearly 90 minutes.

No matter where I went, I kept thinking about small businesses' struggles with—and misconceptions about—emerging technologies. For example, in June of 2010, I needed to get my tennis racquet restrung. Rather than go to a large chain store, I try to support local businesses. I frequent the aptly named WhatARacquet close to my home. After all, I'm a local business here in northern NJ as well—although a really small one. At the time, I hadn't begun writing this book.

As I paid for my restrung racquet at the counter, I started chatting with one of WhatARacquet's co-owners, a woman named Linda. She knew that I was a tech guy and asked me whether I thought she needed a proper website or could get away with just a Facebook page. Never one lacking opinions, I offered mine: why not both?¹¹ I explained to her the benefits of social networks and media. She was all ears.

It seems to me that many small business owners are awash in a sea of technology they aren't using. Most haven't explored mobility, cloud computing, social technologies, and so on. They aren't keeping up with many of the changes that could significantly help them on so many levels.

Reasons for Lagging

I began to wonder about why so many small business owners seem to be unaware of the profound technological changes currently taking place. Reasons include:

- Some are just overwhelmed by the rate of change.
- Some just don't care—they don't plan to change anything if they can avoid it.
- Some are probably intimidated by these new technologies.
- Some just aren't aware. Their attention is elsewhere.
- Some subscribe to the view "If it ain't broke, don't fix it."

I suppose that this would make sense if these emerging technologies offered only marginal improvements to John Q. Business Owner. But that's just not the case. These days, many small companies ignore technologies that, at a minimum, can help them *significantly*:

- Grow their businesses
- Attract talented employees

¹¹ Why some companies don't have a Facebook presence is beyond me. Facebook recently achieved more than 500,000,000 registered users. Put another way: if Facebook were a country, only India and China would have more citizens.

- Improve access to key information
- Increase employee communication and collaboration
- Reduce costs of recruiting, IT, and marketing
- Compete with larger companies

Of course, exceptions abound. Some small businesses are using emerging technologies in creative and interesting ways to achieve these benefits. These are the New Small.

Kranzberg's Laws of Technology

Lest I paint a morbid picture of the state of small business technology adoption, let's review a little history. This is hardly the first time that massive technological change has affected the American workplace and the fundamental way that people actually perform their jobs.¹² Melvin Kranzberg spent decades lecturing about the history of technology. He is most famous for his six laws of technology, listed below:

- Technology is neither good nor bad; nor is it neutral.
- Invention is the mother of necessity.
- Technology comes in packages, big and small.
- Although technology might be a prime element in many public issues, nontechnical factors take precedence in technology-policy decisions.
- All history is relevant, but the history of technology is the most relevant.
- Technology is a very human activity—and so is the history of technology.^v

Although technology constantly changes, Kranzberg's laws have had remarkable staying power.¹³ Today, emerging technologies are allowing small businesses to do amazing things. From a technology perspective, they can act big and scale just as easily as larger players. No longer are powerful enterprise technologies necessarily too big or too expensive for small businesses. In many cases, smaller companies can do exactly what the big boys can do at a fraction of the cost.

¹² Perhaps the best account of this I've read is Dennis Baron's book, *A Better Pencil: Readers, Writers, and the Digital Revolution*. For centuries, people have questioned advances in the world of writing.

¹³ I am reminded here of the signature Rush song "Tom Sawyer" with the apropos lyric "Changes aren't permanent, but change is."

From a people management perspective, new communication technology, for example, can be a godsend. Employees are able to work wherever and whenever they choose. Increased flexibility is, in fact, a major reason that many people work for smaller outfits or start their own shops. Other motivations include the ability to have a greater impact at work and the desire to be one's own boss. Although the reasons vary, we will see later on that many New Small founders had similar motivations in deciding to start their own businesses.

Companies of any size that lack a coherent technology strategy ultimately pay the price, and not just in terms of money wasted on failed IT projects. In such workplaces, many employees feel completely overwhelmed by too much technology; they are not sure about what they should be doing, much less how to do it.

Over the last two years, I have written a great deal about the different effects of these technologies, as well as related trends, events, and innovations. The vast majority of my writing, consulting, and speaking over the last two years has revolved around one central question: how can organizations make the best use of emerging technologies?

It's a big question, and its answer hinges on the following:

- The type and size of the organization
- The industry
- Profit margins and competition
- The specific technology
- Regulatory considerations
- The economy
- Business imperatives

I've come to one conclusion: *all else being equal, it's better to be small.*

That's right. For several reasons, it's no longer a liability to be the little guy. As mentioned earlier, the last five years have seen a massive explosion of available *and viable* business technologies that allow small businesses to compete. In general and compared to their larger counterparts, small companies are simply better able to adapt to changes and move in different directions as needed. This book illustrates how small businesses are now *leapfrogging* big companies, effectively deploying new technologies faster, more effectively, and at lower costs.

But it gets better. Yes, compared to big companies, many small businesses are adopting new technologies at both greater speed and lower cost. These represent two sources of a new competitive advantage for these nimble, agile companies. At the New Small, new technologies are enabling a completely different mindset and definition of work. Smaller outfits and

start-ups are attracting top-flight talent because, to some extent, they allow work to be done anywhere: from home, on a beach, or in a coffee shop. This tech-friendly ethos is allowing employees to work on their own terms, addressing the work-life imbalance from which many people suffer (more on this in Chapters 2 and 4). In this vein, the New Small is using technology strategically to win the war for talent.

The Five Enablers

So, there's good news for small businesses on several fronts. Emerging technologies are allowing progressive companies to leap ahead of others still struggling to figure things out. But which technologies are making such a dramatic difference? There are five specific ones, and in this book, I collectively refer to them as *the Five Enablers*:

- Cloud computing
- Software as a service (SaaS)
- Free and open source software (FOSS)
- Mobility
- Social technologies

New Small companies effectively deploy and use the Five Enablers. As a result, they have the same—or even superior—technology compared to organizations 10 times their size, often at a fraction of the time and cost. What's more, these businesses go from technological laggards to leaders.

Traditional Aphorisms

For many years, many small businesses have followed traditional business aphorisms such as “do more with less,” “focus on what you do best,” and “never be satisfied.” Progressive small businesses have always looked for ways to do things better, faster, and cheaper while concurrently maintaining focus. In this manner, the Five Enablers are merely means to traditional ends.

A Welcome Byproduct

The Five Enablers are doing so much more than allowing New Small companies to upgrade their technology and reduce their IT budgets: they are enabling employees at these companies to work in much more fulfilling jobs. As you see in the small companies profiled later in this book, fewer employees' jobs are rigidly defined and compartmentalized. Ask many owners of New Small companies to name their head of IT, for example, and they will probably say, “Well, we all sort of pitch in” or “It's probably Steven today.”

The New Small is creating more meaningful jobs, and in the process, turning long-held management theories on their head. In some circles, they are reversing Scientific Management, the theory developed by Frederick Taylor in the late nineteenth century and largely adopted by many businesses around the globe. No longer does work need to be excessively specialized, repetitive, and mind-numbingly boring. Through the Five Enablers, the New Small is injecting a much-needed sense of excitement into many workplaces.

Why Now?

Astute readers will note that these technologies have existed in one form or another for quite some time. They may be more evolutionary than revolutionary. So, what has changed? First, as with bandwidth and storage, over the last 10 years these technologies have become significantly less expensive and even more powerful. The net result: by and large, small companies are now able to afford these exciting technologies. Second, deployment is far easier and more flexible. No longer do small businesses have to attempt to predict just how much technology they will need—and face dire consequences if they are wrong. As we see in Chapter 3, today a company of 200 employees can scale its technology in the same way that a 20,000-employee company can. Third, success begets more success, creating a type of network effect.¹⁴ *Technologies become more popular because, reflexively, they are already popular.* For example, as more companies have adopted cloud computing, others have become emboldened to do the same. Lessons and case studies become available as different technologies and products become more mature. While the evolution of technology is by no means finished, with respect to the Five Enablers, we certainly understand a great deal more than we did five years ago.

¹⁴ A network effect is “the resulting increased value of a product because more and more people use it. Telephones, fax machines, and computer operating systems are examples. A product’s success is due to compatibility and conformity issues, not that the product or technology may be superior or inferior to the competition.” See <http://computer.yourdictionary.com/network-effect>.

SUMMARY

This chapter has examined the reasons that many small businesses have historically been technological laggards—and why this is now changing. It also introduced the Five Enablers: the emerging technologies currently enabling the New Small to realize enormous benefits, savings, and efficiencies. The bottom line is that today there are major advantages to being small.

The next chapter will provide greater context about the nature of these technological changes in the workplace.



Endnotes

- i <http://www.google.com/hostednews/afp/article/ALeqM5iBM55JyzGXlgtxrJ3gu9qtCx30dA>
- ii <http://www.openoffice.org>
- iii <http://www.zoho.com>
- iv http://www.sagenorthamerica.com/products_services
- v http://en.wikipedia.org/wiki/Kranzberg%27s_laws_of_technology