

INTUIT FUTURE OF SMALL BUSINESS REPORT

SECOND INSTALLMENT: TECHNOLOGY TRENDS AND SMALL BUSINESS

The Intuit-ITFF Future of Small Business Project: About this Series

Small businesses are an important and growing driver of U.S. economic growth and dynamism. They employ over half of America's private sector workers, produce over half of America's non-farm private GDP, and create roughly 75% of new private sector jobs. The next decade will see the growth of small business continue, and the social and economic impacts of small business increase.

To better understand this important segment of the U.S. and global economy, the Institute for the Future has undertaken a research project to identify, analyze, and forecast the significant trends and forces impacting small business over the next decade. We present our findings in a series of forecast reports. This report, Technology Trends and Small Business, is the second in the series. The first report described demographic and social trends that are impacting small business, and the third report will cover trends related to industrial structure and economic decentralization. The reports and related research are available at www.intuit.com/futureofsmallbusiness.

The last decade has seen substantial growth in the small and personal business sector of the U.S. economy, and technology has been a major contributor to this trend. The growing digital infrastructure has reduced the costs of starting and running a small business, lowered competitive barriers, opened new markets and industries to small businesses, and led to the creation of new, and often disruptive, business models.

Despite the positive contributions technology has made to small businesses over the last decade, the hype surrounding the benefits of new technologies often exceeded the reality. In many cases technology was not mature enough, technical infrastructures required for success were not in place, and new technology was simply too complex to be easily deployed or used.

The next decade will see the reality of technology catch up with the hype of the last decade. Broadband and wireless networks will become ubiquitous. Increasingly advanced, yet cheaper, computing power will greatly improve the collection, analysis, and sharing of data and information. The Internet will become a platform that provides small businesses with a wide range of new tools, services, and capabilities. Technology will become cheaper, easier to deploy and use, and pervasive.

As the digital infrastructure matures and becomes widespread, small businesses—traditionally late adopters of technology—will need to aggressively use new technologies to create, build, and market their products and services. Small businesses that fail to embrace technology will be under increasing competitive pressure from more technologically savvy firms.



THE INTUIT FUTURE OF SMALL BUSINESS SERIES

JUNE 2007 | SR-1037B

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**We tend to overestimate
the near-term impacts
of new technologies, and
underestimate the
long-term impacts.**

—Roy Amara,
President Emeritus
Institute for the Future

This installment of the Intuit Future of Small Business Series looks at three emerging technology trends that will affect small business formation and operations over the next decade.

1. The Connected World: Small Business Management On My Time, On My Terms.

Advances in technology will result in a connected world where networked digital intelligence, mobile devices, and analytical tools support and augment small business operations and management. This digital infrastructure will allow greater flexibility around when, where, and how work is done, allowing small business managers to run their businesses on their time and on their own terms.

- **Small businesses will use intelligent devices to gain customer insight and improve delivery of goods and services.** Intelligent devices and sensors, equipped with computing, storage, and sensing abilities, will not only monitor themselves and their environments, but will provide business owners with new insights about assets, employees, and customers (see pages 8–9).
- **Mobile devices will become central to small business management.** The expansion of mobile networks, combined with new display and sensing technology, will make mobile devices more than just a communications tool (see pages 10–11).
- **A new wave of analytical tools will increase small business productivity and ease management burdens.** Small business owners will delegate more responsibility to digital assistants and automate a broader range of processes. Analytical tools will turn data into actionable information and drive better decision making (see pages 13–14).

2. Beyond Web 2.0: Technology Fuels Small Business Formation, Operations, and Innovation.

Leveraging the emerging digital infrastructure, inexpensive and easy-to-use Web services and tools will extend the ability of small businesses to build complex online applications and create, communicate, and share information. The emergence of this Web platform—in both the real-life physical world as well as emerging virtual landscapes—will drive small business formation, operation, and innovation.

- **High-tech will no longer be a high hurdle as costs and complexity fall.** The lowering or elimination of technology barriers will accelerate the formation of small and personal businesses (see pages 16–17).
- **Small business relationships will become increasingly virtual as online social networks expand.** The “connected world” nature of the Internet will let small businesses expand their relationships with partners, suppliers, and customers beyond their local neighborhood (see pages 19–21).
- **Virtual worlds will be widely adopted venues for reaching customers and experimenting with new product ideas and business models.** The real estate adage, “Location, Location, Location,” will include small businesses’ presence in virtual fantasy worlds, and virtual representations and annotations of the real world (see pages 21–24).

3. Small Business Marketing: The Mindset Shifts from Push to Pull.

Small businesses will need to shift their marketing methods to provide customers and prospects with the right information, in the right context, at the right time.

- **A small business’s online presence will be the most important factor in customer acquisition.** Customers will increasingly find the information they need to make purchasing decisions, rather than merely accepting what’s pitched at them. Creating an online presence that extends beyond the company’s Web site—and contains relevant content—will be an increasingly important part of the small business marketing mix (see pages 27–28).
- **Small businesses will increasingly market themselves through the connected world of cars and cell phones.** As the sophistication of cell phone based and automobile marketing rapidly improves, small businesses will need to be poised to take advantage (see pages 29–30).

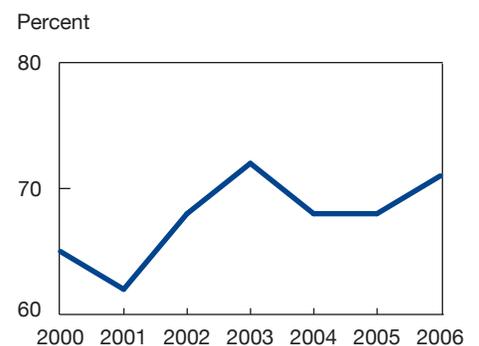
1. THE CONNECTED WORLD: SMALL BUSINESS MANAGEMENT ON MY TIME, ON MY TERMS

Imagine a world in which almost every object in the environment is equipped with embedded processors, attached to wired and wireless networks, and capable of limited “machine decision making.” That’s what Xerox PARC scientist and Chief Technology Officer Mark Weiser envisioned when he coined the term “pervasive computing” more than a decade ago. In Weiser’s vision, people and things will always be connected to wireless networks whose power will provide small businesses with a rich set of information that can be acted on by managers and employees. We will constantly interact with computers but, unlike today, they will become embedded in the world around us and eventually fade into the background. Computers and networks will be everywhere and nowhere.

After several false starts, Weiser’s vision of the connected world is emerging and, over the next decade, this digital infrastructure will become a reality. Innovative manufacturing methods and nanotechnology are reducing the size and cost of digital storage, communications devices, and computer hardware. New display technologies and small-scale power technologies are improving mobile devices. Radio frequency identification tags, or RFID tags, and smart dust—sand-sized sensors that gather and transmit information wirelessly—are finding their ways into products, objects, and devices. Sophisticated analytical software is helping to manage these devices and analyze the data they generate. Tying these devices together are globally available high-speed wired and wireless networks.

The connected world is also changing the way we interact with each other. Today, more than 70% of American adults have Internet access, and over 85% use cell phones (see Figure 1). This pervasive connectivity is redefining the boundaries of presence and location. Online communities and social networks are changing how we form friendships and create new forms of community. New cooperation and user-contribution technologies are connecting people separated by geography into trust-based networks that exchange information and advice. The connected world is also fundamentally changing almost all aspects of small business. Entrepreneurs and small businesses will need to successfully navigate and use the connected world to survive and thrive.

Figure 1
Most American Adults
Are Online



Source:
Pew Internet and American
Life Project

By 2010, roughly 87% of U.S. Internet connections will be broadband.

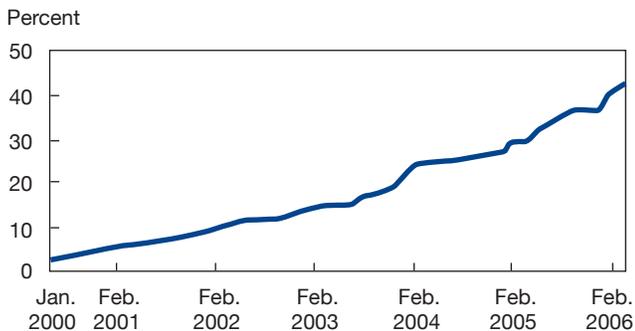
Broadband Takes Over

Just as the Internet has created a range of social and business changes, broadband proliferation and increasing broadband speeds will cause their own revolution. High-speed, always-on Internet access changes and intensifies the user's relationship with the Internet. Broadband users spend more time than dial-up users playing games, instant messaging, downloading multimedia entertainment, and working online. Broadband users are more likely to post information, participate in online chats, and visit community Web sites. Broadband users also spend more time researching goods and services online. They also watch less TV than dial-up users.

Broadband access is growing rapidly in the United States (see Figure 2). Close to half of U.S. homes and more than half of U.S. businesses have broadband access. According to the Telecommunications Industry Association, by 2010 roughly 87% of U.S. Internet connections will be broadband. Broadband speeds will be much faster than today's 1–5 megabits, with 100 megabit consumer access becoming widely available.

Broadband has already created new small and personal business opportunities and impacted small business operations. Niche media firms are rapidly growing in number in large part due to broadband distribution of their content, and broadband access has been a key driver of e-commerce. As a Web service and part of the emerging Internet platform, small businesses will need to factor in the affect of the broadband revolution on their businesses.

Figure 2
U.S. Home Broadband Use Grows



Source: Pew Internet and American Life Project, *Home Broadband Adoption, 2006*.

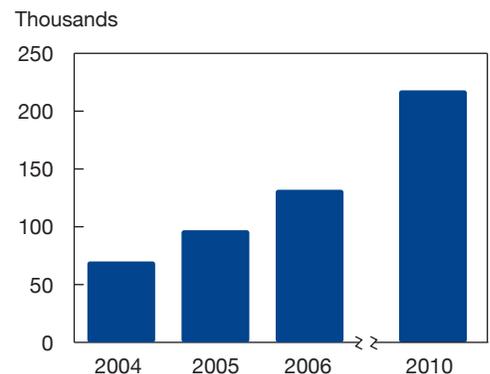
Wireless Networks Become Ubiquitous

The next decade will see wireless network coverage and speed increase, while network costs will continue to fall (see Figure 3). Wi-Max, an emerging wireless network standard, will allow high-speed (up to 40 megabits) mobile access ranges of 5–10 miles—greatly extending the range and speed afforded by today's Wi-Fi networks. Cell phone network systems will also be high-bandwidth and allow access to rich data streams, including full-motion video.

High-bandwidth mobile data access will become cheaper and more common. In addition to fee-based network services, local governments and businesses of all kinds are starting to offer free wireless Internet access. Cities see free Wi-Fi access as an opportunity to spur local business and support residents. In addition to local governments, an increasing number of retail businesses also are offering free Internet access. Common in coffee shops, free Internet access is becoming increasingly available in hotels, restaurants, and office building lobbies. Numerous startups such as FON, WeFi, and Whisher are building tools to aggregate these fragmented hotspots into global wireless cooperatives that let people share bandwidth with roaming users in return for the same privileges outside their home area.

While free and low-cost Wi-Fi networks will probably not be as widely available as cell phone-based wireless networks, they will in many cases provide a cheaper competitive alternative to commercial wireless services.

Figure 3
Number of Global Wi-Fi Hotspots Is Growing Rapidly



Source: Telecommunications Industry Association



SMALL BUSINESSES WILL USE INTELLIGENT DEVICES TO GAIN CUSTOMER INSIGHT AND IMPROVE DELIVERY OF GOODS AND SERVICES

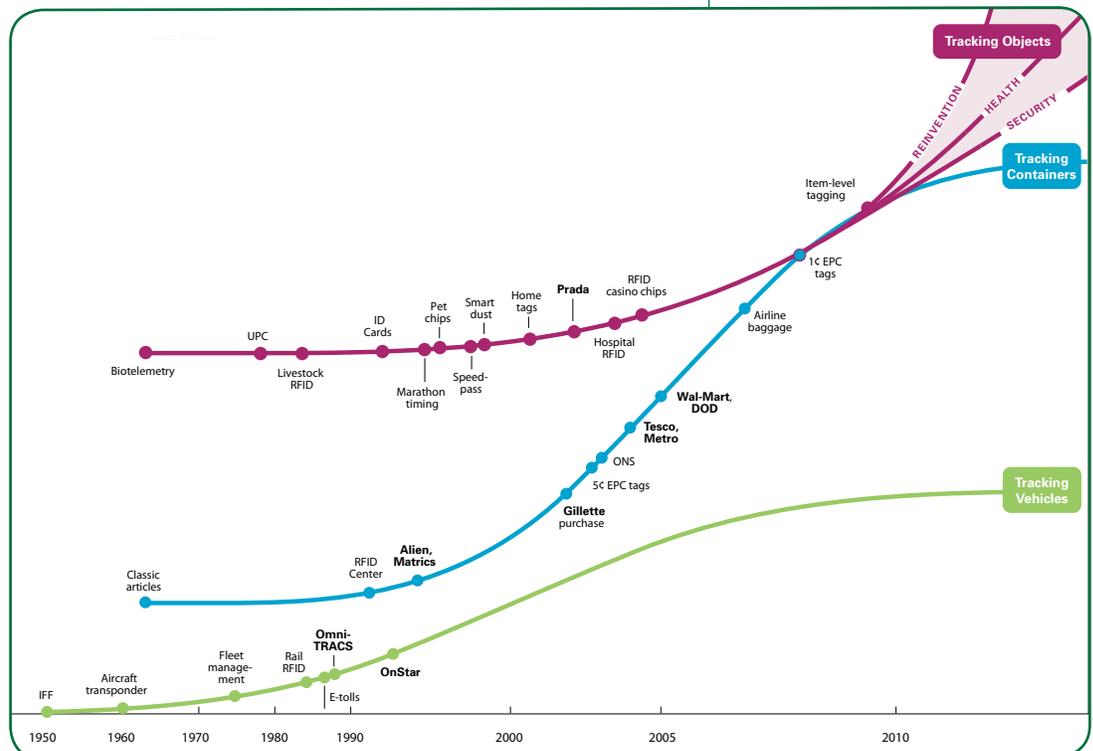
As machines and products become equipped with computing capabilities, digital storage, and sensors, they become “intelligent.” Intelligent devices and sensors already exist and are used in a variety of industrial and consumer products. Expensive or hard-to-maintain machinery often includes intelligent devices. Airplane and boat engines, farm and manufacturing equipment, elevators, and vehicles are increasingly intelligent and monitor their own operations. They can accurately predict when they need service or will fail, and can alert equipment owners or maintenance staffs when they need repairs. In some cases, the machines are capable of fixing themselves.

Small businesses are already starting to use intelligent devices. Pool maintenance companies, for example, use intelligent sensors to monitor water conditions. If a problem occurs, the sensor either alerts the company or automatically adjusts the amount of chemicals being added to the pool. By using intelligent sensors, the pool maintenance company reduces both the amount of chemicals used in the pool and the technician time spent monitoring the pool. This leads to more pool uptime and fewer costly service calls.

RFID chips and sensors are being attached to or embedded in a growing number of products (see Figure 4). These chips allow manufacturers to accurately track product movement, greatly reducing shipping mistakes and lowering supply chain costs. Network-connected sensors monitor and report on conditions in production lines and office buildings and make automatic adjustments when problems arise.

Over the next decade, intelligent devices will become smarter and more able to perform increasingly complex tasks. They will also become cheaper and smaller. Analytical software will improve, and simple rules-based software decision methods will expand to more effective “machine intelligence” systems. Machine-to-machine communications will dramatically increase as these devices “talk” to one another and make decisions based on their interpretation of the data they collect. For small businesses, the growth of intelligent devices will result in an explosion in real-time data about assets, employees, and customers. This information will fundamentally change how small businesses operate, allow greater customer insights, and more efficient delivery of goods and services.

Figure 4
RFID as a Tracking Technology



Source:
Institute for the Future



MOBILE DEVICES WILL BECOME CENTRAL TO SMALL BUSINESS MANAGEMENT

Mobile phones have become the main tool for managing the complex choreography of everyday life. Globally, cell phone subscribers now outnumber landline phone subscribers, and more than 210 million Americans have mobile phones. In addition to its role in voice communications, the cell phone is increasingly the Internet access device of choice. Wireless mobile phone Internet access is widely available in the United States, and coverage is rapidly expanding. The increasing computing power of mobile phones and devices, coupled with the widespread availability of high-speed wireless networks, will change the way mobile devices are used, expanding their role from a communications tool to a key operational device.

Smart Phones

Today's cell phones have personal computer functionality—providing music and video entertainment, games, Internet browsing, and business and personal productivity applications. Smart phones connected to increasingly available wireless Internet data access services provide a small but powerful mobile office capability. Today, fewer than 5% of all U.S. cell phones are smart phones. By 2012, IFTF forecasts that the majority of cell phones produced will be smart phones.

Smart phones are getting smarter. While today's smart phones are limited in terms of memory and processing speeds, mobile chip technology is advancing rapidly. Smaller and more powerful chipsets are giving mobile devices the power of desktop computers, and advances in flash storage are rapidly reducing the costs and increasing the size of mobile storage. The next five years will see smart phones and other small mobile devices become close to desktops in terms of computing power.

New Display Technologies and Portable Power Will Expand the Uses of Mobile Computing

The next decade will see the emergence of a mix of flexible and projection display technologies, which will fundamentally change the way mobile devices are used. These new computer displays will increase the range of mobile applications, increasingly embed the environment with computer displays, and end most of the problems associated with small mobile displays.

Flexible display technologies that can display images on any curved surface, including clothing, are currently being developed. Lightweight and rugged, flexible displays will allow most any surface to be a computer display. Displays could also be rolled out when needed, and rolled back up for transport. Philips, working with E Ink, has developed a foldable, pocket-sized screen for mobile devices (see Figure 5).

In addition to flexible displays, projection displays for mobile computing are also emerging. The Pico Projector, a product from Microvision Inc., is a projector small enough to be embedded in a cell phone or other hand-held device (see Figure 6). It projects a laptop-sized color image on any surface. The projector's resolution allows the viewing of online video or high-resolution pictures, or can be used to just surf the Web.

User interface advances will also make it easier to use mobile devices and new projection display technologies. Apple's new iPhone, for example, uses a variety of sensors to improve the operation and usability of the phone. An accelerometer detects when the phone is rotated and automatically changes the display to its proper landscape aspect ratio. The Nintendo Wii, a video game console, uses accelerometers embedded in its game controllers to improve both the machine's user interface and the gaming experience. Mobile devices of all kinds will increasingly use sensors to improve performance and usability.

Improvements in portable power sources will also continue. While major battery breakthroughs are unlikely to occur in the next decade, consistent 10%–15% gains in battery efficiency are likely to happen. For mobile applications requiring relatively large amounts of power, or power for longer time periods, portable fuel cells will become common. In addition to improved mobile power sources, mobile devices are increasingly being designed to require less power and optimize the use of provided power.

Figure 5
Philips and E Ink's Foldable,
Pocket-Sized Screen



Source: E Ink

Figure 6
The Pico Projector is a
projector small enough to be
embedded in a cell phone



Source: Microvision Inc.



Automobiles Will Become Networked, Mobile Computing Platforms

Cars are rapidly becoming networked-computing platforms. In 2006, almost 15% of all cars sold in the United States included satellite-based navigation systems. According to The Telematics Research Group, by 2010 over 30 million network-equipped cars will be on the road in the United States.

Navigation, traffic reporting, and safety systems are currently driving the growth of network-equipped cars. However, full Internet access is starting to become available for cars. Autonet Mobile has released a mobile in-car Wi-Fi router that provides in-car Internet access, and several automotive navigation system suppliers are experimenting with in-car Internet access (see Figure 7). With Internet access coming to cars, they will increasingly become mobile offices and information access points (see Section 3, Small business Marketing: The Mindset Shifts From Push to Pull, for more on cars as information access points).

Because of these mobile computing advances, small businesses will be less tied to their desks. “Road warriors” will become more productive, and small and personal businesses will have more flexibility and better ability to use informal workspaces. Co-working facilities (see Installment 1 of the Intuit-IFTF Small Business Report, *Demographic Trends and Small Business*, SR-1037A) will continue to grow in popularity, and full, productive offices will be able to be set up virtually anywhere—including at customer sites, cars, hotels, coffee shops, and homes.

Figure 7
Autonet’s In-Car
Wi-Fi Router



Source: Autonet

A NEW WAVE OF ANALYTICAL TOOLS WILL INCREASE SMALL BUSINESS PRODUCTIVITY AND EASE MANAGEMENT BURDENS

Over the next decade, a new wave of analytic tools designed to collect and manage the ever-increasing data stream created by networks and intelligent devices will become available. Entrepreneurs will initially adopt these tools to make their businesses more agile and productive. In addition to productivity gains these tools will also ease some of the burdens associated with small business management. These tools will allow small businesses and small business managers to:

- **Delegate responsibility to digital assistants.** Small businesses will increasingly trust software and intelligent devices to organize and execute a growing number of tasks. Just as PC spreadsheets have taken over many of the computation tasks associated with financial analysis, digital assistants will take over routine tasks and the monitoring of a wide range of business processes.
- **Automate processes.** Day-to-day, routine small business processes will be measured, monitored, and automated using analytical tools and intelligent devices. As the use of business process automation tools increases, the role of the small business manager and employees will shift from monitoring business processes to analyzing and understanding data and information. For example, a computer could note that a retailer's inventory of overcoats had dropped from 25 to just five in one month—an apparent indication to reorder. But rather than automatically placing an order, the computer would also recognize that the coats were sold in February, and reordering a full supply in March would not make sense.
- **Provide alerts.** Small business managers and employees will rely on these analytical tools and intelligent devices to prompt them when they need to act, effectively outsourcing some of the traditional scanning and filtering tasks currently done by people. Exception reporting and alert triggers will focus employee and management attention on important tasks, reducing the time and effort associated with monitoring information flows. Just as stock traders today have systems to alert them to major news or price changes associated with the securities they trade, small business systems will send alerts when inventory levels are too low, shipments are late or delayed, payments are not received, or a competitor changes prices.
- **Analyze and forecast business.** Increasing amounts of data coupled with better analytical tools will allow small businesses to analyze and predict their business performance. Small businesses will become even more agile as they better understand their real-time business operations. Business information will lead to better business decisions, and risk will fall as small business owners and managers better understand their markets, customers and business dynamics.

Over the next decade, almost all businesses will participate in the connected world. Such participation will create opportunities for new businesses and expand the range of opportunities for existing businesses.



Analytical software will take on a wide variety of roles, and many data collection and data monitoring tasks currently done by small business managers and employees will become automated. These tools will become powerful assistants, turning complex data streams into actionable information. Small business managers will need to learn how to effectively use these tools, and small business management will become less about gut-instincts and more about analysis.

Small Business Management On My Time, On My Terms

Dr. Peter Vaill, a leading organizational theorist, coined the phrase “permanent whitewater” to describe the rapidly changing and highly competitive business environment. Small businesses are under continuous 24/7, “always-on” customer and market pressures. While emerging analytical tools and intelligent devices will increase the sophistication and capabilities of small business operations, they will not necessarily decrease the pressures on small businesses and entrepreneurs. In fact, the next decade will likely see even stiffer small business competition.

However, the adoption of these new technologies will allow greater flexibility about when, where, and how work is done. Instead of being “always-on,” small business management will increasingly become “on my time” and “on my terms.” Being onsite will become much less important. Vacation homes and automobiles will double as offices, and increased flexibility will make participation in family activities easier. While most small business owners will continue to work long hours, they will often be able to pick the times and places that best suit their needs and better fit their work–life balance objectives.

The tools and capabilities of the connected world also make it easier to start and operate part-time, and flexible small and personal businesses. Many baby boomers, women, parents, and others are starting small and personal businesses with work–life balance being a primary objective (see “The Rise of Personal Businesses” in Installment 1 of the Intuit Small Business Series, *Demographic Trends and Small Business*, SR-1037A). The connected world not only enables these businesses, but allows them to look, perform, and compete like much larger firms.

2. BEYOND WEB 2.0: TECHNOLOGY FUELS SMALL BUSINESS FORMATION, OPERATIONS, AND INNOVATION

The impact of the Internet and the social and business changes it is causing cannot be overestimated. Over the last decade, the Internet has gone from a relatively unknown set of technologies to a standard feature in the majority of U.S. homes and businesses. Building on the digital infrastructure created by the connected world, the Internet will continue to evolve over the next 10 years, and its focus will shift from document access and retrieval to a platform that provides a wide range of services and tools. Many of these will be open-source, standards-based, and relatively cheap and easy to use. This will greatly reduce the costs and complexity of creating and operating increasingly sophisticated Web-based small and personal businesses.

The changes caused by the shift to the Web as a platform will be profound. Small businesses will find new ways to use the Internet and with that, blur and blend the distinctions between the physical and virtual worlds.

Small and Personal Businesses Will Expand Their Use of the Web Platform

The Web has always been a platform for small and personal businesses. Web sites have been built using Internet tools and services since the advent of the browser, and a vast number of Web-related small businesses were created in 1990s. However, building Web sites and Web applications was difficult, costly, and required advanced technical skills. It was also hard to draw potential customers to a Web site once it was launched.

Platform companies emerged in the 1990s to help small businesses overcome the difficulties associated with building an online business. The best example is eBay, which created a community around small and personal business buying and selling. In addition to eBay, Amazon and others created e-commerce affiliate programs that allowed small and personal businesses to easily source and sell goods and services, and reach broader audiences than they might on their own. Service companies emerged to help small businesses with all aspects of small business operation including billing, shipping, and even manufacturing. Search engine marketing provided small businesses with an easy and inexpensive way to reach customers.

Despite the emergence of platform companies and the services they provide to small businesses, less than half of all small businesses had an online presence as of 2006. The costs and technical skills required continue to be a major impediment to small businesses embracing the Web.

The Web continues to expand and evolve as an interactive platform for small business.



The same tools and services that enable mash-ups also make it easy for small and personal businesses to build increasingly complex online applications.

HIGH-TECH WILL NO LONGER BE A HIGH HURDLE AS COSTS AND COMPLEXITY FALL

The last five years have seen the emergence of new tools and services that make it much easier and cheaper to create sophisticated Web-based applications. Combining browser and Internet-based user interfaces and services, new tools such as AJAX and other rich Internet application environments allow the development of programs that offer the flexibility and ease of use of desktop applications, and add the broad reach of Internet applications (see sidebar, “Web 2.0 Technologies” on page 18). These new tools and services also require less time, money, and technical skills than traditional programming techniques.

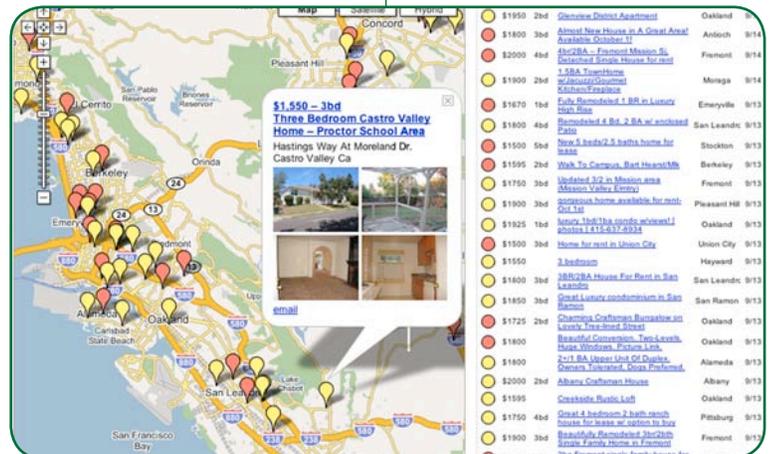
In addition to these new tools, technology and online companies are allowing access to their underlying technology platforms via Web services. Simply put, Web services allow third parties to connect to and use another company’s computing capabilities or data. Amazon, for example, allows third parties to access a wide range of Amazon computing services. These include storage services, access to virtual computer servers, access to select Amazon data, and the ability to use many of the same computer tools that Amazon uses to run its e-commerce site. Paying on a “per use” basis, users access the computing infrastructure that cost Amazon \$10 billion to create. Many other companies, including Microsoft, eBay, Google, Salesforce, and others have created or are creating Web service offerings that provide access to computing resources and rich data sets.

Utilizing these new tools and Web services, a new form of online companies called “mash-ups” have become increasingly popular. Over the last two years alone, thousands of mash-up companies were started. Mash-ups are companies that use online services and tools to combine data from several sources to create a new business. Housingmaps.com, for example, combines data from online classified ad site craigslist with Google Maps to create a new application and business (see Figure 8).

Mash-ups are relatively easy to start and require dramatically fewer resources than traditional technology startups. Many mash-ups are started and operated by a single person or a small group. While today’s mash-ups tend to be technology companies, the same tools and services will make it easy for small and personal businesses of all kinds to build and deploy sophisticated Web applications. The next decade will bring many more easy-to-use online services and components, and their costs will continue to fall. This will make it easier, quicker, and cheaper to build online businesses—and easier, quicker, and cheaper to incorporate new and sophisticated applications in existing Web sites.

Reducing barriers such as cost and complexity to creating an online business and sophisticated online applications will accelerate small and personal business formation. Also, because of the ease and minimal cost of creating and integrating online applications, new and better customer support, inventory management, and financial management applications will emerge, and innovation at all levels of small business operations will be possible.

Figure 8
Housingmaps.com is an online mash-up that uses data from craigslist with Google Maps to create a new real estate business



Source: www.housingmaps.com

WEB 2.0 TECHNOLOGIES

Tim O'Reilly, technology industry thought leader and founder and CEO of the technical book publisher O'Reilly Media, is widely credited with defining and popularizing the term "Web 2.0." While the technical industry's definition of Web 2.0 continues to be a moving target, the basics of Web 2.0 applications are: (1) the Web as a platform; (2) content and data as the driving force of applications; (3) an architecture of participation that encourages users to contribute; and (4) software that is easy to build and use. The technologies listed below are widely considered the key Web 2.0 methods and technologies:

AJAX (Asynchronous JavaScript and XML) is a set of development techniques for creating Web applications. The goal of AJAX is to make it easier to create Web pages that increase response time, interactivity, and usability.

Blogs (short for Web logs) are online journals or diaries that can be accessed via the Internet. While the vast majority of the over 40 million active blogs on the Internet today are personal diaries, businesses of all sizes use blogs to communicate with customers, suppliers, business partners, and employees.

Collective intelligence refers to any system or Web site that attempts to tap the opinions or knowledge of a group of people rather than an individual to make decisions or create information. *The New York Times* Web site, for example, displays a list of its most e-mailed, blogged, and searched stories. The more popular the story based on reader action, the higher up the story moves on the list.

Consumer-generated media (CGM) refers to the online posting of opinions, advice, and experiences to online forums, blogs, community sites, and product review sites. CGM is a form of collective intelligence, and many product and/or service advice sites collect consumer reviews.

Mash-ups are companies that use online services and tools to combine data from several sources to create a new business. Housingmaps.com, for example, combines data from Craigslist with Google Maps to create a new application and business (see Figure 8).

Peer-to-peer networking (sometimes called P2P) is a method for sharing files (music, videos, documents, etc.) either over the Internet or within a closed set of users. P2P file sharing is often used to share large files because P2P is more efficient than traditional downloading methods.

Podcasts/vidcasts are audio or video recordings that are released via the Web. Business uses include interviews with company executives, audio press releases, and audio/video training or information releases to business partners and customers.

RSS (Really Simple Syndication) is a system that allows people to subscribe to online distributions of news, blogs, podcasts, or other information. Information gathered via RSS is viewed on a feed reader. Windows Vista has a built-in RSS reader.

Rich Internet applications (RIA) are Web Applications that have the features and functionality of traditional desktop applications. AJAX, Java, and other development tools are used to create rich Internet applications.

Semantic Web refers to a set of data standards and conventions that allows the identification, definition, sharing, and reuse of data and information across applications, companies, and people.

Social networking refers to Web sites or systems that allow people to connect to and share information with other like-minded people. Examples include shared interest or hobby social network sites such as Piano World, youth-oriented sites such as MySpace or Facebook, and professional networking sites like LinkedIn.

Tagging is creating a searchable key word that describes a piece of information or Web page. For example, the popular photo site Flickr allows users to create tags that describe the contents of the photo. Businesses often use tags for their Web site pages so visitors can more easily search for relevant information.

Web services are software systems designed to support machine-to-machine interaction across a network. For example, a company and its supplier might use Web services to communicate over the Internet and automatically update each other's inventory systems.

Wikis (wiki: from the Hawaiian word meaning "quick") are systems for the group writing, editing, and publishing of documents and information. They allow many authors to contribute to an online document or discussion, and track changes over time. Businesses use Wikis for information storage, group editing, and sharing. The Wikipedia, a group-edited online encyclopedia, is the best-known Wiki.

Source: O'Reilly Media, Wikipedia, Institute for the Future

SMALL BUSINESS RELATIONSHIPS WILL BECOME INCREASINGLY VIRTUAL AS ONLINE SOCIAL NETWORKS EXPAND

Social networks are the collective system of relationships among people who have met each other through family, work, school, religious, or political activities, hobbies, sports, or other contexts. Social networks form an extended set of relationships that can be called on for a variety of purposes. Social networks can help a person get a job, find a date, or decide what movie to see. As social networks grow in size, they become communities and take on broader roles in the lives of community members.

Social networks are also used by people to discuss products, services, and companies (Figure 9). “Word of mouth” social network discussions are both common and powerful. Social networks do not just spread raw data; they also act as information filters and often assist participants in making decisions. Information outsourcing is also common among members of social networks, with people turning to trusted friends or network members for advice and information in areas where they have limited knowledge. Being mentioned in these networks can improve a small company’s visibility in the marketplace and make it seem more established than it really is (see Section 3, Small business Marketing: The Mindset Shifts From Push To Pull).

The Internet, social media, and other connective technologies have enabled people to create and join dramatically wider online social networks and virtual communities. These online social networks and communities behave much like their face-to-face equivalents, except they provide access to larger, more diverse and geographically distributed networks. These online communities and networks provide rich new sources of information on goods, services, and companies.

Online forums and product review sites allow consumers to exchange information and opinions with large numbers of other consumers. Community and special-purpose Web sites provide easy access to detailed product and purchasing information, and chat rooms and message boards are used by consumers to trade war stories and learn from other consumers’ experiences. Blogs give consumers the ability to self-publish information on companies, products, and services, while also allowing other consumers to mine the blogs for useful information. Reputation systems, like those used on eBay, allow online users to evaluate information and provide guidance on which sites and people to trust. All of these online forums provide an opportunity for individuals to post their opinions and experiences using goods or services. These posts, collectively called consumer-generated media, are becoming powerful sources of influence on the purchase of products and services.

Figure 9
Judy’s Book is a Virtual Community Where Members Seek and Share Information and Advice



Source:
www.judysbook.com



An increasing number of social networking and community sites are focused on local issues, goods, and services. Small businesses will be increasingly affected by these forums and will need to monitor and participate in them.

New Business Relationships are Made Possible by Online Social Networks

The same tools and technologies that support online social networks and communities also provide small businesses the opportunity to create new organizational structures and relationships.

Online social networks allow the creation and coordination of virtual small business teams to address specific business opportunities. For example, a new small business might form a virtual team consisting of a graphic designer, Web site architect, and a marketing consultant to capitalize on new business opportunities. This virtual team could be geographically distributed and never meet in person.

Small business community sites provide industry information and will expand as a means to reach new business partners. Small businesses will also rely on social networking tools to create supply-and-demand chain relationships with other businesses, and develop business relationships that were simply not possible prior to the spread of online social-networking tools.

Many immigrant entrepreneurs (see Installment 1 of the Intuit Small Business Series, *Demographic Trends and Small Business*, SR-1037A) use a range of social software to provide cross-border connections to suppliers, business partners, and customers. Expanding on the global communications network, social software allows cross-border businesses to share product knowledge and expertise with anyone globally.

Gen Y entrepreneurs (see Installment 1 of the Intuit Small business Report, *Demographic Trends and Small Business*, SR-1037A) are especially effective at the use of social software. Gen Y entrepreneurs grew up using social software sites such as Facebook and MySpace to connect with and keep in touch with friends and other members of their social networks. They also grew up with virtual relationships, and are comfortable exchanging information via the Internet. Gen Y entrepreneurs are also confident of their online social networking skills, and believe they can find trusted information through online social networks

Social software can be used to develop broader and deeper relationships with customers, business partners, and employees. Social software use can also result in the quicker identification of business and customer problems and opportunities, and increase small business speed and agility. Over the next decade more small businesses will take advantage of connecting with customers via social software and networks, and use those connections to improve their competitive position.

VIRTUAL WORLDS WILL BE WIDELY ADOPTED VENUES FOR REACHING CUSTOMERS AND EXPERIMENTING WITH NEW PRODUCT IDEAS AND BUSINESS MODELS

A major element of the future Web will be interactive online worlds such as Second Life and World of Warcraft. In these virtual worlds, people engage in social interaction, game-playing, and role-playing using avatars (online animations) to represent themselves. Virtual worlds are hugely successful and well-populated with game players. Second Life claims more than 5 million virtual residents, while World of Warcraft has more than 4.5 million users. At any time of the day, thousands of Second Lifers are online and participating in this alternative reality world.

The number of virtual worlds is expanding rapidly. Special interest virtual worlds are being created, and there are even virtual worlds targeted specifically at kids. Stardoll is a virtual community site targeted at girls aged 7–17 (see Figure 10). At Stardoll, users create their own doll or choose from a collection of celebrity dolls. The user then dresses up the doll by buying virtual clothes at the Stardoll store. While membership is free, virtual clothes in the Stardoll store are not. Users buy the clothes using Star dollars, with \$1 buying 10 Star dollars. Other virtual worlds targeting kids include Zwindtopia and Club Penquin.

Virtual worlds are attracting millions of users, and creating a wide range of new business opportunities.

Figure 10
Stardoll is Targeted at Girls aged 7–17



Source: Stardoll



Virtual worlds are already creating new opportunities for businesses, spawning entirely new economies in the trade of digital artifacts and game pieces. Revenue from sales of game pieces already exceeds hundreds of millions of dollars, with thousands of virtual small businesses being set up to build and sell game pieces and provide in-game services. Currency exchanges have been established to allow users to convert their virtual-world money into real-world cash. There is even an accounting firm that will provide accounting and financial advice to virtual-world businesses and take payment in virtual-world currency. It is estimated that more than \$200 million physical-world dollars change hands in virtual worlds each month.

In addition to selling virtual goods and services, many businesses are setting up e-commerce sites in virtual worlds and selling real-world merchandise (see Figure 11). Gap, for example, has a merchandise e-commerce site as part of its Second Life presence. So do more than 100 small businesses. Both large and small businesses see virtual worlds both as an opportunity to market to consumers and sell real-world products.

Over the next decade, the impact of virtual worlds on small businesses will be even broader as they become powerful new venues for reaching customers and experimenting with new product ideas, marketing campaigns, and business models. Already, companies like American Express, Wells Fargo, Westin Hotels, and Major League Baseball are using Second Life as a virtual simulation tool to experiment with new products and services, and drive customers to their real-world businesses.

While still relatively small, the number of people participating in virtual worlds will increase dramatically over the next decade. This user growth will create an increasing number of opportunities for small businesses. These will include the creation of virtual products and services, opportunities to market and sell physical-world products in virtual worlds, and an excellent place for small business experimentation and simulation.

Figure 11
Retailing in Second Life



Source: www.secondlife.com,
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Virtual Worlds Meet Main Street

The virtual worlds that exist today are fantasy worlds. While they share attributes with the real world, they have been created either for game playing (World of Warcraft, for example) or as online alternatives to reality (Second Life, for example). Over the next decade a new type of virtual world will emerge – the virtual world representation of the physical world.

Google Earth and Microsoft's Terraserver products already provide two- and three- dimensional images of much of the planet. Both firms are adding 3-D models and images of major cities at a rapid rate. A wide number of firms and individuals are using vans, motorcycles, and airplanes to digitally photograph the planet and create 3-D models of real places. The goal of these efforts is to create a virtual, online street-level view of the entire world.

Once the physical world is fully accessible online, people will be able to navigate the virtual world just as they do traditional virtual worlds. A user could visit Paris, stroll down the Champs-Élysées and walk around the Arc de Triomphe. You could go house or apartment hunting, visit museums, or go virtual shopping for products of all kinds. Longer term, you could even visit the doctor and get a virtual checkup based on your biometric data. The range of activities that could be done virtually is quite broad. Virtual tourism would allow consumers to simulate their vacations prior to leaving home. Virtual shopping trips would allow consumers to see the store's location and merchandise prior to visiting. Virtual construction simulation would allow city planners to better gauge the impact of new buildings or renovations. A virtual Main Street will create many new and exciting small business opportunities.



Main Street Meets Virtual Worlds

Just as we will be able to virtually visit digital versions of physical locations, we will also be able to access virtual information wherever we are in the physical world. The next five years will see the rapid growth of location-based information services (see Section 3, Small Business Marketing: The Mindset Shifts From Push to Pull). Taking advantage of wireless networks, geographic positioning systems, and electronic information tags, consumers will be able to access online information based on their exact location.

“Information annotations” of physical spaces will become common. Using smart phones or other mobile devices, customers will be able to scan other diners’ virtual comments or look at the local health department’s report prior to entering a restaurant. Before entering a store, we will be able to check the store’s inventory system to see if the product we are interested in is in stock. As we move through the physical world, we will be able to gather information that is timely and relevant to the decisions we need to make.

Location-based services will provide new opportunities for small business. Just as the Internet makes location less important, location-based services will make location more important. Customers will be able to more easily find local sources for goods and services, and local businesses will be able to better target their marketing efforts. Local markets will also become more efficient, as local information flows increase.

Figure 12
Intelligent devices, like these information-access glasses, might someday enable interaction with information in the environment



Source:
Institute for the Future,
Artifact from the Future

3. SMALL BUSINESS MARKETING: THE MINDSET SHIFTS FROM PUSH TO PULL

In many ways, small business marketing today is very similar to small business marketing 50 years ago. Most small businesses continue to rely on referrals, word of mouth, personal selling, and ads in local papers and the Yellow Pages to generate business. These traditional marketing methods use a broadcast, or “push”, marketing approach. Marketing and sales messages are pushed at pools of potential customers in hopes of catching the attention of a few. While small business marketers work hard to place these messages where they are likely to reach potential customers, there are no guarantees. These traditional methods simply push messages at the largest possible audience in hopes of hooking as many customers as they can.

While push approaches can still work, they are losing effectiveness in this era of media ubiquity. People are getting tired of ads and they are finding ways to avoid them. A recent Yankelovich study found that 65% of Americans now feel “constantly bombarded” by ads and marketing messages, and 59% feel ads have little relevance to them. Other studies have shown that the average American is subjected to 2,000 to 3,000 marketing messages a day. It is no surprise that consumers are experiencing marketing fatigue, which leads them to avoid ads and resist marketing messages.

The Internet, however, is creating another kind of marketing—“pull” marketing—on a global scale. Online users choose what they click on, what sites they visit, and what information they pull to their computers. The Internet provides broad and deep access to detailed information on almost any topic. Customers are better informed about products and services, and pricing and product information is much more transparent. This has resulted in a substantial shift in power from businesses to their customers.

Retailers, book sellers, travel agencies, and car dealers are just a few of the businesses already disrupted by the shift from push to pull marketing. Over the next decade, almost all small businesses will be impacted by this shift.

A small business's online presence will be the most important factor in customer acquisition.

THE INTERNET IS GLOBAL AND LOCAL

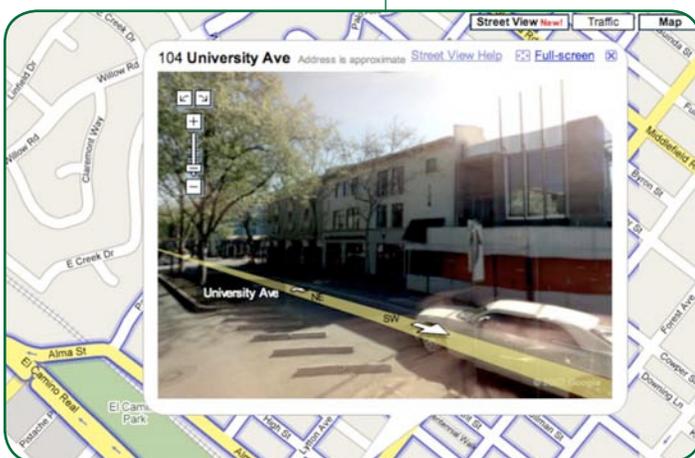
An obvious appeal of the Internet to small business is that it is global. Web sites are accessible worldwide, and small businesses can interact with customers and partners regardless of where they are. The global nature of the Internet has created broad opportunities for many small businesses, allowing them to reach and service a wide range of new customers.

But the Internet is also becoming increasingly local. Internet information can now be geocoded, allowing users to sort information by location. This is leading to the growth of location-based Internet products and services, and providing new ways to market and sell to local customers. The Yellow Pages have gone online, and search engines provide location-based search algorithms. Sites such as Google Maps are expanding to include detailed information on local businesses, including street-level views of stores (see Figure 13).

Local newspapers are creating more opportunities for local online advertising, and local online review and community sites are becoming popular sources of trusted information on goods and services. Most major cities and many small towns now have Web sites that focus on local businesses. These sites provide general information, editor and consumer-generated reviews, and even price-comparison data. Customers can now easily find local goods and services without leaving their homes, and they are increasingly patronizing small businesses that promote themselves on these sites.

Figure 13

Sites such as Google Maps provide street-level views of stores



Source: Google Maps

Going forward, small businesses will need to exploit both the local and global capabilities of the Internet by using location-based services and marketing methods to reach customers wherever they are. This is not just an opportunity; it will be a requirement.

THE LOCAL INTERNET IS INCREASING SMALL BUSINESS TRANSPARENCY

Over the last decade large corporations have witnessed a fundamental shift in customer and stakeholder behavior and power. The Internet and other connective technologies have provided customers, financial analysts, regulators, and watchdog groups with unprecedented access to data and information on corporate behavior, products, operations, and pricing. Armed with access to product review sites, community sites covering product pricing and service records, and near-instantaneous access to product or service problems, customers can evaluate products and services at a level of detail simply not possible in the past.

Pricing information in particular has become much more readily available. Pricing sites and pricing services are very common on the Internet, with automated crawlers combing through product Web sites searching for the lowest prices.

A number of industries and corporations have felt the impact of these new information flows. The piano industry, for example, used to rely on tightly controlled pricing information to maintain relatively high industry and dealer margins. With the availability and growing popularity of online piano industry sites such as Pianoworld.com, pricing information is now readily available, forcing the industry to substantially change business practices. The auto and travel industries also have been substantially changed by online access to detailed product pricing.



Information on product quality and service is also becoming widespread. Dell Computer saw its revenue fall and its reputation for excellent post-sales service plummet when a widely read blogger had service issues with a Dell notebook computer. The blogger's complaints quickly spread across the Internet, and others added their stories of Dell service problems. These high-profile problems caused Dell's reputation for good service to deteriorate. Jet Blue Airlines, traditionally a leader in airline customer satisfaction, saw its reputation spoiled in part due to detailed online descriptions of service lapses and problems last winter.

As more local online product and service information sites become available, information on pricing, product quality, and service levels will become common. The same transparency forces that are impacting large corporations will affect small businesses.

SMALL BUSINESSES WILL INCREASINGLY MARKET THEMSELVES THROUGH THE CONNECTED WORLD OF CARS AND CELL PHONES

Mobile marketing and location-based information services are examples of pull marketing and have great potential for growth (see Figure 14). Millions of Americans carry mobile phones. The mobile phone is not only becoming the primary means of voice communication, but it is also increasingly being used for digital services, messaging, and Internet access. Worldwide, more than 350 billion text messages are sent each month, and several research firms claim roughly 15% of those messages are marketing related. While most cell phone marketing today is based on access to online directories or entertainment guides, the sophistication of cell phone-based marketing is rapidly improving.

A number of small businesses have already started to use mobile marketing and location-based marketing as part of their marketing mix. Broadway Marketplace, a Massachusetts specialty retailer, has created a mobile rewards program to provide its best customers with increased convenience and more personalized customer service. Through a combination of text alerts and e-mails, the store sends its mobile rewards customers with invitations to special events as well information on their latest specials. Mobile rewards customers also get special text messages when entering the store, alerting them to Broadway Marketplace's most attractive specials and new items.

Figure 14
Web sites like Mobile Marketing Magazine are popping up to address the needs of small businesses interested in expanding their presence through cell phones and other mobile media



Source: www.mobilemarketing-magazine.co.uk



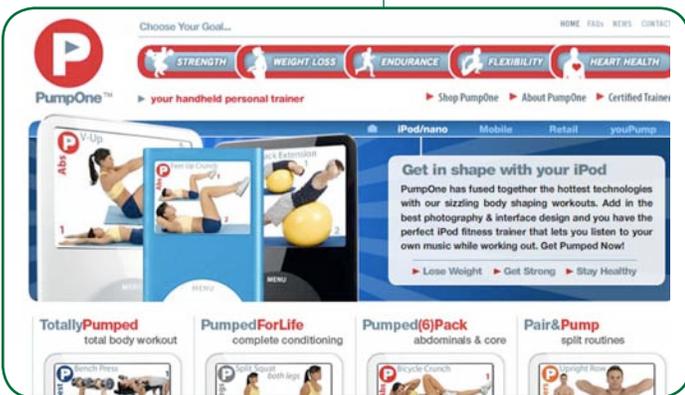
New York-based PumpOne provides workout routines that run on users' iPods, cell phones, and other devices. PumpOne Mobile allows customers to send a text message to purchase a workout routine and then view the workout routine on their cell phone (see Figure 15). The use of text messaging makes it easy for customers to purchase and use PumpOne products. Another example is real estate. Mobile Visions has launched a text message and mobile Web site service that makes the "For Sale" lawn sign interactive. Buyers receive detailed information and photos on their mobile phone, and sellers receive contact information.

The next decade will see an explosion of mobile and location-based marketing programs by small businesses. On slow nights restaurants will send their best customers special offers to entice them to eat out. Service businesses will use special offers and coupons to fill slow work periods. Retail stores will offer special coupons to people walking or driving by their stores, and product-based companies will use text offers to clear inventory.

Mobile marketing and location-based services are not limited to cell phones. Automobiles are being equipped with a range of satellite and cellular network systems.

Many of these systems provide local information and marketing opportunities. For example, GM's OnStar allows subscribers to ask for advice on and directions to businesses convenient to the driver's location. Local shopping guides delivered via a car's navigation system are being offered by several companies. Using the GPS system to "know" a car's location, these shopping guides suggest shops and services close to the car's physical location. Just as mobile and location-based marketing will take advantage of the proliferation of cell phones, these programs will also benefit from the availability of network-equipped automobiles.

Figure 15
PumpOne Mobile Workout Service



Source: PumpOne

EVERY COMPANY IS A MEDIA COMPANY

Low-cost, easy-to-use tools for creating digital content have led to an explosion of online media. An ever-increasing number of Web sites, blogs, and online videos are being produced by companies and individuals alike (see Figure 16). Indeed, almost half of all small businesses have Web sites, and a growing number have blogs. The Internet provides broad distribution, and search engines and other filters provide

opportunities for information on small businesses to compete with that of larger companies. For example, online content will become an increasingly important part of the marketing mix. Content-based marketing provides customers and prospects the information they need to make purchasing decisions. White papers, press releases, articles in industry publications, industry news, and other information of interest to customers will enhance the author's and company's brand and reputation. Content designed to help inform and solve customer problems will be appreciated and add value to the relationship. Increasingly, the ability to create and publish relevant online content will be a key component of small business success.

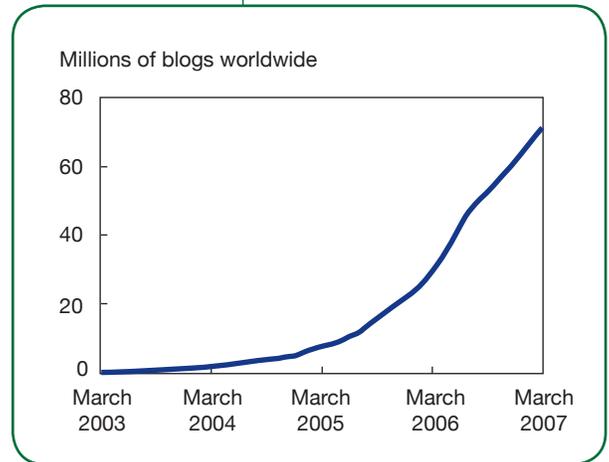
Online Presence is More Than a Web Site; Findability Will Become Key

With customers and other small business stakeholders researching and finding the information they need to make purchase decisions, small businesses will need to expand their online presence beyond their company Web sites. Small businesses will need to monitor and influence references to their businesses on local product review and pricing sites. Small businesses will also need to watch local community sites that contain information on local businesses and the services they provide. Outreach efforts to build relationships with third-party influencers will be important, and publishing relevant company-generated content on third-party sites will increase small business brand awareness and credibility.

Small businesses will also need to expand and optimize their online presence to make it easy for potential customers to find them. Potential customers are becoming research oriented and are using search engines, blogs, community sites, online social networks, and other online media to find the information they need to make purchasing decisions. Being findable means that how and where a company presents itself online will become strategic to acquiring new customers.

The shift from push to pull marketing means that companies don't find their customers, their customers find them. Under this paradigm, companies that publish easily findable, content-rich marketing materials in the right place, at the right time, and in the right context will win.

Figure 16
The Expanding Blogosphere



Source: Technorati



ABOUT THE...

INSTITUTE FOR THE FUTURE

The Institute for the Future is an independent, nonprofit strategic research group with nearly 40 years of forecasting experience. The core of our work is identifying emerging trends and discontinuities that will transform global society and the global marketplace. We provide our members with insights into business strategy, design process, innovation, and social dilemmas. Our research generates the foresight needed to create insights that lead to action. Our focus spans a broad territory of deeply transformative trends, from health and health care to technology, the workplace, and human identity. The Institute for the Future is located in Palo Alto, California.

ACKNOWLEDGMENTS

IFTF would like to acknowledge and thank the many small business owners, entrepreneurs, and small business experts who shared their insights with us. We would like to especially thank the following people, who not only shared their insights, but also took time out of their busy schedule to participate in an expert workshop on the Future of Small Business:

Dr. Jeff Cornwall

The Jack C. Massey Chair of Entrepreneurship at Belmont University
<http://forum.belmont.edu/cornwall>

Anita Campbell

Publisher and CEO of Small Business Trends
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