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Small Business Information Technology in the United States

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Overview of Small Business Information Technology

Small businesses are a major force in the economy of the United States. The Small Business Administration reports (2006) that 97.5 percent of employer and non-employer companies have less than 20 employees and contribute half of the country's non-farm real gross domestic product. In addition, small businesses have created 60 to 80 percent of net new jobs during the past ten years ("The Small Business Economy for Data Year 2005," 2006).

Many small businesses use technology to facilitate daily operations. Some of the most commonly used technologies include computers, the Internet, and business software. "SMB (small and medium business) technology is, slightly-ironically, a huge business" (Heater, 2007, p.1). Many of the largest technology providers, e.g., Microsoft and IBM, have recently developed products geared specifically towards small businesses.

In addition to using technology, some small businesses are successful technology innovators. These companies develop new technologies or create technology-based products. The range of innovations varies widely. In Phoenix, one company creates interactive DVDs to teach science to children while another runs an on-line nurse registry that matches nurses with job openings. Eight months after two entrepreneurs developed an Internet based presentation software Google purchased their company. An auto repair store in New York designed a device, the Interpretype, to communicate with deaf customers that increased customers and formed a spin off company to sell the innovation.

Small businesses can achieve big results by using various forms of technology. In many cases, the technologies are affordable and easy to implement. Tutors can help students across the country prepare for college entrance exams. Retailers can expand their customer base

internationally by building e-commerce systems. Just like large businesses, small companies can benefit from aligning information technology with business strategy and following best practices.

Information Technology Usage

According to Powell and Levy (2006), as a small business grows it requires more comprehensive information (Powell & Levy, 2006). Lopez and Raskino (2006) predict that in 2012 executives will require six types of information to maintain a competitive advantage—one type of information is technology productivity (Lopez & Raskino, 2006). Technology products and systems are an effective means to gather, organize, store, access, and communicate information. However, research by Beydoun and Cook (2007), Filho (2006), and Powell et. al (2006) shows that many small businesses take longer to implement new technologies. The reasons include limited funds, lack of resources, concerns about technical support and whether the technology will support business needs, and low tolerance of the risks (Beydoun & Cook, 2007; Filho, 2006; Powell et al., 2006).

Research by Browning (2007) has provided insight into the technology spending behaviors of small businesses. Despite their concerns about new technologies, many small businesses continue to increase their information technology budget. These companies tend to focus on operational efficiency and cost containment. Planned expenditures for 2007 included infrastructure upgrades (security, servers, storage, and networks) and new projects such as web sites, mobility, wireless, business intelligence, and document management (Browning, 2007).

The good news for small businesses is that more technology providers now offer affordable products and services that had traditionally been too expensive and difficult to implement and manage. Small businesses can find cost-effective, user-friendly servers,

networking systems, backup storage, disaster recover systems, and business intelligence solutions. There are a variety of public and private efforts to help small businesses use technology. The United States Small Business Administration maintains a section on its web site with information about web sites, e-commerce, and online advertising. The Small Business Technology Institute in California provides no-cost consulting services to small businesses and market intelligence to technology providers. Microsoft and IBM maintain small business web sites with product information and resources.

The Small Business Technology Institute (SBTI) published a case study report of its work with five small businesses (2006). After conducting a thorough evaluation of company operations, challenges, and goals, the SBTI suggested new or modified technologies. The SBTI then helped the companies to implement the appropriate solutions including financial management software, customer relationship management systems software (CRM), web sites, backup systems, security, and email marketing. The businesses reported the following positive outcomes: reduced information technology costs, increased revenue, expanded client base, hired staff to support new business, improved customer retention, enhanced security and backup to protect systems and data, and improved customer service and collaboration (“Women-Owned Small Businesses Thrive with Smart Technology Choices,” 2006).

A Shaw study on small business sales (2005) included several multiple regression analyses to examine the relationship between sales effectiveness and company performance. The independent variables were related to the use of CRM systems, e.g., usefulness, ease of use, and comfort level. The regression analyses found a relationship between the independent variables and increased customer satisfaction and loyalty (Shaw, 2005).

In 2006, PC Magazine launched its annual small business awards to acknowledge entrepreneurs who use technology in innovative ways to grow their businesses. Metz, Gonsler, and Quain (2006) reported that the winner, Jets International, developed an on-line auction for private airline flights. Within eight years the company's annual revenue went from \$1.2 million to 17 million (Metz, Gonsler, & Quain, 2006). For the 2007 awards, PC Magazine expanded the focus to companies "that are saving money, improving customer support, developing better products, or beefing up the bottom line through the smart use of technology" (Quain, 2007, p.1). The most commonly used technologies among the 150 nominees include VoIP, open-source software, and wikis.

Information Technology Best Practices

Celuch, Murphy, and Callaway (2007) recommend that before a small business invests in information technology resources, it should consider how the technology would support business objectives. "We suggest that a small firm's ability to develop aligned information technology capabilities will affect its ability to use strategic flexibility to proactively anticipate and react to needed changes, thereby improving firm performance" (Celuch, Murphy, & Callaway, p. 187, 2007). By integrating information technology planning with business planning small business can overcome some of the concerns that inhibit the implementation of the technology.

There are several key technologies that can protect and enhance small businesses systems, data, and operations. The commonly used technologies include data storage and backup, Internet security, and web sites.

Enbysk (2007) reports that over 20% of United States small businesses with more than one PC have a server-based network (Enbysk, 2007). There are many benefits to using a server

including increased organization, collaboration, and processing power. Companies also need an effective means to secure stored data. According to Robb (2007), many small businesses are aware of the need to protect data but don't know what to back up and how to properly perform the back ups (Robb, 2007). In addition, some industries are required to back up data, e.g., finance and health care. A simple backup plan that includes on-site or on-line storage can protect a company from a devastating data loss.

Small businesses are particularly vulnerable to Internet security breaches. "We're seeing a perfect storm developing that could possibly have serious economic impact. SMEs (small and medium businesses) are heavily reliant on the Internet for their work, making them a target" ("Webroot Software: Research Shows Most Small and Mid-sized Businesses Worldwide are Exposed to the Growing Wave of Internet Security Threats," 2007, p.1). These businesses appeal to thieves who steal customer and company data. Research by Simonds (2007) others (2007) has shown that many small businesses lack adequate security and do not understand the nature of cyber threats. Current vulnerabilities include USB flash drives, iPods, instant messaging, phishing, malware, lack of security policies and employee education, and ineffective virus protection (Simonds, 2007; "Research Shows Most Small and Mid-sized Businesses Worldwide are Exposed to the Growing Wave of Internet Security Threats," 2007). To ensure adequate security, companies should install a firewall, antivirus software, and antispyware; educate employees about security; back up information; and develop a security attack response plan.

A company web site is no longer a value-added extra; it is a customer expectation. The size, content, and function of a web site will vary based on the type of business. For example, a service business will have different needs than an on-line retailer. Companies that seek a basic

web site can find many cost-effective options to establish a web presence. Many small businesses are entirely web-based and require additional technologies such as search engine optimization and analyzing visitor traffic. Sarrell (2007) reported that a database developer used a web-analytics solution to evaluate AdWords results and was able to reduce spending while gaining new customers (Sarrell, 2007).

Additional up-and-coming technology options that may benefit some small businesses, depending on the industry and size, include VoIP, web conferencing, and smart phones. An additional technology that shows promise for small business applications is e-learning. Filho (2006) suggests that small businesses adopt e-learning to train employees and customers. The benefits include the ability to train employees in multiple locations, compete globally, and enhance customer relationships (Filho, 2006).

Conclusion

By making well-planned investments in information technology, small businesses can improve productivity, increase revenue, and even compete with large corporations. A good approach to maximize the use of technology is to create and follow best practices. The extent of the plan will vary based on the business size, industry, and needs. A best practices program does not have to be elaborate or complicated to be effective.

Small businesses can incorporate the following recommendations into their best practices program. Powell (2006) suggests to create an information technology strategy that is part of the business strategy (Powell, 2006). Invest in the basics (depending on the type of business): quality computer hardware, security systems, data backup, reliable cell phone, and fast Internet connection. Maximize existing resources--use included features in business software, e.g.,

Microsoft Windows, instead of buying new software. Understand the value of the Internet. Use on-line resources that don't require hardware and software investments, e.g., Freshbooks for invoicing and Remote Backup Systems for data back up. Reach customers through on-line advertising and marketing, e.g. web site, blog, and e-mail announcements. Evans (2007) advises to avoid impulse purchases—consider business needs and compare products before buying, e.g., when shopping for printers, consider how much the business prints instead of the number of employees (Evans, 2007). Finally, partner with reliable, trustworthy experts to provide technical guidance and support.

Many small businesses are on the right track. Research has shown “an increasingly important criteria for SMBs (small and medium businesses) is to understand the business value of technology before they buy it. A SMB's business strategy will be the main determinant in its allocation of IT dollars” (Browning, 2007, p. 3). Small businesses in the United States can continue to thrive by effectively maximizing the benefits of increasingly available technologies.

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