SOFTWARE AS A SERVICE FOR SMALL BUSINESS

Dorothy M. Fisher, College of Business Administration and Public Policy, California State University, Dominguez Hills, 1000 E. Victoria St. Carson, CA 90747, 310-243-3574, dfisher@csudh.edu

ABSTRACT

The Software as a Service (SaaS) model allows software to be delivered to businesses of all sizes anywhere and anytime. Adopting a SaaS model, a business can quickly implement state-of-the-art enterprise software applications that are hosted and managed by SaaS vendors to run its business applications via the Internet. This research project examines SaaS for small business and summarizes the key benefits and pitfalls. The findings of the research should benefit small business owners who are considering the adoption of SaaS applications to meet their business needs and requirements.

INTRODUCTION

Since the dot-com burst in 2001, the Web has matured and transformed into a place that provides business users with all kinds of services with or without a fee. However, the innovations of web technology, in particular the advances in broadband communications for the Internet and the improvements in browsers and web-based applications, provide both challenges to and opportunities for small businesses in an increasing competitive global economic environment. Traditionally, small businesses have lacked information technology (IT) expertise and resources of large and medium-size businesses to implement and manage enterprise software such as Consumer Relationship Management (CRM), Supply Chain Management (SCM), and Enterprise Resource Planning (ERP) software. Application service providers (ASPs) prior to the dot-com burst seemed to be a solution since ASPs offered to host and manage the software, hardware, and applications for a business [Fisher & Fisher, 2001]. Yet using a single-tenant model, ASPs had to customize a diverse set of third-party applications for each tenant and as a result was not cost efficient. Those ASPs that survived the dot-com burst have since adopted the Software-as-a- Service (SaaS) model that does not require significant customization and, thus, can serve multiple tenants.

The SaaS model allows software be delivered to businesses of all sizes anywhere and anytime. Adopting a SaaS model, a business can quickly implement state-of-the-art enterprise software applications that are hosted and managed by SaaS vendors to run its accounting, finance, human resources, manufacturing, logistics, marketing, and other business applications via the Internet. All users can view, update, as well as share information and activities in real time from any device that is connected to the Internet. Best of all, there is no need for installation, upgrades, server maintenance, backup and recovery of data.

All of this is good news for small business. However, while the SaaS model offers many benefits, it can also present many limitations. If the model is used correctly, the benefits will outweigh the limitations. This research project examines the SaaS model for small businesses and summarizes the key benefits and pitfalls for a small business in adopting SaaS models. In particular, this study looks at SaaS best practices and reviews the key success factors that a small business owner should assess before selecting a SaaS vendor and deploying SaaS applications. The findings of the research should benefit small business owners who are considering the adoption of hosted software applications to meet their business needs and requirements.

The balance of the paper is organized as follows. Section 2 compares SaaS with traditional software. Section 3 explores why SaaS is particular suitable for small businesses. Section 4 presents SaaS best practices and their offerings. Section 5 identifies critical success factors for small businesses in adopting SaaS solutions. Section 6 summarizes the findings and explores future research opportunities.

SAAS VERSUS TRADITIONAL SOFTWARE

The traditional software, known as "on-premise" software, is typically housed within the IT facilities of an organization. Adopting the traditional software model, a business has to pay not only initial licensing costs but also annual support costs. In addition, the implementation of traditional software requires powerful server, network configuration, backup, and recovery provisioning. Enterprise software such as Peoplesoft ERP system has become so complex that outside consultants have to be brought in and specialized IT staff are needed to support the software. Upgrades are often not an option since vendors do no support an old version of the software. For IT staff, training is on-going. Costs not withstanding, U.S. Government Accountability Office (GAO) and National Institute of Standards and Technology has estimated that over half (52.7%) of the enterprise software projects take far longer to complete than planned and can cost nearly twice as much as originally budgeted. It is small wonder that that 31.1% of major software projects have been cancelled before they are completed. Of those that are completed, half took twice as long and cost twice as much as planned. In "The Trouble with Enterprise Software", Rettig echoed the concerns of IT researchers that traditional enterprise software has become too complex to be effective [9].

The IT strategy of a business, regardless of it size, is to quickly implement business applications with minimal IT infrastructure expenditure and other costs that are associated with traditional on-premise software. ASPs during the 1990s seemed to provide a solution since they offered services and third-party applications to users over a wide-area network from a central data center. However, the ASP model as a single-tenant model was not cost efficient since the providers offered a diverse set of applications that required great deal of customization for each tenant [6].

The SaaS model is based on a modular and flexible service-oriented architecture (SOA), the discussion of which is beyond the scope of the present paper [1]. For the purpose of this study, SaaS is defined as a Web-based hosted service that delivers business applications to multiple tenants over the Internet. There is no software to install and no new IT infrastructure with a SaaS application. It requires only a Web browser and Internet connect to access a SaaS application. It is also labeled as on-demand software since it is available anywhere and anytime. The SaaS model differs drastically from the traditional software model in that it replaces the costs associated with the traditional software model with a subscription fee either annually or monthly, often on a per seat basis. Some SaaS providers charge on per use basis without a subscription fee, which is truly on-demand. The elimination of upfront licensing and development costs and fees on per seat or per use basis should be especially beneficial to small businesses. Since the customization is minimal, the implementation time is short. Moreover, frequent updates by the providers make state-of-art technology available to small businesses. The reasons of adopting SaaS cited by early adopters are: lower upfront costs, lower total-cost-of-ownership, lower infrastructure costs, access to latest technology, and freeing up of internal resources. Major IT research firms have shown that all things considered, the total cost of ownership (TCO) for SaaS is lower than that for the traditional software [10]. Gartner, a world leading IT research and consulting firm, predicted that 25 percent of new business software will be delivered as SaaS by 2011 (http://www.gartner.com/it/page.jsp?id=496886).

However, SaaS is not a panacea.   It does not mean that a business can avoid the typical difficulties associated with an IT project simply by adopting the SaaS model.   Two important issues to be considered are change management and integration of SaaS applications [8] either with in-house applications or other hosted solutions.   Moreover, SaaS, as a multi-tenant model, providers offer horizontal-type of applications that do not offer a lot of customization to meet the exact needs and requirements of a business.   Security is also a concern for some businesses, although firms such as Symantec argue that security is best left in the hands of vendors with the expertise.   This is especially true for small businesses without security expertise.

SAAS FOR SMALL BUSINESS

Regardless of how one defines a small business, today's small businesses have the similar IT needs and requirements as large and medium-size businesses.   Like the rest of the world, they have become increasing reliant on technology in their day-to-day operations.   Yet, small business owners oftentimes lack the IT staff and resources to support the increasing complex software/hardware so as to implement the business applications to meet their needs and requirements.   According to IDC's, is a leading IT research firm, 2006 survey of 697 businesses with 100-999 employees, IT spending priorities are "add/upgrade PCs (47.2%), improve network security (39.4%), strengthen customer service/relations (32.1%), expand/upgrade local network (23.0%), increase storage capacity (20.4%), automate procurement/inventory (20.2%), enhance finance/accounting (19.7%), and improve sales force tools (19.6%)" [2].   That means small and medium-size businesses spend the majority of their IT resources on hardware and network infrastructure instead of on business applications that support their core operations.

SaaS is especially appealing to small businesses because of its minimal information technology requirements, customization capabilities and anytime, anywhere access, all without upfront costs.   It allows a small business to focus on its core business instead of devoting resources on software/hardware, network infrastructure, and IT staffing.   Since a small business can subscribe to a SaaS application by paying a monthly fee based on the number of users, this makes the SaaS solution scalable as the business grows or shrinks.

SaaS updates are done by the vendors.   This enables small businesses to use state-of-the-art software without the hassle of upgrading.   An additional benefit is by law SaaS applications have to be in compliance with the latest government and industry regulations placing increased emphasis on data protection and retention as well as user privacy.   Therefore, adopting the SaaS solution, small businesses will be able to achieve compliance with governmental regulations which have become increasing complex and difficult to understand.

According to the Yankee Group (http://www.yankeegroup.com/), the applications that small businesses are frequently implementing using a SaaS vendor are marketing, project management, time billing, accounting/financial, CRM, inventory management, messaging and payroll.   Yankee forecasts that 50 percent of software purchased by small to medium-size businesses in 2008 will be delivered as an on-demand service and this market will reach $10 billion annually.   However, a small business is usually reluctant to adopt new technology and often does not know where to start.   Therefore, it is important that a small business finds a SaaS vendor that it can trust and form a long lasting relationship.

Aside from enterprise applications, Google recently offers small businesses "Google Services" that include Gmail, Talk, Calendar, and Page Creator in addition to "Google Docs and Spreadsheets"

(http://docs.google.com/). Both applications and data are hosted by Google free of charge. Microsoft, already behind the curve, is trying to build up its software-as-a-service capabilities. On October 1, 2007, Microsoft announced that it is making available a set of online services and a Web-based version of Outlook emails that is administered by Microsoft. No pricing information is available.

SAAS BEST PRACTICES

Many vendors will claim they can get a system up and running in a matter of days, but if this usually means the system is operational without data. To deliver an application with content and an easy-to-use interface that meet the business needs of any business is no small task. It is important that a small business knows what and where to look when choosing a SaaS application and vendor. SaaS Showplace (http://www.saas-showplace.com/) offers directories of SaaS vendors by application category as well as by industry sector.

SaaS has already established itself in number of application areas – such as payroll, human capital management, CRM, conferencing, procurement, logistics, information services, document management, and e-commerce. As SaaS matures, more SaaS providers will be entering into the market. In order to get the most value from the SaaS model, it is crucial for a small business to know what SaaS applications are available to it and select the right vendor(s). More importantly, a small business must choose a vendor that provides best practices for its specific implementation and industry. However, evaluating a wide array of SaaS vendors requires not only expertise but also resources. This study presents the top SaaS Providers selected by ASPnews.com staff (http://www.aspnews.com/) in column 1 of Table 1 together with their websites in column 2, and services provided in column 3.

On one hand, providers, such are Clickability, Salesforce.com, and WebEx are specialized in a given business application(s). For example, Clickability's cmPublish is a hosted content management on-demand software. Clickability claims that with as little as one day of training, internal IT staff can implement the content management system. Clickability charges a modest setup fee but not costs information is given at its web site. Salesforce.com was founded in 1999 and went public in 2004. It has since turned into a global SaaS CRM provider. The cost of Salesforce.com's CRM is as low as $10/user/month while its full-feature CRM starts at $65/user/month. At http://salesforce.com, one can download "Salesforce Small Business Success Kit". According to http://money.cnn.com's news on September 27, 2007, Salesforce.com's customer base consists of 35,300 companies of all sizes and industries worldwide. It reconfirms the predictions about the future on SaaS by Gartner and other IT research firms. WebEx specializes on online meetings, eLearning, and eMarketing. WebEx charges 33c/minute per use per participant with no minimum cost and no monthly fee. The price is right for a small business.

On the other hand, providers such as NetSuite and Sage Software offer an all-in-one system. For example, a small business can use NetSuite Small Business to run its entire business including sales management, financials, employee resource management, inventory management, business intelligence, etc. There will be no need to integrate data from other systems [4]. Since small business owners often are reluctant to adopt new technology. NetSuite offers small business a free 15-day trial period. Sage Software offers both on-demand and on-premise solutions but this study examines only its on-demand software solution. Sage PFW ERP is an all-in-one on-demand system that includes financial, distribution, and process manufacturing applications. It is designed specifically for small and medium-size business. According to marketwire.com, Sage PFW ERP 5.6 that came out in September 2007 offers new features that improve system performance, scalability, and security control.

Table 1: Top SaaS Vendors

Name*	Web Site	Services
Clickability	http://www.clickability.com	Content Management Web Publishing
Concur Technologies	http://www.concur.com	Travel Management, Expense Reporting
CrownPeak	http://crownpeak.com	Web Content Management
Emaillab	http://emaillabs.com	Email Marketing Software, Solutions and Services
Employease	http://employease.com	Employee Information Management
Everest Software	http://everestsoftwareinc.com	All-in-one Business Software Solution
ExactTarget	http://email.exacttarget.com	Email Marketing Services & Support
Intacct	http://us.intacct.com	On-demand Financial Applications
Kintera	http://www.kinterainc.ocm	Web Site Management, Email Marketing, Accounting, CRM, etc
LivePerson	http://www.liveperson.com	On-line Contact Management: Live Chat, Click-to-Talk, Email
NetSuite	http://www.netsuite.com	Accouting/ERP, CRM, Ecommerce
Omniture	http://omniture.com	Web Analytics, Behavioral Targeting, Marketing Integration
OpenAir	http://www.openair.com	Professional Services Automation Project Portfolio Management
QuickArrow	http://www.quickarrow.com	Professional Services Automation
RightNow	http://www.rightnow.com	CRM
Sage Software	http://sagesoftware.com	Accounting/ERP, Financial, HRMS, CRM, Contact management, etc
Salesforce.com	http://www.salesforce.com	CRM
Ultimate Software	http://www.ultimatesoftware.com	HR/Payroll
Vocus	http://www.vocus.com/	Public Relations Management
Web.com	http://www.web.com/	Web Marketing, E-mail, Websites, Ecommerce
WebEx	http://www.webex.com	Web Meetings, Webinars, Online Sales, eLearning, etc
WebSiteStory	http://www.websitestory.com	Web and Internet Channel Analytics

*Source: AspNews.com

CRITICAL SUCCESS FACTOR FOR ADOPTING SAAS

Since small businesses do not have the know-how to come up with a shopping list of functionality and technology for SaaS, they should focus on their specific needs including end-user requirements, business requirements, and company requirements. When selecting a SaaS provider, SpringCM recommends that a business evaluate the Performance, Reliability, Availability, Information Stewardship, Scalability, and Enterprise Dependability (P.R.A.I.S.E) of the provider [7].   Unfortunately, a small business lacks the technical know-how and IT resources to evaluate SaaS providers. Although many SaaS providers offer 15-30 day free trials, unless the business can implement a SaaS application using real live data, it is difficult to P.R.A.I.S.E a SaaS vendor. When looking at the case studies at a potential vendor's web site, it is important for a small business to ask the vendor to validate claims with relevant success stories.

Performing a thorough evaluation of a SaaS provider's financial condition should be an essential part of the selection process because the SaaS revenue model which requires a steady revenue stream can place severe economic pressure on many providers. Enterprise dependability can be evaluated by analyzing the normalized income statements of SaaS vendors. Since SaaS providers do not charge a large up-front licensing fee and receive modest payments, it is important to know the financial condition of a SaaS provider in order to a long-term relationship with it. According to Eliadis and Rand, selecting a provider is only half of the battle and "the other half is ensuring that they can deliver on their promise" [3].   A small business can use SLA to communicate it requirements and negotiate or demand a service level that will meet their business needs.   Services that should be included are security, administrative services, monitoring, data management, reporting services, technology planning services, change management, etc.

CONCLUSION AND FUTURE RESEARCH

SaaS is a multi-tenant model that allows small businesses to share the hardware/software and technical expertise of SaaS providers. Since the model is based on the classic economic principles of division of labor and economies of scale, it should result in better utilization of IT resources worldwide. However,

the typical difficulties associated with an IT project are not eliminated by choosing a SaaS solution. Nevertheless, SaaS, as a business model, is here to stay.

This study presents top SaaS providers selected by ASPNews.com. But SaaS is still in its nascent stage. As more SaaS providers are entering the market, it becomes increasing difficulty for a small business to select the right vendor to meet its business needs. Many argue that best-of-breed will be the integrated suite. However, it is generally agreed that integration is the "SaaS Industry's Achilles Heel" [8].

In summary, the advantages of SaaS over the traditional software are shorter deployment time, lower capital and operating costs, greater flexibility and ease of use and anywhere and anytime access. The real-time shared visibility allows not only collaboration but also permits better reporting and accountability. While companies of all sizes anticipate easy deployments of SaaS applications, they are overwhelmed by the unexpected complexities of integrating these to their existing systems.

Future research involves the evaluation of financial statements of selected SaaS vendors as one part of determining their relative dependability and their financial strength. The information should further assist small businesses in choosing a SaaS vendor. Another area of interest is to examine case studies on SaaS adoptions by small businesses to identify those critical success factors specific for small business.

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