CASE 1 Software as a Service: ERP by the Hour

As you know by now, an organization's IS infrastructure is not simple to construct or maintain, but is a complex infrastructure of servers and databases useful for managing large amounts of information. Although corporations can ask IS personnel to build an infrastructure to support an organization's goals, building such infrastructure generally proves to be time consuming and expensive. Alternatively, the IS department can design from scratch or purchase off-the-shelf software to meet the organization's data processing needs.

However, a new model of IS infrastructure and software has appeared and is rapidly changing the way many organizations do business. Software as a service, or SaaS, is a way for organizations to use cloud-based Internet services to accomplish the goals that traditional IS infrastructure and software models have in the past. Utilizing SaaS, organizations now have the opportunity to downsize their infrastructure, save money on software implementation, and move to a computing-by-the-hour frame of mind.

SaaS allows software application vendors to deploy their products over the Internet through Web-based services. SaaS customers pay to use applications on demand, giving them the freedom to access a software service only when needed. Applications and software are developed, hosted, and operated by SaaS vendors. Once customers finish using the software, their "license" expires, and they no longer have to carry the cost of the software. If a future need for the software arises, the customer simply orders it again to have access. SaaS products can be licensed for single or multiple users within the organization, making them flexible and scalable.

Using the SaaS model has several advantages. Through SaaS applications, organizations can move their data storage into the cloud, reducing the cost of buying storage and diminishing the risk of catastrophic data loss. Software on demand allows for less resource expenditure on long-term software licensing because an organization can get what they need when they need it. Infrastructure operation costs are shifted to the SaaS vendor, freeing up resources for use in other areas. Implementation of SaaS products is also quick, increasing an organization's agility in responding to new challenges as they occur. In addition, it is in the vendor's financial interest to keep the services they provide running at peak performance, or they risk losing customers to other vendors. This incentive ensures that the SaaS vendor's infrastructure is regularly updated and modernized to minimize customer downtime. SaaS utilization also allows organizations to become more productive outside the physical confines of their buildings. Since SaaS services are in the cloud, employees can access services in remote offices, on the road, from their smart phone, or from their home PC.

One of the main disadvantages to SaaS is that customers must give up some autonomy over their applications and data. Not having the software in-house means organizations must use it "as is." This point leads to another issue in that some organizations require specialized software solutions and are used to customizing software in-house to meet their needs. Although some SaaS vendors are beginning to offer customizable solutions, the problem is still a roadblock for some. Computing off-site also means that security may be at issue. Organizational operations and data are effectively running on someone else's computer. Security concerns are another roadblock that organizations must overcome in order to use SaaS products. It is impossible for some types of organizations to keep their data—and their secrets—in the cloud.

These disadvantages aside, organizations are reaping the benefits of SaaS, utilizing them for human resources activities, e-mail services, collaboration efforts, storage solutions, and financial tasks, such as billing, invoicing, and timekeeping. In addition to more general purpose applications, many organizations are deploying ERP capabilities via SaaS vendors. And the growth of the SaaS industry doesn't appear to be slowing. In fact, a recent study by Gartner found that by 2015, SaaS revenues should reach US$22 billion.

Companies like Google, Amazon.com, and Microsoft have become well-known SaaS vendors offering a range of services to organizations. For instance, Google has a variety of cloud-based services available across their different platforms, including shared-document management, communication services, cloud-based e-mail, calendaring, photo and video sharing, Web and intranet page management, and data storage services, just to name a few.

Likewise, while Amazon.com is known as a top e-commerce destination to most consumers, they also have SaaS solutions that many organizations employ. One of their offerings is SimpleDB—a service for organizations that can't afford in-house databases or simply want the convenience of letting a hosted service do most of the work. Database developers sign up for the service, which operates in conjunction with Amazon .com's Simple Storage Service (S3), and pay only for time and storage space used. Amazon.com S3 customers are provided with a Web interface that allows them to store and retrieve any amount of data, any time they want, from anywhere there is an Internet connection available. S3 has redundant storage across several Amazon.com sites, ensuring data security, availability, and integrity.

Another household name in the computing industry, Microsoft, has also followed suit, offering their own cloud-based SaaS solution called Microsoft Azure. Although Microsoft came into the SaaS market later than others, they have the experience and resources to quickly become a formidable competitor to other already established vendors. Azure offers its customers a similar range of services as other SaaS vendors, from application data storage and hosted services to a framework for interconnecting resources and services. This linking framework, known as the AppFabric, allows developers to create "cloud-aware" services and applications for use within their organizations. Azure, like many other services, has a pay-as-you-go pricing structure. Alternatively, customers can take the "commitment" option and pay for a six-month obligation of use of service. The commitment option makes the customer eligible for discount pricing for purchasing six months of service.

Because of the issues associated with enterprise systems, ERP vendors are increasingly offering their software as a service as well. For example, SAP offers SAP Business ByDesign, an integrated on-demand ERP solution for small and medium-sized enterprises. Similarly, Microsoft offers its Dynamics customer relationship management system as a service, and Oracle offers the subscription-based Oracle On Demand customer relationship management solution.

Computing-by-the-hour has now become a viable and legitimate business model for many organizations. As more continue to adopt SaaS services as a way of carrying on their day-to-day activities, vendors will continue to upgrade and expand the available technologies for use. The question of whether organizations will adopt SaaS services has, for the most part, been answered. The question has now become how much of their business they will put in the cloud.

Questions:

1. Would you trust an external provider with your organization's data? Why or why not? What would be needed to raise your trust in the reliability, security, and privacy of the data?
2. What are the potential drawbacks of using a relatively simple in-house database with limited capabilities versus a more robust, SaaS database solution? Do the benefits outweigh these limitations? Why or why not?
3. Are there any types of applications that should only be purchased rather than obtained through a SaaS relationship? If so, why or why not?

Based on:

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