# A Framework Model for a Software-as-a-Service (SaaS) Strategy

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## INTRODUCTION

Cloud computing is defined in the literature as the following:

*… a [method that enables] convenient, on-demand network access to a shared pool of configurable computing resources … that can be provisioned rapidly and released with minimal management effort or [cloud] service provider [CSP] interaction. (Mell & Grance, 2011, p.1)*

Software-as-a-Service (SaaS) is defined in the literature as the following:

*The capability [for applying] the [SaaS cloud service] provider's applications running on a cloud infrastructure; the applications are accessible from … client devices through a thin client interface, as [through] a Web browser; and the [firm] does not control nor manage the underlying cloud infrastructure, including networks, operating systems, servers, storage or even individual application capabilities, with the … exception of limited – specific application configuration settings. (Mell & Grance, 2011, p.1)*

SaaS, a dominant method for delivery of software (Brown & Nyarko, 2013), is effectively a hosted service offered and shared by a provider [CSP] to cloud consumer firms (Erl, 2011). Examples of SaaS are business intelligence, collaboration, customer relationship management (CRM), e-mail and social networking applications. Frequent examples of CSP technology firms providing SaaS are large-sized firms from Microsoft, Oracle and Salesforce.Com to small-sized firms from Dropbox to SugarSync. The cost of the cloud is decreasing in industry (Koulopoulos, 2012), and this method of SaaS enables deployment of software almost immediately, eliminates initial investment in hardware and software, and facilitates flexible pricing. This method further facilitates high scalability, infinite storage and multi-tenancy. The benefits of SaaS ensure increased deployment of cloud computing as a delivery method of systems (Sitaram & Manjunath, 2012) in, for example, financial firms. The cloud is considered the culmination of the evangelization of provider technologies (Carr, 2008) in industry.

## BACKGROUND

Financial firms are deterred frequently however from investment in cloud computing and Software-as-a-Service (SaaS). SaaS can be considered a black box process in which financial firms may become dependent on a cloud service provider (CSP) (Streeter, 2011). The rights of the firms to their data controlled on external platforms may not be clear in contracts favoring the provider of SaaS. Data privacy, provider reliability, and risk management of the services may be issues to the firms (Rocha, Abreu, & Correia, 2011, and Vignos, Kim, & Metzer, 2012), especially in the financial industry that is governed by increasing regulatory rules. Data protecting services (Sengupta, 2013) and security on European Union international systems may be issues for the firms headquartered in the United States. Issues are evident generally in outages of processing cited in the practitioner press (Prigge, 2012) that impact services to the customers of the firms and inherently customer trust. Inconsistent portability and security standards of the CSP provider may be an issue in preventing firms in the financial industry from investment

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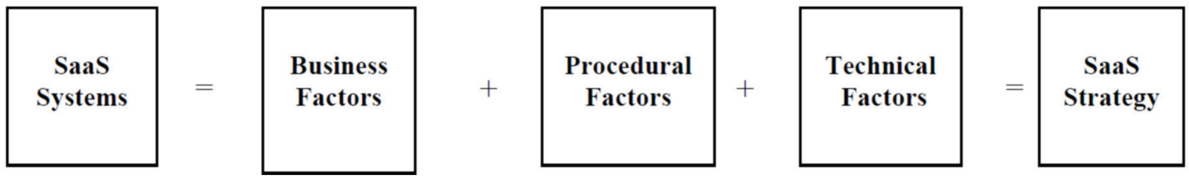
Figure 1. Framework model for a Software-as-a-Service (SaaS) strategy




in SaaS (Ortiz, 2011). The immaturity of the provider, either domestic or international, may be a problem. Moreover, the information systems departments in this industry may not have a framework methodology for initiating SaaS systems that is not biased with provider methodology or technology, and they may even be resistant to SaaS, as they may perceive a loss of management power if systems are migrating to the cloud (Black, Mandelbaum, Grover, & Marvi, 2010). Expected outsourcing savings from SaaS may not even be the result of the investment (Violino, 2011).

Though financial firms express issues in investment in SaaS, they are implementing projects and systems in a frequency higher than might be expected from the issues (Kondo, 2011). They have initiated investment in SaaS in more than an estimated 50% of the financial industry in 2011 (Aite Group, 2011). They intend investment in the cloud of more than 50% of their processing of systems in 2015 (Titlow, 2011). This industry market in cloud computing methods is forecasted to be $27 billion in 2015 (Cofran, 2011). More of the SaaS projects may be forecasted in medium-sized to small-sized initiatives than in large-sized initiatives (Pring, 2010) that have intricate programming systems.

The controversy with the estimating and the forecasting of industry pundits on SaaS is the following:

- How is SaaS currently enabled in financial firms by a strategy that may ensure the feasibility of these predictions; and
- How are firms in the financial industry enabling or not enabling a cloud computing strategy from projects and systems of SaaS?

The authors of this article attempt to answer these questions by defining a framework model for enabling financial firms, if not non-financial firms, to implement SaaS systems in a practitioner strategy involving business, procedural and technical factors, as conceptually defined in Figure 1.

The factors are derived from a current (Howell-Barber, Lawler, Desai, & Joseph, 2012) and earlier (Lawler, Howell-Barber, Yalamanchi, & Joseph, 2011) model of the authors on cloud computing strategy – the focus of their academic research. The framework of the model elaborates on generic recent literature on cloud computing strategy (Garrison, Kim, & Wakefield, 2012, & Rhoton, 2010). The model is founded on an even further model of the authors on Service-Oriented Architecture (SOA) (Lawler & Howell-Barber, 2008), as they feel SOA is a forefront to the cloud. The methodology of this model is proven from the diverse studies of the authors on the cloud and SOA, in which they evaluated numerous financial and non-financial firms in industry. The focus of this article is an extended evaluation of specific SaaS systems with this validated framework model.

## FRAMEWORK MODEL FOR SOFTWARE-AS-A-SERVICE (SAAS) STRATEGY

The factors of the framework model for enabling financial firms to implement SaaS systems in a SaaS strategy are defined in Table 1:

The extent of the factors of the model were evaluated by the authors of the article, as applied or not applied as best practices on projects and systems of SaaS, in a new case study of a sample of aggressively innovative financial firms in technology, in the period of August – November 2012. The systems were evaluated further

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