Chapter 6
Implementing Cloud Information Systems: SaaS Migration

Kamran Janamian
Baha’i Institute for Higher Education (BIHE) University, Iran

ABSTRACT

In today’s competitive business environment, Information Systems are not a luxury; rather they are vital for survival. High costs of licensing, implementation issues, and missed opportunities in legacy systems led to the development of a new generation of Information System platforms called “Cloud” domain. However, Cloud, if not understood properly by managers, has many shortcomings. Moving toward Cloud is not the goal and even competitive advantage may suffer. Managers and change agents should undertake deep study over Cloud Information Systems and Software as a Service (SaaS) before deciding to move toward migration. In this chapter, the main elements and features in which CEOs and IT managers should consider in evaluating the SaaS migration option are provided, and enterprises may be acquainted with the concept, goals, and theoretical foundations of SaaS as a main Cloud-based service in the business environment.

INTRODUCTION

Information Systems (IS) as Carr (2004) states appear to be like electricity. Publicity and essentiality of electricity forced managers not to depend on electricity for their strategic decisions, and so is true for ISs. Carr argues, “When a resource becomes essential to competition but inconsequential to strategy, the risks it creates become more important than the advantages it provides” (2004, p.11). Traditional desktop ISs are more or less known for more than three decades, and managers are following new routes to the quality, timeliness, and effectiveness of information flow for gaining competitive advantage. The main disadvantages of traditional desktop ISs are high costs, implementation difficulties, and information blockage. The arrival of the Internet has extended the way ISs can perform, however network-enabled Information Systems have been in use for more than two decades. Now there is no need to pay heavy costs for Information System implementation and
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license purchases. “Cloud Computing” emerged 
a new generation of ISs, i.e., “Cloud Information 
Systems (CISs)” . With this new phenomenon as 
Martin (cited by Geelan, 2009) explains, there 
is no need for new IT structures, user training, 
or licensing procedures; on the other hand and 
at the same time the company will benefit from 
increased IT capabilities and capacities.

NIST’s\(^1\) definition of Cloud Computing (2011) 
implies that every application that uses the internet 
as a tool for enabling “ubiquitous, convenient, on-
demand network access” (Mell & Grance, 2011) to 
shared computing resources, data, information or 
services, can be grouped in the Cloud Computing 
Model. To name a few Cloud Computing services 
offered since far, we can point to Software as a 
Service (SaaS), Platform as a Service (PaaS), and 
Infrastructure as a Service (IaaS). These so-called 
Cloud-models have moved business IT to a new 
era, which is based on hybrid and virtual worlds. 
This chapter attempted to guide managers and 
change agents through choosing and using the 
SaaS model in the new Cloud-era. Feasibility 
and suitability of SaaS and CIS will be studied 
in different circumstances, and SaaS business 
maturity models will be explained. Change as a 
vital element of implementing the SaaS model 
will be described and few delivery methods to 
SaaS implementation challenges will be offered as 
well. Thus, this chapter can be a guideline toward 
SaaS-migration.

**Importance of SaaS**

SaaS has been modified, explained and defined 
by almost any expert in the field. However, the 
most known definition of SaaS explains that any 
application running on the cloud platform enabling 
consumers to run the program on a thin-client 
(Internet browser) or a program interface can be 
known as SaaS (D. C. Chou & Chou, 2008; Mell 
& Grance, 2011; SIIA, 2001). In SaaS, the operation 
is executed on the host’s server and databases 
are saved on the virtual space owned by the SaaS 
provider. Application operation, safety, security 
and storage may not controlled by the consumer.

Rapid growth of IT technologies bring advantages 
for companies, although at the same time it 
creates certain risks and challenges. Reacting to 
these changes is paramount for the companies to 
take advantage and to counteract threads of this 
new digital-cloud-era (SIIA, 2001). SaaS mainly 
provides cost savings, resource utilization, 
application access scalability, and global outsourcing 
possibilities for the organization (D. C. Chou & 
Chou, 2008) along with many other advantages 
such as opening the global information flow to 
the company’s management layers, using up-to-
date IT expertise, and bringing core competency 
to the enterprise. However, how would a manager 
understand the suitability of the SaaS model for 
business, and why should a change agent offer 
SaaS as a strategic movement?

**SAAS MIGRATION**

Generally speaking, businesses cannot target their 
initial enterprise without proper outsourcing. 
OUTsourcing IT is essential as outsourcing raw 
materials and resources. Software as a Service is 
in fact a motivation for enterprises to eliminate 
their hopeless effort on IT and target those 
essential goals in today’s competitive environment. 
But the main question remains why? when? what? 
and how? to implement this IT infrastructure. 
Is SaaS implementation procedure the same as 
those processes essential for traditional IT imple-
mentation? These questions will be discussed in 
following section.

**Why Migrate to SaaS?**

Although the SaaS model may provide many 
advantages for businesses, but feasibility of mi-
grating to SaaS should be studied in every specific