

AN OVERVIEW OF SaaS MODEL FOR BUSINESS APPLICATIONS

SWETHA S

Dept. of Computer Science, M.O.P. Vaishnav College for Women, Chennai, India

ABSTRACT:- Business requires transaction processing applications to run in the moment to kick start the business for which SaaS model will enable to start the business transactions immediately. The business demands less investment for software application development and to start application instantly without having IT support resources. Cloud application on SaaS model should meet the business process requirements. SaaS application should meet not only current need but should be scalable to address future business needs. Crucial factors to be considered here is the Data security, support services from CSP and elastic scalability.

KEYWORDS: Cloud service provider (CSP), SaaS model, scalability, Business strategy

INTRODUCTION

Cloud computing emerged from advance developments in information technologies (IT). while IT plays a major role in strategic management of business organizations to adapt changes in market, technologies, financial conditions, cost of IT infrastructure and implementations. Companies started to find a solution to operate IT operations by using pay -as -you -go basis instead of investing large amount of money in setting up IT infrastructure.

SaaS model emerged as an umbrella term under cloud computing, along with the PaaS and IaaS services. Software is delivered only as a service. It is not delivered on CD or other media on your computer. It is generally paid on a subscription it doesn't resides on computer at all. SaaS insist on a SaaS environment called multi-tenant.

Multi-tenant SaaS: multiple companies use same instance of hosted software and also share a same access with specific features.

SINGLE-TENANT SaaS: Each company has its own hosted software may share common services and security features.



IaaS

PaaS

SaaS

Infrastructure-as-a-service

Platform-as-a-service

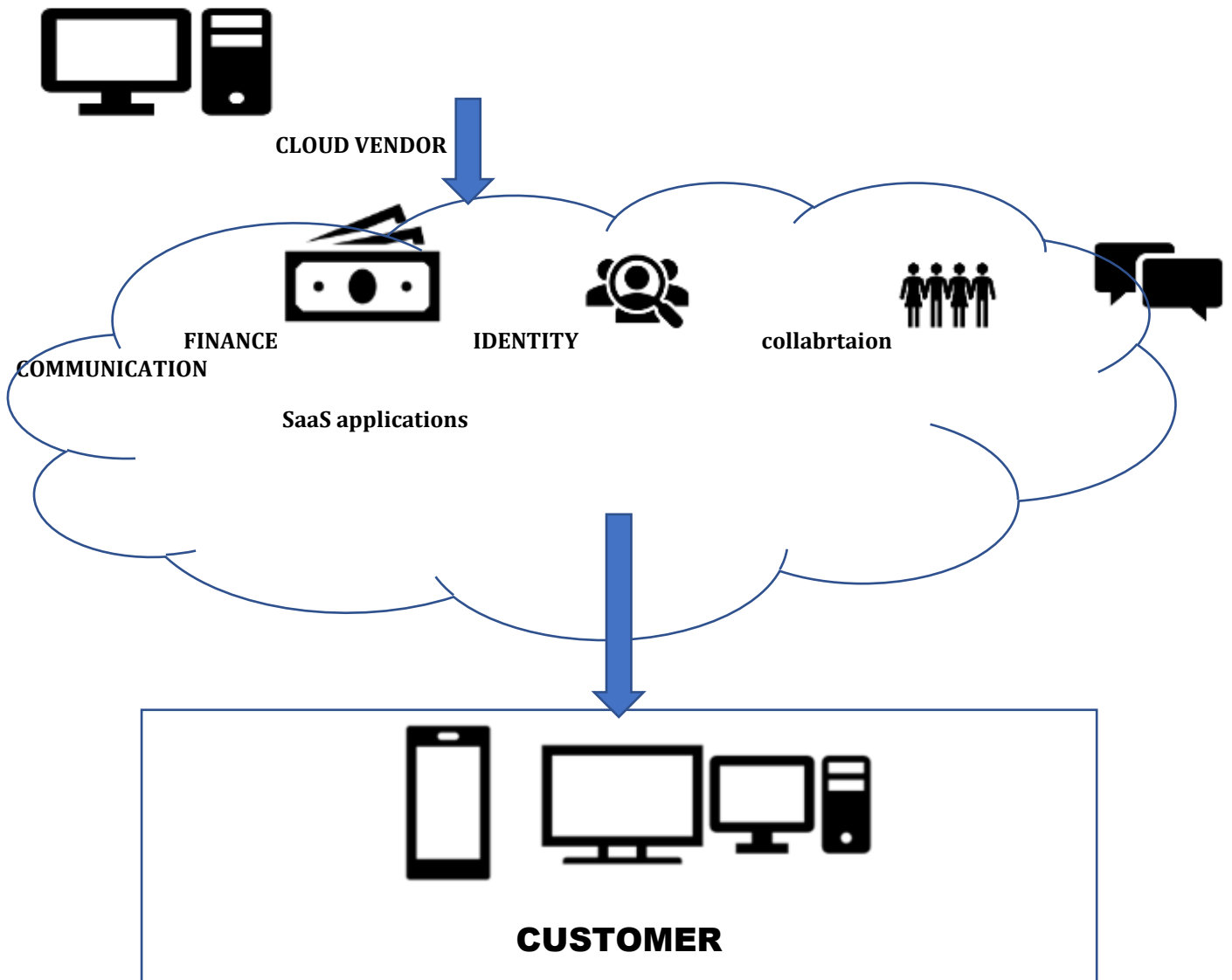
software-as-a-service

HOST

BUILD

CONSUME

SaaS MODEL DIGRAMATIC REPRESENTATION



HISTORY OF SAAS

Concept of SaaS dated back in 1990s with application service providers (ASPs) tried to develop new models of renting software applications over the internet rather than traditional model of selling on-premise applications. Enterprises need to seek advice from IT consultants and also need to hire IT professionals to customize and integrate with the current systems and data of the organization. SaaS applications can be instantly accessible anytime from any computer or any device through internet connection. SaaS became gradually popular in recent decade as it simplifies the software deployment process and reduces acquisition costs for business-critical software applications also known as business information systems.

SaaS model

Software-as-a-service is a distributed model of software applications. As the application software is hosting remotely over the internet cloud, customers do not need to invest in physical hardware infrastructure and removes the need to install, setup and maintain software applications.

With SaaS, companies no longer need to spend their valuable time on managing and updating software applications as these issues are taking care by the cloud vendor so that time to buy and arrange for products and requirements can be reduced.

Software vendors nowadays are responsible for proactively managing their software solutions not only to react customer problems but also modifying the applications according to the ever-changing business requirements and requests of the customers. SaaS solutions enable capabilities to spend less business resources on creating new enterprise applications or modifying current applications in order to suit strategic requirements that are crucial to stay competitive in rapidly changing business environment.

SaaS model has lot of advantages for the business users. Strategic benefits such as high adoption rates, lower initial costs, provider-managed upgrades and updates, and seamless integration with existing ERP (Enterprise Resource Planning) systems makes SaaS as a major differentiator in the IT services management market. In the same way SaaS has issues, Several questions about SaaS regarding the issues around performance, security and integration with existing ERP or legacy applications inside a corporate network. As the use of SaaS applications increase, business enterprises need to establish a more strategic approach towards IT operations and service management in order to make best benefits for the business. It is important and worthy to discuss the impacts and establish recommendations for the business organizations which are considering the adoption of SaaS while highlighting the values of SaaS model in the context of strategic IT management. While there is a high need in adoption of SaaS model among business enterprises. there is still a complex arises in understanding the concept and benefits of SaaS among business enterprises and managers. Apart from that cloud vendor is totally responsible for providing SaaS service. There is a need to establish the comprehensive preconditions to be considered before the adoption of SaaS as well as to follow proper guidelines for the effective strategic IT management within business organizations. The major aims of this dissertation are to highlight the strategic benefits of SaaS model, to explore the key issues which must be considered for a successful adoption of SaaS and to provide proper and correct methods and context to implement strategic management.

SaaS service modes in two different forms

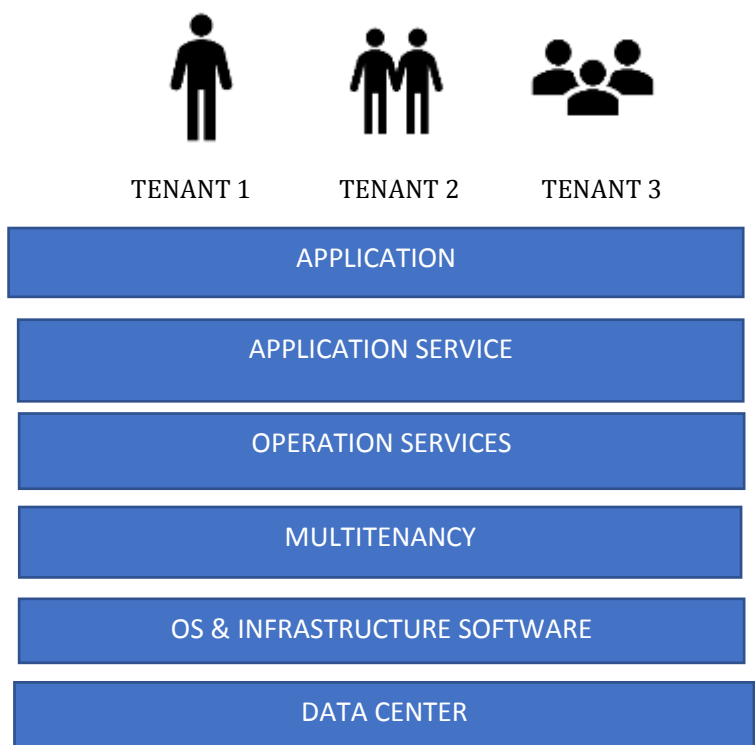
Provide services platform

In this form business application users can make use of the services provided by cloud service provider (CSP) and can engage in.

Provide full services

Cloud service providers develop their own applications and provide all-in-one service of cloud computing infrastructure, professional SaaS applications and full range of related services.

SaaS BUSINESS ARCHITECTURE



APPLICATION

Applications To process business transactions such as sales, finance, marketing ERP and etc

APPLICATION SERVICE

Cloud service provider such as AWS, google cloud and azure

OPERATION SERVICES

Hosting business applications, periodical backup of data and applying product update patches.

MULTI -TENANCY

Multiple companies use same instance of hosted software and also share a same access with specific features

OS AND INFRASTRUCTURE SOFTWARE

Basic OS such as windows Linux on which business application will run and necessary hardware infrastructure such as servers, client and networking along with software components such as emailing software etc

DATA CENTRE OR CLOUD INFRASTRUCTURE

For SaaS users, data centre plays a major role in providing high-end services to business users. Which in turn support in growing business. Colocation datacentres helps SaaS providers reliable and scalable networks and services that is required for business needs.

CONSIDERATIONS FOR ADOPTING SaaS

Even though SaaS model became more mature and popular among the business enterprises, there are a number of considerations involve in purchasing SaaS. According to Hancke, IT strategy planning's should work well with cooperate goals in order to cover the upcoming goals and changes. Ultimate goal of SaaS adoption is to provide business success and fulfil the requirements of business and IT strategies of the organization. A successful SaaS adoption requires a number of considerations which taken into account in order to respond strategic requirements. There are three major risk sources from the customer perspective in adopting SaaS: "less application tailoring and integration options, increased risk of losing business-critical data, and probable online service performance related problems."

BUSINESS LEVEL ADVANTAGE OF SaaS

- **COST CONSIDERATIONS**

SaaS gives a way more benefits for business enterprises to save the costs. When a business enterprise purchases a traditional on-premise software, there are not only initial buying and licensing costs but also the costs for additional computer hardware, security and hiring IT professionals to provide required technical features as well as the costs for training and development of resources required for company.

SaaS can reduce the cost in the area of software deployment and management as the software applications are installed and managed by the cloud service providers. Business enterprises only need to consider about the subscription fees of the application they are purchasing and there are no hidden or related costs related to licensing and technical support. SaaS applications are "multi-tenant" applications which means multiple companies use same instance of hosted software and also share a same access with specific features.

- **STREAMLINE THE BUSINESS PROCESS**

With SaaS, companies no longer need to spend their valuable time on managing and updating software applications as these issues are taking care by the cloud vendor so that time taken to market in the products and service development can be reduced. Business information systems can be upgrade more frequently in SaaS model without waiting for the lengthy investment cycles. The most critical advantage of SaaS in streamlining business processes is providing scalability services. Computing power and storage requirements of business information systems can scale out in no time, in order to scale in regular upgrades are released. Enterprise can purchase their requirements at any time and any quantity amount can be provided.

- **CUSTOMIZATION**

Another benefit of SaaS is the extensive flexibility and scalability. Cloud vendors with multitenant software architecture are able to customize their SaaS applications to meet individual and specific business requirements of the customers. Even when in the cases that the customers themselves are responsible for the customization of applications to align with their business model and processes, they can react quickly without relying on the specialized support from IT professionals. Flexibility of SaaS applications demonstrates how SaaS is not only an option for IT department, but also an instrument geared for the successful implementation of business strategy in enterprises.

- **FLEXIBILITY**

As workers increasingly trying to balance the demands of work and family, there is a growing requirement for enterprises to offer alternative working patterns for their employees. Offering employees flexible working patterns enables them to work conveniently. Employees can work from home, usually at home, via SaaS applications providing that they have internet connection. More flexible working patterns greatly benefit the companies as remote working allows to cut the overhead costs such as office rental fees and companies can keep productive outside of traditional working hours. By incorporating SaaS model to flexible working model, companies can reduce overhead costs and improve performance as the employees are enable to manage their time more effectively and taking more responsibilities and efforts for themselves so that increasing their productivity.

Major challenges for SaaS adoption

SECURITY

The number one barrier to SaaS development is concern over security. And yes, everyone should be concerned over security regardless of the deployment option Since cloud computing service models are new trend, there is a great deal of uncertainty regarding security of data and business information which makes it number one concern for the executives considering SaaS adoption. Majority of business organizations are still uncomfortable with SaaS model due to less secured features. Still business users are not sure about security provided by SaaS model, breaching of data may occur unknowingly by themselves.

INTEGRATION OF SOFTWARE FROM VARIOUS SaaS PROVIDERS

Integration of surround applications with core business operations have to be evaluated for example when u use human resource application interface of time and attendance from fingerprint technology or biometric technology. and when u use point of selling in retail, integration of various types of barcode devices.

RISK OF LOCK-IN

We will be forced to engaged with service provider for longer duration.

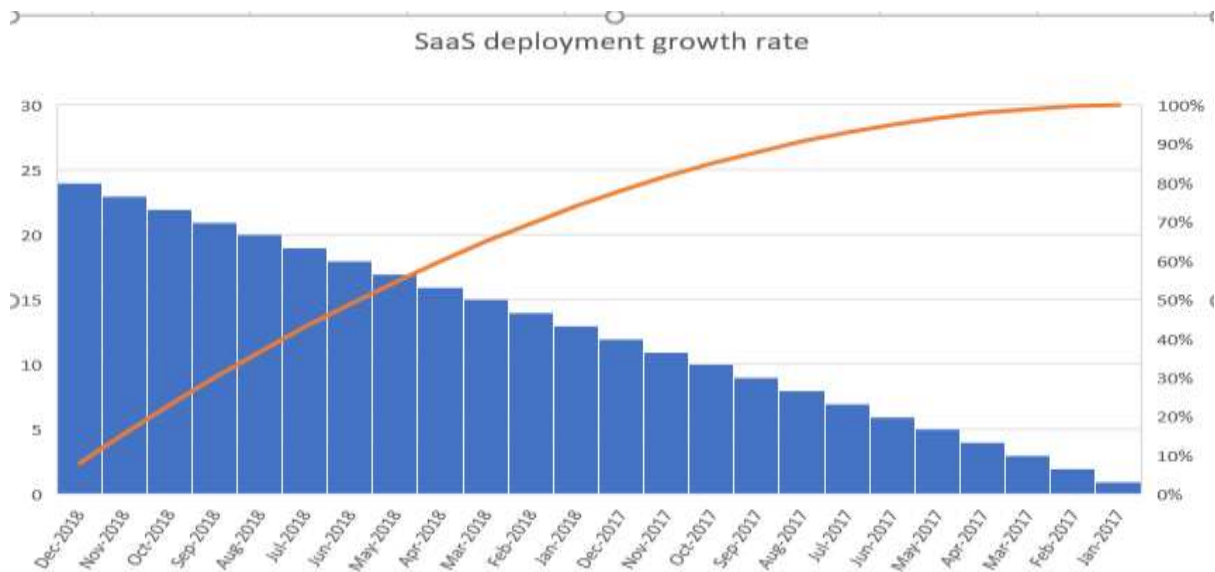
NEED FOR CONTRACTUAL EXPERTISE

SaaS model service contract terms have to be thoroughly analysed and ensure that there is no change in the terms of service for at least two-three years of time.

DIFFICULTY TO SWITCH FROM PROVIDER

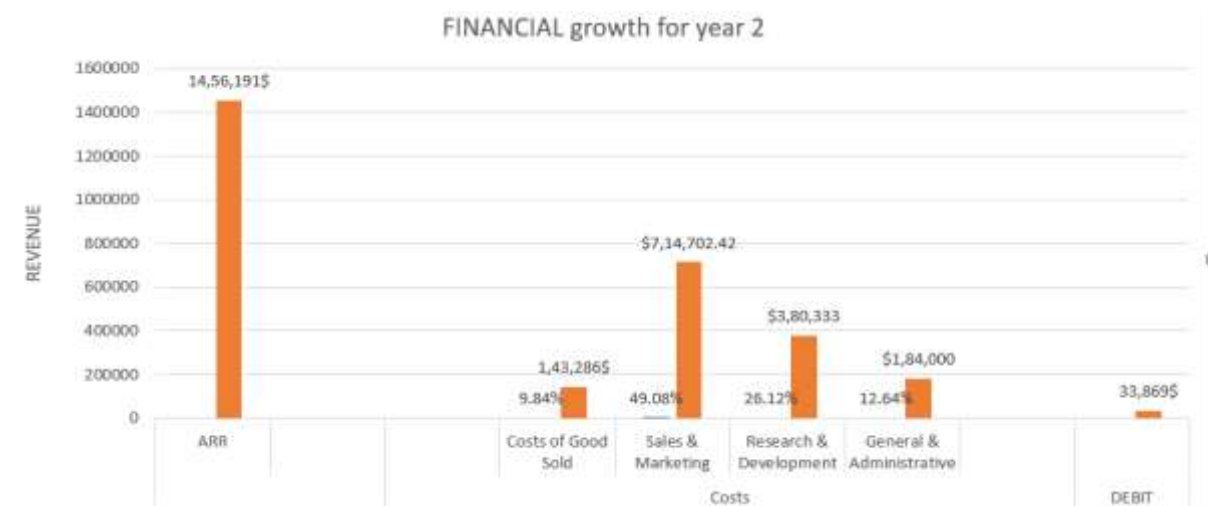
Once businesses are streamlined on cloud SaaS deployment model it will be extremely difficult to switch to other service provider

SaaS DEPLOYMENT GROWTH YEAR WISE



This diagram interprets SaaS growth from year 2017-2018. SaaS adoption growth rate is increasing rapidly in the year 2018.

YEAR TO YEAR WISE COMPARISON OF SaaS FINANCIAL GROWTH



Above diagram interprets in Year 1 revenue rate is \$2,99,383 and debit amount are -4,17,970\$ due to initial setting up and high costs debit amount is low and shows in negative value. While in Year 2 the revenue growth and debit amount are increased and revenue value for Year 2 is 12,56,191\$ and debit value is 33,869\$

CONCLUSIONS

In order to adopt the latest trend and technology business application deployment on SaaS model will provide significant edge for business growth. You will achieve significant IT staff reduction. based on the business need subscription services can be increased or decreased which will provide business benefits and better utilisation of resources. SaaS model have several advantages over traditional on-premises applications in terms of lower initial investments and costs, shorter implementation and configuration times, easier software version, and possibility to access the software from anywhere at any time. SaaS has several lots of advantages when it comes to business side for strategic benefits and service provide facilities.

Having said that SaaS delivers strategic benefits for the business organizations, however, there are several considerations and risks issues that should be taken into account before adopting SaaS model. Enterprises need to see the bigger picture of project, functionality and data security requirements as well as assess the management challenges to orchestrate SaaS implementation and to handle change management for future projects. Since modern enterprises operate hybrid system environments, it is a priority to acquire suitable tools for measuring application performance of both SaaS and on-premise applications on a single, unified platform. One consideration that should take into account is the evaluation of service level agreements (SLAs). Enterprises need to be assured that there are certain quality measurement tools to make a response time-based SLA actionable since SLAs structured around uptime cannot guarantee the efficiency of SaaS applications.

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