

TECHNOLOGY ADOPTION OF SAAS PRODUCT BY EMPLOYEES IN A START-UP'S – A REVIEW PAPER

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ABSTRACT

The purpose of the research is to focus on the technology adoption of SaaS (Software as a Service) product by the employees. The study considers UTAUT model (Unified Theory of Acceptance and Use of Technology) to measure the adoption level and also the factors and usage behaviour which influence them to use technology. This paper attempts to put forward a conceptual model based on UTAUT constructs towards user acceptance for employees. The research is based on literature reviews of technology adoption by the employees and also does literature reviews on various technology adoption model that. The conceptual model developed will help the companies to understand the technology adoption by the employees.

Keywords: Technology adoption, UTAUT model, SaaS Product, Adoption, User Acceptance

1. INTRODUCTION

Cloud computing, it is very high on demand for the business units of insurance companies and for the information technology (IT). Also, they will be viewed as both a technology offering and business offerings. They have area of interest in business with cloud computing.

This is assistance and applications-related innovation run in an appropriated organizes that utilizes virtual assets and is open through systems administration and internet guidelines.

There are three models for cloud services:

- Infrastructure as a services (IaaS)
- Platform as a Services (PaaS)
- Software as a Service (SaaS)

Infrastructure as a services (IaaS), based on outsourcing processing, Platform as a Services (PaaS) create applications and services, & Software as a Service (SaaS), enables users to access applications through a browser rather than installing software on their computers. [T. Dillon 2010]. It has a good potential to provide a better knowledge and make their link stronger between information systems and management requirements. [V. Ratten, 2016].

Cloud computing doesn't need to run dedicated server hardware in residence and software applications can be accessed via internet, and also the data stored on the internet [Than Htaik Aung, 2014]

Also , use of cloud computing reduce the costs of software and hardware and can access from anywhere of the world and also given the reductions in outlay and related to IT operation and maintaining costs which enables them to redirect toward core business activities.

1.1 CONCEPT OF SAAS (SOFTWARE AS A SERVICE)

SaaS concept came in 1990's basically the application service providers (ASP'S) wanted to develop new models for businesses, they need advice from IT consultants and they need to hire IT professionals to look after the systems and customization.

SaaS is a growing business model which enhances the approach of normalising the cloud computing business in an efficient way which will be beneficial to use in IT companies as cloud software. Also, it replaced other software available in the market with its efficient web based model.

One of the advantages of using SaaS software is that it is authorized by single license and also it allows multiple consumers to use one version of the software through multi-tenant technologies. SaaS has great potential which led it into an emerging software business.

Being SaaS model it gives enterprises a lot of advantages like they can access applications over the internet with the help of subscription. Also, it can be assessable at any point of time and in any computer. SaaS is a popular model it basically solves all software developments and also reduces costs related to acquisition

1.2 SAAS STARTUPS

Now days in business the positive impact of SaaS has been increased among all the enterprises. Its unique service delivery model is the only factor which differentiates it from others. Traditional software application SaaS doesn't deal with products, whereas they only deal with service.

It helps the customer to access the application by paying monthly to cloud vendors. It actually reduces the cost for developing and maintaining. It also is well maintained cost for any third parties. Being a SaaS based companies the company should manage things like infrastructure of IT and managements will not be controlled by customers but service providers as SLA'S.

For business SaaS provides a lot of benefits:-

- Eliminates the costs
- Flexibility will increase
- It improves service for customers
- It also helps to improve customization

It allows business to save costs in several ways; there are lots of costs for the business so it should deal with things like licensing costs and also the hardware costs. Security cost also they should do by hiring some IT professionals to have a technical support as well as training and development for human resource. Basically SaaS also called as multi-tenants, which means multiple users can share hosted software.

Company usually won't face issues of software application, there is no longer need to spend most of the time on managing that because all these usually will be taken care direct vendors. This also helps the employees to become flexible for their work because it reduces overhead costs and also performance of the employees will improve to manage their time and it will increase the productivity.

Companies also engage their customers through human interactions, it helps the companies to understand the behaviour of customers and they can draw conclusions of how they can improve services. When it comes to customization they can manage it real quickly without any help of IT professionals. It helps then and there quicker adoption and can become more successful SAAS companies.

1.3 NEED FOR ADOPTING TECHNOLOGY

In a SaaS companies, adopting technology is a very crucial part. Being a SaaS based companies they have to deal with regularly some of the issues related to applications and technology for which the employees should be able to help the organisation. There should be a customer relationship towards the technology. Without adopting the technology, employees won't be able to give the best output of it.

In companies, employee's satisfaction towards the technology is so important because employees will be the one who can increase the efficiency by using the product. There should be some commitment towards the technology. They should be happy to work with that technology while working with the companies.

Adopting technology talks about accepting the technology very well by the employees and also participate in decision making process for the company. Basically, to adopt Technology Company should give proper knowledge towards IT and training for them. Lack of training and lack of adopting the technology leads the companies in loss. Accepting technology also needs to work with the environment of the companies; they should also have that friendly culture towards the employees. Culture also plays a important role in the behaviour of the employees. User acceptance is only key factor for success for SaaS based companies.

Usually companies should evaluate the user acceptance level for the employees and the satisfaction level of the employees they should use certain models like TAM model, UTAUT model (Unified Theory of Acceptance and Use of Technology) for knowing the acceptance level of the employees.

These models usually help the employees to check which factors they are failing to give the employees. SaaS based companies growth depends on how effectively their employees using their product well and also it gives a good relationship and commitment from the employees.

1.4 TECHNOLOGY ADOPTION THEORIES

TAM MODEL

In 1986, Fred Davis built up the TAM dependent on an adjustment of the hypothesis of contemplated activity (TRA) to the field of Information Systems. The hypothesis of contemplated activity clarifies the connection among perspectives and practices inside human activity. TAM centres on seen helpfulness (PU) & (PEOU) characterized by a person's aim to utilize a framework.

Technology Acceptance model (TAM), is used to find an explanation for the relationship between technology acceptance and adoption and the intention to use it. [C.W. Autry 2010]

IT experts examined various approaches to decide a client's disposition toward receiving new innovation. In the first idea for TAM, Davis' proposed framework use was clarified. Davis later refined his model and proposed the inspiration to receive new innovation clarified by four components: PEOU, PU, ATU the innovation, and social goal (BI) to utilize another innovation.

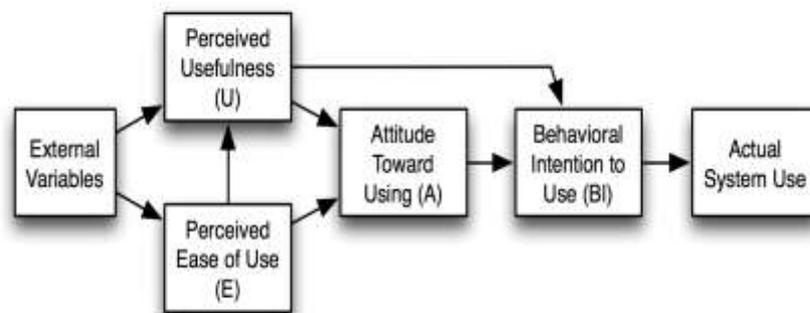


Figure 1.TAM MODEL

TAM proposes that perceived usefulness and perceived ease of use are the most critical factors in the Technology adoption process and system use. [Y. Au and H. Zafar 2008].

Many researchers have utilized TAM to study various strategies in the adoption of cloud computing services.

Besides, an individual open to new encounters will have an alternate point of view concerning usability versus an individual with less experience.

In any case, the pioneers or group of IT experts looking to receive distributed computing Administrations need to comprehend the effect of individual contrasts every individual brings to the assessment process when embracing distributed computing administrations.

UTAUT MODEL

The Unified theory of acceptance and use of technology (UTAUT) is a technology acceptance model formulated by Venkatesh. There are few determinants of user acceptance and usage behaviours: performance expectancy, effort expectancy, social influence, and facilitating condition, attitude toward using technology, self-efficacy, and anxiety are theorized not to be direct determinants of intention.

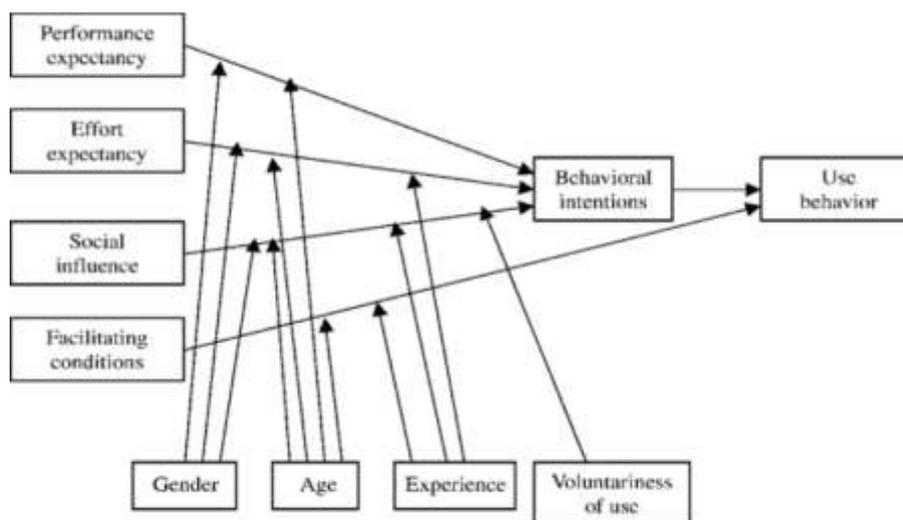


Figure 2. UTAUT MODEL

There are significant role of all the determinants of user acceptance and user behaviour from the above table.

Performance expectancy basically defined as the degree to which an individual believes that using the system will help him to attain gains in job performance. Some author acknowledge

their similarities with usefulness and job-fit means how the capabilities of a system enhance an individual's job performance (Thompson et al .1991) & outcome expectations means relates to consequences of behaviour (Compeau and Higgins 1995b; Davis et al .1989).

Effort expectancy is defined as the degree of ease associated with the use of system (Venkatesh 2003).

Social Influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system. Also, these are the constructs related to social influence: social factors means the individual's internalization of the reference proportion of group's subjective culture and specific agreements that the individual has made with others in specific social situations (Thompson et al 1991) and image means the degree to which use of an innovation is perceived to enhance one's image or status in one's social system. (Moore and Benbasat 1991).

Facilitating conditions are defined as the degree to which an individual believes that an organisational and technical infrastructure exists to support use of system (Venkatesh 2003). This definition captures concepts by two constructs: perceived behaviour control (Ajzen 1991; Taylor and Todd 1995a, 1995b), compatibility (Moore and Benbasat 1991).

According to UTUAT model, the determinants which are not direct (Venkatesh 2000) is attitude using technology is defined as an individual's overall affective reaction to using a system. Attitude towards behaviour (David et al 1989; Fishbein and Ajzen 1975; Taylor and Todd 1995a, 1995b). Lastly, Behavioural intention will always have significant positive influence on technology usage.

2. LITERATURE REVIEW

Cloud computing has attracted a lot of attention in both business and academic spheres in recent times. This is a service and applications-related technology run in a distributed network that uses virtual resources and is accessible through networking and Internet standards (R. Rezaei et al, 2014). Pedro R. Palos-Sanchez et al (2017) has conducted a study which basically analysed the factors which basically determine the adoption of cloud computing. Also, they developed a research model to evaluate the factors that influence the person's intention and behaviour for using cloud computing and also it relates to the variables of technology acceptance model (TAM).

Lawrence W. Lan et al (2011), focused on exploring decisive factors affecting an organisation's SaaS option. This case study conducted on a Taiwanese company one of the leading manufacturing in the niche and specialised resistor markets. For gaining the trust they made framework using decision making trail and evaluation laboratory (DEMATEL) approach, this actually helped them to visible the risks and benefits, so it will developed decision making process.

Alexander Benlian et al (2010), examined they found out the important factors for shaping customer satisfaction and the intention of SaaS continuance. For gaining customer interests, they find out the factors which were crucial for their SaaS usage. Ravi Seethamraju (2014), focused on the challenges they faced in deciding to adopt Saas Erp system by SME's.. The study concluded that change management and increasing the effectiveness of use are the challenges but they also request changes for software vendors with organisations of value through which they can improve product offerings.

Prof. Dr. Peter Buxmann et al (2009), have examined the understanding of this discrepancy the factors which make difficulties of SAAS adoption for different application types and concluded the study by same factors like social influence, existing attitude towards the SaaS adoption and also most consistent drivers were adoption uncertainty and strategic value. Mutlaq B. Alotaibi (2016), focused on investigating about the model which has factors that affect the acceptance and use of SaaS. They examined UTAUT model which explains decision of consumers related to adoption of SaaS. It perceives that performance expectancy, facilitating conditions are the factors in which the study is focussed on.

Freddie Mbuba (2014), estimated about the lack of research is being conducted on the implications of SaaS model on IT sectors and associated HRM. This paper focussed on filling the gap by examining how SaaS adoption may change IT workers and tasks and also conducted states that making conception model would help manager to get informed about potential opportunities, risks and change to an organisation.

Meltem Özturan (2008) concluded that with the help of longitudinal findings the SME's started to use more sophisticated IT applications which basically lead the market transform from national to international. Venkatesh et al (2003) focussed on user acceptance and discussed eight models and also compared all the models. The data was collected by four organizations over a six months period. They formulated a UTAUT model with four core

determinants of intention and usage. The author concluded that several future researches should be done using UTAUT model which helps to get better understanding the organization and also outcome with new technologies use.

L. Abdulwahab et al (2010), focused on the model of UTAUT modification with management effectiveness and program effectiveness towards user acceptance of Telecentre. Hillar Addo (2014), focused on to provide better understanding on issues surrounding acceptance of information and communication technology (ICT) by student of tertiary institutions. Paul Cairns et al (2007), focused on validation of a technology acceptance model over nine culturally-diverse countries and also explore the analysis of the culture differences that emerge on UTAUT measures and concluded that UTAUT model actually uncover the cultural differences and also useful in providing into cross cultural technology acceptance difference.

G D M N Samaradiwakara et al (2014) have examined on the comparison of existing technology acceptance model. Fourteen theories were reviewed and they found that UTAUT was the improved theory that could provide useful tools for the success of technology acceptance. Rakesh D. Raut et al (2017) estimate the factors which effect the cloud computing adoption and examine structure, reliability and validity in SME's industries. Ronald L. Thompson et al (1991) focussed on the factor which influences the use of the computer and technology. Also, they adapted a theory proposed by Fishbein and Azjen (1975). Survey was collected by 212 workers in nine divisions of multinational firms. The author concluded that despite of so many factors, social norms were the factor which was having social influence on utilization. These factors make sure that the importance of using technologies and also training programs will enhance them to modify the upcoming expectations.

3. CONCEPTUAL MODEL

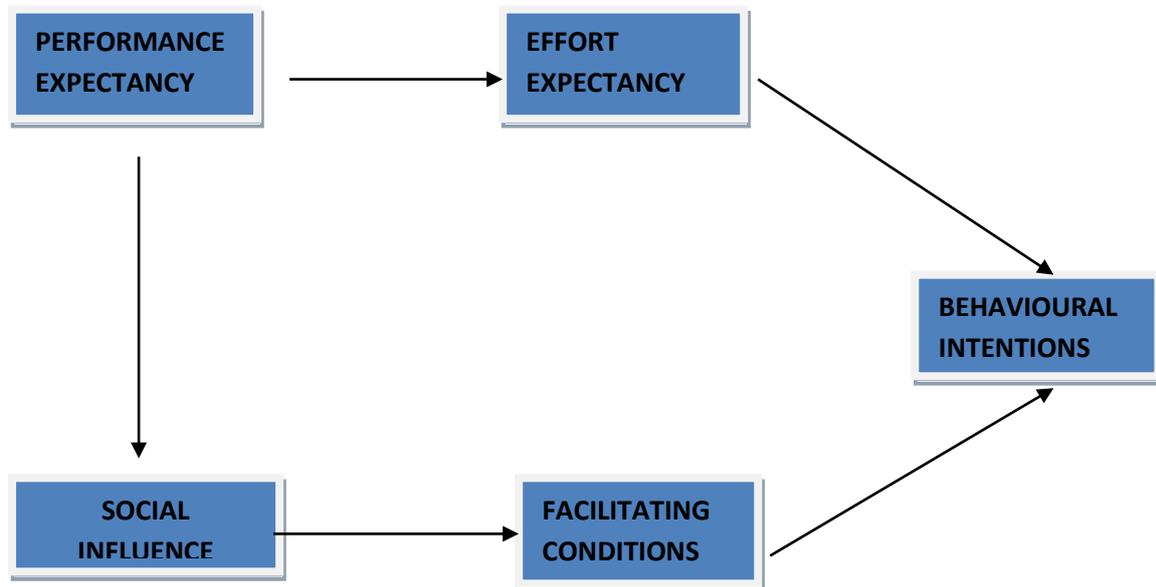


Figure 3: UTAUT model modification in the context of SaaS start-ups.

This constructs of this model is performance expectancy, effort expectancy, and social influence, facilitating conditions (Venkatesh et al (2003) self efficacy & attitude as direct determinants of behaviour towards technology and user acceptance for the employees for SaaS start-ups. These constructs plays a significant role towards understanding the model an the adaption for the employees. This will also predict to help them to understand the employees perceptive and also in understanding the outcome for organisation success.

CONCLUSION

This paper under studies that, a conceptual model is formulated based on literature review. As we know, now a day's cloud computing has attracted a lot of attention in businesses and also so many start-ups are coming in the market specially being a SaaS start-up company , some of the companies will have their own application which their employees will use. So for

understanding the adaption level of the customers and adoption by the employees for technology UTAUT model makes it easy for the company to understand it. Acceptance of technology for the SaaS start-ups companies is very important because there employees are only their assets, because how well they accept the technology and understand it, it will lead them to growth as well as success.

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