

# Chapter 106

## A Study of Person– Technology Fit in the Cloud Computing Classroom

**Jin-Han Yong**

*Chang Gung Memorial Hospital, Taiwan*

**Wen-Lung Shiau**

*Ming Chuan University, Taiwan*

**Avus CY. Hou**

*Oriental Institute of Technology, Taiwan*

### **ABSTRACT**

*Cloud computing has been critical and seen more progress in the field of education. Many educational institutions have applied the cloud computing classroom as a platform to engage students learning on-line. However, there remains a lack of research on users' perceived fit and performance in the context to better evaluate the efficacy of cloud computing classroom in fulfilling students' needs. This study attempts to explore whether there is a fit between students' motivations and characteristics of services provided by the cloud computing classroom, and whether this fit contributes to positive outcome of student performance. Mixed research methods were used because of novelty of cloud computing classroom context. First, propositions were extracted from in-depth interviews. Then, the propositions were converted into hypotheses and were further confirmed by a quantitative survey. The results indicated that the characteristics of the services provided by the cloud computing class room fit user's needs, and the fit significantly affects users' performance.*

## INTRODUCTION

With rapid development of the Internet, classroom activities designed to facilitate learning have changed tremendously. While traditional web pages and applications have been proposed to support various classroom activities, most of these applications are standalone programs. Instructors and students must install additional programs on their own devices and activate them, which would negatively affect the motivation to use these applications or services (Lin, Lin, & Huang, 2011).

Different from traditional web platform and applications, cloud computing applications offer infrastructure as a service (IaaS), platform as a service (PaaS), and software as a service (SaaS), providing diverse applications for users (Armbrust, Fox, Griffith, Joseph, Katz, Konwinski, Lee, Patterson, Rabkin, Stoica, & Zaharia, 2010; Doelitzscher, Sulistio, Reich, Kuijs, & Wolf, 2011; Lin, Fu, Zhu, & Dasmalchi, 2009; Shiau, 2015). Taking into consideration these advantages, many universities have constructed cloud-based learning environment, referred to as, making them “cloud computing classroom,” so that instructors and students can access these services anytime and everywhere (Shiau & Chau, 2016). Lin, Wen, Jou, and Wu (2014) proposed a cloud-based learning environment to assist instructors and students in developing and strengthening reflection ability during and after actual class sessions, and their study results showed that the cloud computing classroom is able to effectively facilitate student reflection abilities and enhance their learning motivation.

Many institutions have also set their sights on making the best use of cloud computing technologies to aggregate student users. It is crucial for institutions to attract users on the platform to generate outcome. While the majority of literature probes individual’s usages of cloud computing classrooms by the Technology Acceptance Model (TAM), studies on performance outcome are still limited. Besides, the fundamental presumption of TAM was that individuals accept new information technology from a goal-oriented, organizational perspective. Many learning activities today do not force students to achieve high score goals or purposes but encourage them to learn because they are interested; they can simply be “happy to learn” without specific objectives. Therefore, the behavioural intention of cloud computing classroom users may differ from the original presumption of TAM. To our best knowledge, few studies have examined the fit between cloud computing technology and the users. The study question is to investigate whether there is a fit between the cloud computing classroom and users’ motivations, and how this fit, if does exist, affects users’ performance.

The purpose of this study is to investigate the fit among the cloud computing classroom, the users, and the performance of students by using the cloud computing classroom. The stage of this study is proposed by using the mixed research method, with a qualitative deep interview conducted first then following a quantitative survey. This mixed research method contributes to an integration of theories and real-life using scenario in an emerging context. Results of this study can enhance understanding of users’ motivations to use the cloud computing classroom, and serve as a reference for educational service providers.

The remainder of this study is structured as follows: section 2 provides the literature review; section 3 details the research design and methodology; section 4 presents the results and discussions; section 5 provides conclusions; and final section presents limitations.

15 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/a-study-of-person-technology-fit-in-the-cloud-computing-classroom/275385](http://www.igi-global.com/chapter/a-study-of-person-technology-fit-in-the-cloud-computing-classroom/275385)

## Related Content

---

### Failure Detectors of Strong S and Perfect P Classes for Time Synchronous Hierarchical Distributed Systems

Anshul Verma, Mahatim Singhand Kiran Kumar Pattanaik (2021). *Research Anthology on Architectures, Frameworks, and Integration Strategies for Distributed and Cloud Computing* (pp. 1317-1343).

[www.irma-international.org/chapter/failure-detectors-of-strong-s-and-perfect-p-classes-for-time-synchronous-hierarchical-distributed-systems/275341](http://www.irma-international.org/chapter/failure-detectors-of-strong-s-and-perfect-p-classes-for-time-synchronous-hierarchical-distributed-systems/275341)

### The Cloud in Education: Policy, Leadership, and Management Issues

Karl Donert (2021). *Research Anthology on Architectures, Frameworks, and Integration Strategies for Distributed and Cloud Computing* (pp. 2371-2393).

[www.irma-international.org/chapter/the-cloud-in-education/275395](http://www.irma-international.org/chapter/the-cloud-in-education/275395)

### Dynamic Capabilities of Decision-oriented Service Systems

Rainer Schmidt, Michael Möhringand Alfred Zimmerman (2021). *Research Anthology on Architectures, Frameworks, and Integration Strategies for Distributed and Cloud Computing* (pp. 957-984).

[www.irma-international.org/chapter/dynamic-capabilities-of-decision-oriented-service-systems/275322](http://www.irma-international.org/chapter/dynamic-capabilities-of-decision-oriented-service-systems/275322)

### An Analysis of the Factors Affecting the Adoption of Cloud Computing in Higher Educational Institutions: A Developing Country Perspective

Ali Tarhini, Khamis Al-Gharbi, Ali Al-Badiand Yousuf Salim AlHinai (2021). *Research Anthology on Architectures, Frameworks, and Integration Strategies for Distributed and Cloud Computing* (pp. 1504-1529).

[www.irma-international.org/chapter/an-analysis-of-the-factors-affecting-the-adoption-of-cloud-computing-in-higher-educational-institutions/275352](http://www.irma-international.org/chapter/an-analysis-of-the-factors-affecting-the-adoption-of-cloud-computing-in-higher-educational-institutions/275352)

### The Role of Trust in the Acceptance of Government Cloud: An Empirical Study

Maha A. Alrashedand Mutlaq B. Alotaibi (2021). *Research Anthology on Architectures, Frameworks, and Integration Strategies for Distributed and Cloud Computing* (pp. 2394-2414).

[www.irma-international.org/chapter/the-role-of-trust-in-the-acceptance-of-government-cloud/275396](http://www.irma-international.org/chapter/the-role-of-trust-in-the-acceptance-of-government-cloud/275396)