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A STUDY OF UNITEN JAKOA STUDENT: AWARENESS, READINESS, USAGE OF CLOUD COMPUTING

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Abstract

Information Communication Technology (ICT) should be able to simplify and help students by providing continuous education during the pandemic. However, due to the limited ICT infrastructure and different cultural background of the Indigenous people, the usage of ICT was unable to be utilised in full capacity. Peninsular Malaysia is home to the indigenous Orang Asli community, the majority of whom continue to live a traditional lifestyle. The Orang Asli's living conditions have been improved through a number of initiatives by the Malaysian government. JAKOA, for instance, has started a number of social development initiatives aimed at improving the well-being of the Orang Asli community. Thus, this study aims to identify the factors affecting the behavior and usage intention towards technology among Indigenous students in Intellectual Center Aboriginal Students or Pusat Intelek Pelajar Orang Asli (PIPOA). We discovered that all hypotheses are supported positively and significantly by using primary data and all information obtained through the distribution of questionnaires using Google form to the targeted respondents. This indicates that the UTAUT constructs contribute to the intention to use technology among the sample of this study. This study shed light to the new education era, providing assurance to equal education quality and lifelong learning opportunities for young generation of the Indigenous community.

Keywords: JAKOA, indigenous peoples, cloud computing, awareness, usage, readiness

1. Introduction

Education is a major aspect of society, and recently, one of the most encouraging trends in education is electronic learning (e-learning). All forms of electronically aided learning and teaching that have a procedural focus and seek to influence the development of knowledge according to the learner's unique experiences, practices, and knowledge are collectively referred to as e-learning. Indirect e-learning also uses cloud computing in every activity carried out with students. According to Hussein and Hilmi (2020), cloud computing is regarded as a recent breakthrough that significantly affects instructional strategies in the educational industry. In addition, the future of the educational system will see an increase in the use of technology, which will improve learning at all educational levels and have a substantial impact on the effectiveness of teaching. Nowadays, due to low enrollment rates and the physical presence of students in classes, many institutions and universities provide the option of remote learning for specific courses and, occasionally, even degree programmes. Additionally, this is done through online platforms using a wide range of diverse instructional methodologies. Students should be prepared and aware of utilizing technology and cloud services to support classroom activities in order to support this project.

Moreover, by promoting teaching, learning, and other activities in universities, cloud computing services (SaaS) including Google apps, Microsoft Training Cloud, Amazon Web Administrations, and IBM Cloud Foundation help academic growth (Juma & Tjahyanto, 2019). To improve student learning, the majority of educational institutions throughout the world use learning management systems, content management systems, virtual networks, and virtual machines (Pallathadka et al., 2021).

On the other hand, Juma and Tjahyanto (2019) mentioned a specific form of communication processing known as "cloud computing" that offers usage models for remotely supplying approximated and scalable assets. Applications supplied as Internet services as well as the hardware and software used in server farms to deliver those services are referred to as "cloud computing" in this context. Meanwhile Aydin (2021) mentioned, public, social, private, and hybrid clouds are taken into account as models for cloud system deployment. The National Institute of Standards and Technology (NIST) used five essential elements, four cloud organization models, and three cloud administration models to describe the architecture of cloud computing. In addition, the three most popular cloud services were software, platforms, and infrastructure (IaaS and PaaS) (SaaS).

Ashtari and Eydgahi (2017) found that the cloud-based application has increased use by higher education institutions. It is also being used by students in higher education in Malaysia, including students among Orang Asli, whether they realize it or not. Peninsular Malaysia is home to the indigenous Orang Asli community, the majority of whom continue to live a traditional lifestyle. The Orang Asli's living conditions have been improved through a number of initiatives by the Malaysian government. JAKOA, for instance, has started a number of social development initiatives aimed at improving the well-being of the Orang Asli community. Nevertheless, in order to promote the Orang Asli community's involvement in ongoing education across the nation, JAKOA is also committed to strengthening its partnership with the Ministry of Education. This is due to the fact that education has been a crucial component in which the Orang Asli people, who are still poor, may meaningfully participate (Ab Rahman et al., 2022a).

Therefore, the model of this study uses the Technology Acceptance Model (TAM), Technology Readiness Acceptance Model (TRAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) to measure the orang Asli student's awareness, readiness and usage of cloud computing.

Based on this model the researchers are encouraged to analyze, explore and identify the current existence of the awareness, readiness and usage of cloud computing. These empirical studies focus on Orang Asli students at UNITEN Sultan Haji Ahmad Shah campus. This study also seeks to make recommendations for other researchers. This study also can give some ideas to those who are interested in cloud computing implementation in the sphere of higher education.

1.1. Problem statement

This study aims to examine the relationship between awareness, readiness, and usage of cloud computing among Orang Asli students at UNITEN Sultan Ahmad Shah Campus. Recently, most of the education section used e-learning as part of the teaching and learning process. Orang Asli students are not left behind to face these issues. To make sure they are aware, ready and using this type of technology, this study was conducted to look into their awareness, readiness, and usage in daily activities, especially in higher education.

According to Sultana et al. (2017), the issue of resource shortage would be resolved and the educational sector will grow along with technological advancement if cloud computing can be implemented in higher education. Based on this, it shows that students in higher education should be ready to use cloud computing as one of their tools in the learning process. This statement is supported by cloud computing, which is like "a new aurora" for the educational industry since it makes it possible for students, researchers, lecturers, and office staff at colleges and universities to access services that are supplied by the new computing system (Sultan, 2010).

Besides that, cloud computing also gives a lot of benefits to students in preparing their assignments, completing the given tasks, and entertaining themselves. It also saves costs in terms of document printing. According to Changchit (2014), the need for technology that today's college students have, in addition to its cost-effectiveness, makes it simpler for them to learn and embrace new technologies. In a classroom setting, students can take use of cloud computing by using it for work or play as well as for online learning, group projects, writing and editing papers and presentations, and completing their assignments.

1.2. Purpose of the study

This study aims to analyze the level of awareness, readiness, and usage of cloud computing among Orang Asli students at UNITEN Sultan Haji Ahmad Shah campus. The quantitative research design is the best approach to gather data by answering a set of questionnaires to measure their levels of awareness, readiness, and usage of cloud computing in higher education.

According to Elgelany and Alghabban (2017), by accessing different programs, such as Twitter, Facebook, and Gmail, these students are already consumers of cloud computing (CC) technologies. This study reveals the awareness, readiness, and usage of cloud computing among Orang Asli students.

There is a limited number of studies that specifically address this topic, especially on the Orang Asli. By using a systematic review methodology, this study seeks to uncover and analyze empirical data relevant to the awareness, readiness and usage of cloud computing among Orang Asli at the UNITEN Sultan Haji Ahmad Shah campus. The findings of this research will assist in identifying potential challenges and gaps in the corpus of already available knowledge as well as opportunities for further research. The findings of this study assist in identifying potential challenges and gaps in the collection of existing information as well as opportunities for further research.

2. Literature Review

These empirical studies focus on cloud computing and awareness, readiness, and usage among Orang Asli students in higher education. The review of the literature in this paper is divided into Orang Asli's education and technology usage and cloud computing in general.

2.1. Orang Asli

Orang Asli students have a relatively poor degree of expertise regarding the use of ICT. But, a study conducted by Yusof and Surat (2021) demonstrates that Orang Asli teachers have a high level of knowledge of digital media and use of that medium. Overall, teachers in Orang Asli schools use digital media at a high rate. The students were found to show deep interest through various fun activities (Yusof & Surat, 2021). The parents of Orang Asli also realised the importance of education. Most of the parents of Orang Asli students have a low level of education, causing them to be unable to help with their children's studies. This encourages them to send their children to study in the city and leave all the responsibilities of education to the school (Salleh & Ahmad, 2009).

According to a study by Marzuki et al. (2014), Malaysia's Orang Asli have very low educational performance levels. In order for Orang Asli to be aware of, prepared for, and use cloud computing in their studies, they must overcome a number of issues, including poverty, difficulty producing assets, a lack of knowledge, and political clout. So, the MoE and the Department of Orang Asli Development (JAKOA) have consistently given the Orang Asli community's education top priority. The MoE created the concept of PeRIMBA, in which teaching and learning are carried out outside of the classroom using activities relating to the forest environment and nature, to stimulate the interest of Orang Asli kids in what they study in school (Kasim & Abidin, 2021).

Furthermore, Roddin and Sidi (2013) mentioned, the Orang Asli are a community that relies on natural resources and engage in survival activities. The Orang Asli community is one of the most underdeveloped and performs poorly on social metrics. In order to be competitive, create prospects that are compatible with the current environment, and be prepared to face a variety of obstacles and challenges, a community must have social, economic, and moral resilience. The willingness and resilience of the Orang Asli community to accept development is crucial to this issue. The state government of Malaysia offers a number of measures to support the socioeconomic quality of life and growth of the Orang Asli.

As a result, JAKOA plays a significant role in Orang Asli affairs in guaranteeing that social and economic growth would enhance the well-being of Orang Asli through initiatives like educational

programmes (Nicholas, 2005). Education is further highlighted because Orang Asli development is currently a primary emphasis of education, including the use of cloud computing in their studies.

Ab Rahman et al. (2022b), mentioned a new law known as the "Aboriginal Peoples" Ordinance No.3 1954 allowed for the creation of JAKOA in 1953. It was created to protect the Orang Asli and their way of life from exploitation and the rapid advance of modernity while also providing resources for development and education that are appropriate.

From "book knowledge," the Orang Asli set their traditional and local knowledge apart from formal education and schooling. Perhaps more significantly, they contend that combining formal and informal education strengthens their morals and values and improves them as people (Adnan et al., 2021).

2.2. Cloud computing

The term "cloud computing" refers to a variety of services that can be accessed online, administered by a third party, and remotely controlled by a server by granting access to these resources and services at affordable prices. According to Aladesusi (2021) is a new approach for unrestricted access to computational resources and software applications is provided by cloud computing.

Due to its excellent compatibility, cloud computing can be used for a variety of everyday tasks, including teaching. Along with providing teachers and students with a variety of cloud-based applications and services that can be used in both formal and informal learning environments, cloud computing can increase the scalability, flexibility, and mobility of how computing resources are used for teaching and learning, as well as collaboration, communication, and resource sharing. It also enables institutions to create virtual communities for teaching and learning, thereby creating a tailored learning environment (Ali et al., 2018).

Meanwhile Aldahdouh et al. (2020) mentioned it is a study used social networking, technological devices, and cloud computing services as examples of these recently developed technologies. However, based on the other study, Elgelany and Alghabban (2017), it is an accessing different programs, such as Twitter, Facebook, and Gmail, these students are already consumers of cloud computing technologies. This study reveals the awareness, readiness, and usage of cloud computing among students. The findings also showed that Google Docs has many advantages for academics, but they lack knowledge about how to use cloud computing. Although cloud services have become a prominent trend and have expanded quickly, many businesses and individuals are still hesitant despite their continued interest in the alternative (Chen et al., 2021).

Chen et al. (2021) mentioned that personal cloud services are essentially an information technology system for individuals, and users appear to use them extensively in both their personal lives and professional lives. An essential factor in predicting and/or explaining the uptake of information technology or systems is the choice to utilize it. Cloud computing definitely eases some of the daily work and daily activities, especially for students in higher education.

Today, higher education institutions (HEIs) are often seen as adopting cloud computing. Its expansion has both enormous advantages and potential complications. As a result of its adaptability, cloud computing, a significant technical trend during the past several years, is currently viewed as a cutting-edge technology that significantly benefits higher education institutions. Over the years, both

public and private schools have used this technology because of its advantages, including flexibility, collaboration, cost-effectiveness, scalability, and others (Alimboyong & Bucjan, 2021).

The advantages of cloud computing are a desirable choice for academic staff and students. Unexpectedly, the adoption of cloud computing is accelerating. The great majority of institutions are moving their on-premises computer platforms to the cloud. As was already said, the availability of numerous providers to the academic institution for free or at a cheap cost further streamlines cloud computing (Alimboyong & Bucjan, 2021). Users now have access to technology that is less expensive and requires less technical knowledge for the adoption of cloud computing. However, some businesses are still reluctant to utilize the cloud because of important issues like costs, institutional pressures, and shifting advantages.

Other than that, the use of cloud computing and awareness of it at institutions. The findings indicate that the majority of survey respondents were aware of cloud computing because 78.3% of them indicated that they knew exactly what it was. While only 4.5% of people lacked expertise in cloud computing, (they had no knowledge about cloud computing), as mentioned by Al-Ammary and Saleh (2021).

3.   Research Methodology

A quantitative analytic approach was developed by the researcher to investigate the association between cloud computing usage and awareness among Orang Asli students at the UNITEN Sultan Ahmad Shah Campus. A questionnaire was distributed among the students to gather data as a survey-based approach. There will be closed-ended questions in the questionnaires to get a better understanding from the responder, thus making data collection easier and with better outcomes. The quantitative research design is related to the data gathering method used in this study, which is a survey-based approach. However, some of the questions were adopted from Al-Ammary and Saleh's questionnaire (2021).

Based on the findings in the literature review, the questionnaire consists of three sections, which comprise demographic information, awareness and readiness of cloud computing, and the last section is the usage of cloud computing in their study at the higher education level. Other than that, the instrument of this study uses the Technology Acceptance Model (TAM) and the Technology Readiness Acceptance Model (TRAM). Adiyarta et al. (2018) mentioned that by combining TR with the two TAM dimensions of perceived utility and perceived ease of use, Technology Readiness Acceptance Model (TRAM), an integrated TRI and TAM model seeks to describe user behaviour in adopting technology-based e-services. It demonstrates that this methodology is appropriate for assessing the technological acceptability and usage among Orang Asli students. Nonetheless, the Unified Theory of Acceptance and Use of Technology (UTAUT) can be considered if this model is more relevant to this study and the analysis was performed by using Microsoft Excel 2019 for editing, sorting, and coding and IBM SPSS Statistics version 25.0.

4.   Findings and Discussion

The synthesis of the data revealed that Orang Asli needs more attention in education, especially in using technology. The level of ICT proficiency among Orang Asli pupils is comparatively low. Therefore,

the MoE and JAKOA always give education issues a top priority for the Orang Asli. While in higher education, Orang Asli students start using technology in their studies and using social media in their daily activities. However, there are some gaps in identifying the awareness, readiness, and usage of cloud computing among Orang Asli students.

ICT services are provided by cloud computing, a developing technology, for several industries, particularly the higher education sector. Academics and students now have any-time, anywhere access to educational materials because of the shift away from traditional systems toward cloud computing. Cloud computing also makes it possible for higher education institutions to quickly and affordably respond to the demands of software and hardware modifications. Thus, the introduction of cloud computing into higher education advances students' academic reputations and productivity.

As well, Orang Asli students need to prepare and use cloud computing in their education. This area can help other academics who might be interested in cloud computing implementation in the higher education field. The current limitations and difficulties in empirical studies linked to this topic are addressed, and areas for more exploration are suggested. These recommend crucial areas of concentration for cloud computing implementation in higher education research in the future.

Acknowledgments

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