



The Adoption of Microsoft Teams Among Lecturers of Polytechnic Kuching Sarawak

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Full Paper

Article history

Received

25 July 2023

Received in revised form

25 July 2023

Accepted

11 August 2023

Published online

30 September 2023

Abstract

As a Technical and Vocational Education and Training (TVET) institution, Polytechnic Kuching Sarawak (PKS) has made use of Microsoft Teams (MT) to create a virtual learning environment for its teachers. The utilisation of MT as a virtual learning environment has the potential to completely revolutionise the way that lecturers at PKS teach and interact with their students. This study aims to measure the adoption as well as evaluating the effectiveness of MT among PKS lecturers to get recommendations regarding the adoption of MT for future improvement. The 5-point Likert scale survey, which includes 30 variables focusing on analysing MT use in education and the effectiveness of it was analysed using SPSS Version 27. The result shows that MT is highly adopted among PKS lecturers in not only teaching and learning but also for other tasks because it is easily accessible, interesting interface, design and the support provided by the institutions which helps in navigating the platform and fully utilise the features. Hence, the utilisation of MT should be maintained and further improved in parallel with the improvement of the campus internet connection and should not be simply dropped in replacement with other online platform without considering the values it had brought us these few years.

Keywords: - Microsoft Teams, utilisation, platform, interface, access

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1. Introduction

In the past few decades, there has been a sizable movement towards the use of digital technology in the field of education. As a result of the advancement of online learning environments, educators now can interact with students in unique ways, which paves the way for the exchange of resources, feedback, and knowledge (Abuhassna et al., 2020). Microsoft Teams (MT), a cloud-based collaboration tool that supports real-time communication, file sharing, and video conferencing, is one of these platforms that has attracted extensive interest in the education industry. MT was developed by Microsoft. Educators all around the globe have rapidly adopted MT as a platform for use in a range of teaching and learning contexts, and its usage has become widespread as a result (Almodaires et al., 2021).

As a Technical and Vocational Education and Training (TVET) institution, Polytechnic Kuching Sarawak (PKS) has made use of MT to create a virtual learning environment for its teachers. On the other hand, it is still unknown whether PKS lecturers have accepted and are successfully using MT. This research intends to address this gap by quantifying the adoption of MT among PKS lecturers, evaluating its efficiency in supporting virtual learning and collaboration, and making suggestions for future development.

The utilisation of MT as a virtual learning environment has the potential to completely revolutionise the way that lecturers at PKS teaching and interact with their students. The platform offers the lecturer with a variety of tools to enhance teaching, such as the capability to exchange lecture materials, administer quizzes and polls, and enable group discussions. Other capabilities include the capacity to conduct polls and group

conversations. In addition, MT makes it possible for lecturer to have real-time conversations with their students, regardless of where they are physically located. This makes it much simpler for students to maintain a connection with their education and remain involved in it.

Although using MT as a virtual learning environment may have some potential advantages, there is also the possibility that certain difficulties may occur (Wijayanto et al., 2021). Problems with the effective use of the platform, challenges with the technology, and worries about the privacy and safety of users' data may also increase the concern on the safe use of MT in learning (Microsoft Teams Security, 2020).

The objective is to measure the adoption as well as evaluating the effectiveness of MT among PKS lecturers to get recommendations regarding the adoption of MT for future improvement. In general, the findings of this research will hopefully give insightful information on the use of MT as a virtual learning environment among PKS lecturers as well as the degree to which it is successful in meeting their needs. The results will offer insights on the advantages as well as the obstacles of employing MT in a vocational education environment, which will be of interest not only to the institution, but also to the larger education community. In the end, this research will contribute to the current debate that surrounds the use of digital technology in the classroom and will guide future advancements in the deployment of virtual learning environments and acquire the significance of MT adoption among PKS lecturers for further improvement.

2. Literature Review

2.1 Microsoft Teams and Its Use in Education

Currently, there are lack of data suggested which online learning platform is better than another, however research suggested that online learning platform (Moodle, Microsoft Teams and Zoom platforms) needed to have a more strategic design to contribute more towards student self-study and their academic performance (Alameri et al., 2020).

MT is an online platform that allows any organisation to communicate with one another using the key feature that it offers which includes video conferencing, file sharing and messaging as well (*Intro to Microsoft Teams: Get Started with Microsoft Teams*, n.d.). The use of MT could be accessed on different platforms such as computers and smartphone devices. It enables its user to engage in any discussion, conference, or lecture at anytime and anywhere if the surrounding has an active internet coverage.

MT is a platform for collaboration that has not only gained a lot of attraction in the commercial world but has also seen significant adoption in the educational sector (S. Ismail & S. Ismail, 2021). There is a wide variety of functionality available inside MT that may improve communication, cooperation, and academic achievement between educators and their pupils. Virtual classrooms

are one use of MT that may be seen in educational settings. Lecturers can build up online classrooms with the help of Teams (AlAdwani & AlFadley, 2022). These online classrooms allow teachers to hold online courses, provide course materials, assign assignments, and provide feedback. Moreover, they can utilise Teams to engage with kids and parents, respond to queries, and supply educational materials such as lecture notes (Wijayanto et al., 2021). A total of 224 PKS lecturers from eight academic departments took part in this study.

2.2 Effectiveness of MT in Education

The outbreak of the *novel coronavirus* (COVID-19) has totally changed the whole viewpoint of the education system in which online remote learning has been introduced and use widely in the educational sector. For instance, the effectiveness of MT use in education has been highlighted in an article published by (Wijayanto et al., 2021) stated that MT may be utilised to facilitate distance education in the wake of the epidemic. The research looks at how the platform is utilised, and what features are most popular, at a university in Indonesia. The paper concludes that MT is a useful tool for distance learning, and that its implementation has improved both the student and teacher experiences.

In addition, (S. Ismail & S. Ismail, 2021) has also discussed the benefits of utilising MT in an e-learning setting. The authors delve into how one university class in the Philippines used MT for online lectures and student-instructor interaction. This research looks at how happy students are with the platform, as well as the challenges both instructors and students have while utilising it for online instruction. The research finds that using Microsoft Teams in an online learning environment may lead to high levels of student satisfaction; but there are also substantial impediments to its implementation, including technical challenges, lack of digital skills, and restricted internet connection.

Furthermore, the effectiveness of MT in education can be seen and analysed using the Technology Acceptance Model as first propounded by Davis (1998). This model uses two parameters to measure the effectiveness of a platform, which are namely, perceived usefulness (PU) and perceived ease of use (PEOU) of the platform, which respectively measures the effectiveness of conveying message through the platform, and the user friendliness and comfort level in relation to its use.

This is because if MT is chosen and selected as a learning platform, it should be able to provide accessible facilities and learning opportunities to all users, or at least, as many users as possible, and should be able to convey most of the learning objectives effectively. During COVID-19 period, movements of students and locomotion of teachers are restricted, face-to-face teaching and learning environment are impossible or difficult to achieve, therefore, the platform chosen to conduct learning and teaching must be able to convey message effectively and should have as little obstructions

as possible in terms of simulating the physical teaching environment.

Microsoft team's effective use in learning process is seen in its design. For one, the main page and display screen of MT is displayed and accessible both through web browsers as well as mobile applications. The mobile version of screen for MT is designed in such a way that only a simple layout with the basic features appears on screen, while the other features are accessible by pressing further shortcuts. Having a complex and complicated user interface while entering meetings and class sessions with MT will pose a problem to the users, especially those with less familiarity and skills to utilise ICT platforms for learning. As such, the simple user interface not only adds to the ease of using the same in learning, but also reduce distractions and provide a larger display screen for the students to better see and receive inputs from the teachers and lecturers.

This is due to the constrain in screen size for mobile users, whereby the learning process is also available to students who do not necessarily have a laptop or desktop at home, which shows convenience as well as user-friendliness and ease of use in terms of its accessibility (Lazim, et. al. 2021). This user friendliness would increase and improve as the user familiarizes himself or herself with the interface of MT (Kortum & Johnson, 2013)

3. Research Design and Methodology

The target populations for this research are the lecturers of Politeknik Kuching Sarawak (PKS). According to Krejcie and Morgan (1970), the determining sample size for a given population sample size of 464 lecturers are at 214 across all eight academic departments in PKS, however we manage to acquire 224 samples. This includes lecturers from Mechanical Engineering Department, Civil Engineering Department, Petrochemical Engineering Department, Electrical Engineering Department, Information Technology and Communication Department, Commerce Department, Mathematics, Science and Computer Department, and General Studies Department. The questionnaires were distributed to all lecturers using google form within a month period. The set of questionnaires was modelled from Unified Theory of Acceptance and Use of Technology (UTAUT) is an acceptance and adoption model created by (Venkatesh, Morris & Davis, 2000) using a 5 Likert Scale. The survey includes 10 demographic questions and 20 variables focussing on the Microsoft Teams Utilisation (MTU), Infrastructure Access (IA), and Technology System in analysing MT use in education and the effectiveness of it. The 5-point Likert scale is used in the survey from agree, fully agree, neutral, disagree, and fully disagree. This study utilised a few common statistical tools to analyse the data. SPSS Version 27 was used for this purpose. The reliability tests on the identified variables for this study were found to be acceptable and reliable as the Cronbach's Alpha values

for all the variables are above 0.60. The survey was distributed to 32 samples for pilot test before it was executed to the bigger sample numbers, where the reliability test result for Cronbach Alpha is at 0.934 for all 30 items in the survey.

4. Analysis and Findings

4.1 Respondents' Demographic Profiles

Table 1. Respondents' demographic profiles

Characteristics		N	(%)
Age	21-25	0	0
	26-30	7	3.1
	31-35	63	28.1
	35-40	87	38.8
	>40	67	29.9
Gender	Male	49	21.9
	Female	175	78.1
Marital Status	Married	183	81.7
	Single	41	18.3
Department	Civil Engineering (JKA)	62	27.7
	Electrical Engineering (JKE)	21	9.4
	Mechanical Engineering (JKM)	44	19.6
	Petrochemical Engineering (JKPK)	33	14.7
	Information Technology & Communication (JTMK)	5	2.2
	Commerce (JP)	39	17.4
	Mathematics, Science & Computer (JMSK)	12	5.4
	General Studies (JPA)	8	3.6
Grade	DH41	49	21.9
	DH42	7	3.1
	DH44	98	43.8
	DH48	70	31.3
	DH52	0	0
	DH54	0	0
Education Level	Diploma	0	0
	Degree	133	59.4
	Master Degree	91	40.6
	PhD.	0	0
Years of teaching	< 1 year	5	2.2
	1-3 years	10	4.5
	4-6 years	35	15.6
	7-9 years	104	46.4
	10-12 years	42	18.8
	>12 years	28	12.5
ICT Knowledge	Poor	0	0
	Moderate	88	39.3
	Good	119	53.1
	Very Good	17	7.6
Internet	Yes	214	95.5

Subscription	No	10	4.5
Mobile Internet Access	Yes	224	100
	No	0	0

A total of 224 respondents participated in the survey. The survey response rate is 48%. Table 1 presents the respondents' demographic profiles. The majority of our respondents were female (78.1%) and male respondents were 21.9%. Overall, about 38.8% of the respondents were between 35 and 40 years old, and about 46.4% of them reported teaching experience between 10 to 12 years. Regarding the distribution of survey respondent according to the teaching department, the study obtained feedback from the Mechanical Engineering Department (19.6%); the Commerce Department (17.4%); the Electrical Engineering Department (9.4%); the Information Technology and Communication Department (2.2%); the Mathematics, Sciences and Computer Department (5.4%); the General Study Department (3.6%); and the Civil Engineering Department (27.7%). Also, 59.4% of the respondents obtained first degree and the remaining (40.6%) of the respondents have master's degree. About 53.1% of the respondents have good ICT knowledge, another 39.3% considered themselves to be moderate while 7.6% are very good at it. Among the respondents, 95.5% said to have internet subscriptions, while only 4.5% did not subscribe to the internet. However, 100% of respondents have mobile internet access.

4.2 MT Utilisation, Infrastructure Access & Technology and Systems

In this study, we aimed to identify MT utilisation with infrastructure access, and technology and systems. Table 2 below presents data about means and standard deviation values for twenty identified variables in this study, namely, MT utilisation, Infrastructure Access & Technology and Systems.

Table 2. Mean and standard deviation for MT Utilisation, infrastructure access & technology and systems

Item	Mean	SD
Microsoft Team Utilisation (MTU)		
I use MT extensively in teaching because the access infrastructure is good.	3.86	.359
Using MT is better than the traditional method.	2.83	.766
Because the MT system design is good, I use MT extensively.	2.69	.786
Because MT has many functions that are useful for my teaching, I use MT extensively.	2.75	.779
Because of my ICT skills, I use MT extensively.	2.41	.775
Because of my ICT knowledge, I use MT extensively.	2.52	.781

Because there is training provided, I can use MT effectively.	2.76	.697
Because of the good support, I can use MT effectively.	3.83	.396
Infrastructure Access (IA)		
I am reluctant to use MT due to poor Internet connection.	2.28	.916
I can access MT anywhere because the infrastructure is everywhere.	3.83	.384
I can access MT anytime because it is easily accessible.	3.74	.439
My satisfaction with infrastructure access (such as the internet) leads me to use MT extensively.	2.74	.699
Because I have good internet access at home, I can use MT effectively.	2.83	.602
Because I have good internet access at the office, I can use MT effectively.	2.89	.528
Technology And System (TS)		
Because the MT systems interface is very user-friendly, I use MT extensively.	2.96	.481
Because the MT systems interface is very interesting, I use MT extensively.	3.89	.316
Because the MT systems interface allows interactions with my class participants, I use MT extensively.	3.89	.316
Because the MT systems design enables me to access information (e.g. tasks, assignments, tests) easily, I use MT extensively.	3.49	.510
Because MT access is fast, I use MT extensively.	2.82	.699
Because MT provides me with information credibility, I use MT extensively.	2.80	.633

As shown in Table 2, MT Utilisation in teaching among the lecturers is highly depend on its infrastructure access with the mean score at 3.86. It shows that lecturer preference in using MT is high when good infrastructure is provided. The lecturers also chose MT because of the support received from the organization; hence the platform could be used more effectively. This variable score 3.83 mean during the survey. However, the least mean is at 2.41 whereas the requirement of ICT Knowledge among the lecturers caused them to use MT more. So long as they have the support from the institution in terms of training and continuous assistance, ICT knowledge is not highly required when utilising the platform.

The result also shows a high mean at 3.83 in Infrastructure Access (IA) where lecturers opt for the platform because it could be accessed everywhere they go. Whether during or post-pandemic, this is still relevant considering technological advancement and towards making education facilities more accessible while promoting the online education platform to the students. The lecturers also prefer to use MT because it is easily accessible with the mean score at 3.74, while the fact that poor internet connection does not affect this choice as it shows in the mean scores at only 2.28. This is because the notes and lecture materials uploaded in MT and the live online class streaming can still go on with mobile internet

access even though the campus internet access might not be helpful.

Lecturers also favor MT systems design where they were able to access information (e.g., tasks, assignments, tests, etc.) easily where this scores a high mean at another 3.49, and followed by the preference in MT systems interface which allows interactions with class participants with mean score of 3.89, and they also think that the interface is very interesting to use. Fast access, information credibility and user-friendly interface are among other factors affecting the lecturers' preferences in adopting MT in their teaching and learning.

5. Conclusion and Recommendations

The result shows that MT is highly adopted among PKS lecturers in not only teaching and learning but also for other tasks because it is easily accessible, interesting interface, design and the support provided by the institutions which helps in navigating the platform and fully utilise the features. The lecturers find MT to be effective for them to use, especially with the interesting interface which allows them to interact with their class participants and enable information access and sharing easily. Despite poor internet access, MT is still utilize using mobile internet access because of its popularity among lecturers and students in accessing notes and assignments. However, the improvement in campus internet access could improve the utilisation of the online platform further and use of more of its many features. There are several reasons to utilise MT, including collaboration where MT allows us to collaborate with our team members in real time by sharing files, co-authoring documents, and holding virtual meetings. MT integrates with other Microsoft apps like OneDrive, SharePoint, and Outlook, making it easy to access and share files and also offers a variety of communication options, including chat, video and audio calls, and screen sharing. MT can be customised to fit our team's needs by adding apps and integrations from the Teams app store. Finally, MT is built on the secure Microsoft 365 platform, ensuring that our data is safe and protected. Hence, the utilisation of MT should be maintained and further improved in parallel with the improvement of the campus internet connection and should not be simply dropped in replacement with other online platform without considering the values it had brought us these few years.

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