

Factors Influencing the Intention of Malaysian Malay Language Teachers to Employ Technology in The Post-Covid-19 Era

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Abstract

The purpose of this study is to investigate the level of technology adoption and the factors influencing Malay language teachers' intention to use technology in Malaysia after COVID-19. The quantitative cross-sectional survey design was employed to perform this research. This study included 361 Malay language teachers from Malaysia who were recruited using convenience sampling. They answered an online questionnaire. The collected data was analysed using descriptive statistics, Pearson correlation, and multiple regression analysis. The study's findings show that Malay language teachers in Malaysia have a high level of technological adoption in the post-COVID-19 period. Three of the four null hypotheses in this study were rejected, showing that three factors are significantly associated to Malay language instructors' intention to use technology in Malaysia: performance expectancy, effort expectancy, and social influence. The most important element influencing their decision to embrace technology following the COVID-19 epidemic is effort expectancy. This study is aimed to offer insight on current trends in Malaysian Malay language instructors' plans for using technology in Malay language education in the post-COVID-19 era.

Keywords: Technology, Employ, Malay Language, Teachers, COVID-19.

Introduction

Malaysian Malay is one of the many Malay languages spoken in Malaysia. It is the national language of Malaysia and is also used as a writing language in the country's educational, administrative, and communication systems. When compared to other Malaysian languages, such as Indonesian or Brunei, it has significant differences and variations. In addition to being a native language, Malaysia Malay Language is a dialect that preserves Malaysian identity and culture. This language is widely used in everyday life in Malaysia, including social communication, mass media, politics, and inter-Malaysian interactions.

In June 2020, the Ministry of Education launched DELIMa to equip and empower Malaysian Malay Language students with the necessary skills and competencies for lifelong learning so that they can thrive in their home country or on a global scale. Aside from that, DELIMa is hoped to provide a platform for teachers to increase the amount of knowledge and skills that are developed for long-term learning, as well as to prepare students to be technologically competent after completing their education (Menon, 2020).

Even though the Ministry of Education provides a wide range of technology-based learning opportunities for Malaysian language teachers to improve productivity and quality, technology adoption by Malaysian language teachers is a critical factor in the successful implementation of technology integration in Malaysian schools. However, current research on the motivation and readiness of Malay language teachers to use these platforms and technologies is limited, resulting in a knowledge gap.

The Malay language teaching and learning in Malaysia is going as planned, according to the Malaysia Education Blueprint 2013-2025 (Ministry of Education Malaysia (MoE), 2013). However, the scenario altered when the COVID-19 pandemic broke out in the Wuhan region of China at the end of 2019, quickly spreading to other parts of the world in early 2020. Malaysia was no exception. As a result, stakeholders developed home-based teaching and learning (PdPR) to involve pupils at home (Ministry of Education Malaysia (MoE), 2020). The COVID-19 pandemic forced almost all countries around the world to switch from conventional teaching methods to the alternative of fully-fledged online teaching and learning (Ye, 2023).

The study on high school EFL teachers in China showed that they voluntarily learned how to integrate technology for teaching purposes (Li, 2022). Furthermore, the COVID-19 pandemic served as a driving force for the adoption of technology among primary and secondary ESL teachers for ERT (Wen et al., 2020).

In conjunction with the implementation of PdPR, teachers are needed to adapt to technology to provide learning without compromising their knowledge of technology or their students' trust, in order to ensure that learning continues during a pandemic. Malaysian Malay Language teachers conduct PdPR Bahasa Melayu using three methods developed by the Ministry of Education: online, offline, and offshore. PdPR differs from traditional language learning, with this model serving a different purpose than traditional language learning. PdPR serves as a single change in the mode of learning caused by an uncontrollable event, such as the COVID-19 pandemic (Hodges, 2020).

The Unified Theory of adoption and Use of Technology (UTAUT), a comprehensive model for understanding the use of technology (Venkatesh et al., 2003). Venkatesh et al. (2012) developed UTAUT-2, an overall paradigm for assessing technological adoption. The UTAUT-3 framework, an expansion of the UTAUT-2 paradigm was proposed in year 2017 (Faroq et al.). This study used the UTAUT model, which is simpler and more understandable than UTAUT-2 and UTAUT-3. The UTAUT model is a well-validated technique for assessing technology acceptability among users in various professions and businesses (Awa and Ukoha, 2020).

The UTAUT model identifies four elements that influence technology users' behavioural intentions (Al-zboon et al., 2021). Performance expectancy (PE) refers to the extent to which technology may enhance an individual's performance and fulfil expectations. Effort expectancy (EE) refers to the ease of using technology. Social influence (SI) refers to an individual's perception of the importance of others' beliefs in using a new system. Facilitating conditions (FC) refer to how a technology user perceives the current organisational and technical support as facilitating their experience and intentions to utilise technology. Figure 1

illustrates how these four construct influence individuals' intentions to use technology, making them important to this study.

However, research on Malay Language teachers' technological acceptance levels following the COVID-19 epidemic remains limited, leaving a gap. Investigating Malay Language teachers' attitudes towards technology during the COVID-19 pandemic can help predict future educational trends and promote sustainable education aligned with the Sustainable Development Goals (Sung et al., 2020).

This study aims to investigate Malay Language teachers' technology acceptance and factors influencing their intention of using technology in the post-COVID-19 classroom. It aimed to answer the following research questions:

1. What is the level of technological acceptability among Malaysian Malay Language teachers after COVID-19?
2. Is there a correlation between components (PE, EE, SI, and FC) and Malaysian Malay Language teachers' intents to employ technology post-COVID-19?
3. What is the most important element influencing Malaysian Malay Language Teacher's aspirations to use technology during post-COVID-19?

Method

This study used a cross-sectional survey to analyse Malaysian Malay Language Teacher's acceptance of technology and the variables influencing their decision to utilise it in the classroom. The UTAUT framework served as the study's underpinning theory.

This study included 361 Malay Language teachers from Malaysian primary and secondary schools, recruited by convenience sampling. Participants in the study were required to work in a Malaysian primary or secondary school and have experience with Emergency Remote Teaching during the COVID-19 pandemic. To meet the study's objectives, only eligible respondents completed the questionnaire (Andrade, 2020).

The study included 300 female (83.1%) and 61 male (16.9%) Malay Language teachers from various location around Malaysia. The majority (37.7%) were between the ages of 31 and 40, with a bachelor's degree (76.5%) in Malay Language (62.6%) and up to 10 years of Malay teaching experience (66.8%) at a government primary school (81.2%) in an urban location.

Data were collected using a cross-sectional survey approach. The survey questionnaire included 20 items based on the UTAUT model's five constructs (PE, EE, SI, FC, and BI) and references relevant literature (Thompson et al., 1991). The survey focused on factors influencing respondents' willingness to adopt technology for Malay Language teaching and performance improvement. This included developing and managing appropriate technological processes and resources for specific tasks.

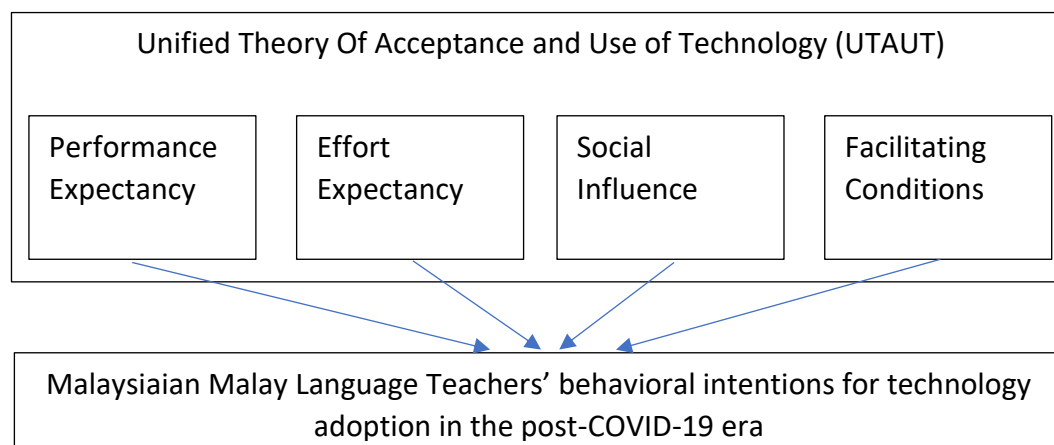


Figure 1. Conceptual framework of the study

The questionnaire used a 5-point Likert scale, with "strongly disagree" on one extreme, "strongly agree" on the other, and "neutral" in the middle. A practical approach is used to measure participants' level of agreement or disagreement with several attitude statements pertinent to the study (Taherdoost, 2019).

The instrument's construct validity was evaluated to verify relevance to the intended study. Three specialists in related fields reviewed the questionnaire. The instrument's reliability was tested to assure consistent results throughout multiple measurements. The questionnaire items are very reliable, with Cronbach's alpha coefficients ranging from 0.74 to 0.96 (Sekaran, 2017).

The survey questionnaire was distributed to Malaysian Malay Language teachers using social media platforms like Telegram, WhatsApp, and Facebook. The social media network administrators provided consent to utilise their services to distribute the questionnaire. Teachers in the group were informed of the survey questionnaire's objective. Those who consented to participate were directed to a Google Forms questionnaire. Data collection ended with a sufficient number of valid responses. The survey results from Google Forms were analysed using Microsoft Excel and SPSS version 26.0.

Data from the questionnaire were analysed with SPSS version 26.0. Descriptive statistics, such as frequencies, percentages, means, and standard deviations was employed to assess Malay Language teachers' technological acceptance levels. Pearson's correlation analysis was used to examine the link between components in the UTAUT model and their BI in the post-COVID-19 period. A multiple regression analysis was undertaken to determine the most relevant factor influencing Malay Language teachers' employing of technology in the post-COVID period.

Results and Discussion

Research Question 1. What is the level of technological acceptability among Malaysian Malay Language teachers after COVID-19?

This study analysed all variables descriptively, calculating mean and standard deviations for each domain. Means were interpreted with values ranging from 1.00 to 2.33 indicating low acceptability, 2.34-3.67 indicating moderate acceptance, and 3.68-5.00 indicating high acceptance (Best and Kahn, 2006). Table 1 summarises the computed means and standard deviations for all items based on the relevant construct.

Table 1 shows that the averages of all domains ranged from 3.21 to 4.41, with standard deviations ranging from 0.610 to 0.958, indicating a tight spread of scores around the mean. The means of all variables (excluding FC) were at least 3.68, indicating that respondents' overall technology acceptance level is high.

Table 1

Malaysian Malay Language Teachers' technological acceptability level in the post-COVID-19 era

Variable	Mean	Standard Deviation	Interpretation
Performance Expectancy (PE)	4.41	0.610	High
Effort Expectancy (EE)	4.15	0.674	High
Social Influence (SI)	4.12	0.659	High
Facilitating Conditions (FC)	3.21	0.958	Moderate
Behavioral Intention (BI)	4.32	0.669	High

Malaysian Malay Language teachers expected to use technology in the post-COVID-19 era due to its usefulness ($\bar{X} = 4.41$, $\sigma = 0.610$) and ease of use ($\bar{X} = 4.15$, $\sigma = 0.674$). Furthermore, individuals' BI was positively influenced by others around them ($\bar{X} = 4.12$, $\sigma = 0.659$), resulting in a high mean ($\bar{X} = 4.32$, $\sigma = 0.669$). The moderate level of acceptance for FC ($\bar{X} = 3.21$, $\sigma = 0.958$) suggests that respondents may only adopt technology to a moderate extent due to limited resources for conducting Malay Language lessons post-pandemic.

Research Question 2. Is there a correlation between components (PE, EE, SI, and FC) and Malaysian Malay Language teachers' intents to employ technology post-COVID-19?

To achieve the study's second objective, Pearson's correlation analysis was conducted using SPSS version 26.0. Prior to analysis, the data set underwent a normality test to assess skewness and kurtosis. The obtained data was normal and symmetric, with skewness and kurtosis values ranging from -1 to 1 (Mohammad-Salehi, 2021).

Table 2 shows the Pearson correlation coefficient values between the independent variables in this study and the dependent variable of behavioural intention.

The study found three moderately positive associations between variables and BI: PE ($r = 0.661$), EE ($r = 0.656$), and SI ($r = 0.585$). However, there is no significant correlation ($r = 0.283$) between FC and Malay Language teachers' BI. There is a slight positive association between respondents' FC and their BI to use technology following the COVID-19 epidemic.

Multiple regression analysis was used to explore the relationship between the UTAUT model variables and Malay Language teachers' use of technology. Table 3 displays the regression coefficients for each component on Malay Language teachers' BI. The study's findings largely reject the null hypotheses.

Hypothesis 1: There is no substantial correlation between PE and Malaysian Malay Language Teachers' BI to employ technology in the post-COVID-19 period.

Multiple regression analysis shows that this variable explains 43.7% of the variance in BI ($R^2 = 0.437$, $F(4,356) = 110.532$, $p < 0.01$). Therefore, hypothesis 1 is rejected. PE substantially predicts Malay Language teachers' intention to employ technology in the post-COVID-19 period ($\beta = 0.301$, $t(360) = 5.837$, $p < 0.01$). PE and BI had a moderately positive

link for technology use after the pandemic ($r(360) = 0.661, p < 0.01$). Malay Language teachers are more likely to embrace technology when they believe it would improve their job performance.

Hypothesis 2: There is no substantial correlation between EE and Malaysian Malay Language Teachers' BI to employ technology in the post-COVID-19 period

Hypothesis 2 is rejected due to a significant regression equation ($F(4,356) = 110.532, p < 0.01$) and an R^2 of 0.430, showing that EE accounts for 43% of BI variance. The multiple linear regression coefficient for predicting BI based on EE was $\beta = 0.325, t(360) = 6.614, p < 0.01$. The Pearson correlation test indicates a relatively positive relationship between EE and BI to use technology in the post-COVID-19 era [$r(360) = 0.656, p < 0.01$]. Malay Language teachers prefer using technology for instruction due to its ease of use.

Hypothesis 3: There is no substantial correlation between SI and Malaysian Malay Language Teachers' BI to employ technology in the post-COVID-19 period

SI strongly predicts Malay Language teachers' employing of technology following the COVID-19 pandemic ($\beta = 0.216, t(360) = 4.732, p < 0.01$), rejecting Hypothesis 3. This variable accounts for 34.2% of the variance in BI ($R^2 = 0.342, F(4,356) = 110.532, p < 0.01$). SI shows a moderately favourable linear connection ($r = 0.585, p < 0.01$) with ESL teachers' intention to use technology following the COVID-19 epidemic. Malay Language teachers are more likely to use technology in the classroom if their peers encourage them to do so.

Hypothesis 4: There is no substantial correlation between FC and Malaysian Malay Language Teachers' BI to employ technology in the post-COVID-19 period

FC does not significantly predict Malay Language teachers' use of technology in the post-COVID-19 era ($\beta = 0.055, t(360) = 1.484, p > 0.05$). The Pearson correlation test shows no significant link ($r(360) = 0.283, p < 0.01$) between FC and BI's use of technology post-pandemic. FC accounts for just 8% of the variance in BI [$R^2 = 0.080, F(4,356) = 110.532, p < 0.01$], resulting in a failure to reject the null hypothesis in Hypothesis 4.

Research Question 3. What is the most important element influencing Malaysian Malay Language Teacher's aspirations to use technology during post-COVID-19?

Table 3 shows that the factor with the highest absolute value for the standardised coefficient (β) had the greatest impact on instructors' intentions, in line with the study's third goal.

The study found that PE, EE, and SI have a significant impact on Malaysian Malay Language teachers' goals. EE has the highest standardised coefficient ($\beta = 0.325$), indicating that it is the most significant element. The variable is statistically significant at a level below 0.01.

Table 2

Correlation between PE, EE, SI, FC and the respondents' behavioral intentions to employ technology in the post-COVID-19 era

	Behavioral Intention		
	Pearson Correlation	Interpretation	Sig (2-tailed)
Performance Expectancy (PE)	0.661	Moderately positive	0.000
Effort Expectancy (EE)	0.656	Moderately positive	0.000
Sosial Influence (SI)	0.585	Moderately positive	0.000
Facilitating Conditions (FC)	0.283	Negative	0.000

Table 3

Regression of PE, EE, SI and FC to the respondents' Behavioral Intentions (BI)

	Standard Coefficient (β)	t-value	Sig.	R ²
Performance Expectancy (PE)	0.301	5.837	0.000	0.437
Effort Expectancy (EE)	0.325	6.614	0.000	0.430
Sosial Influence (SI)	0.216	4.732	0.000	0.342
Facilitating Conditions (FC)	0.055	1.484	0.139	0.080

Discussion

In keeping with modernization and globalization, technology has become an essential part of Malay language teachers' lives in the twenty-first century since it makes it easier for them to impart subject-matter knowledge to their students. The Ministry of Education Malaysia (KPM) strongly encourages the use of modern technology in the Malaysian Malay Language curriculum to engage students in learning and raise their level of Malay language competence. With the goal of promoting a technology-based Malay language teaching and learning environment in all primary and secondary schools across the country, KPM has been supplying a variety of gadgets and technological equipment to all government-aided schools since the 20th century.

The primary goal of this research is to find out how much post-COVID-19 Malaysian Malay language instructors adopt technology. The data indicates that the standard deviations and minimum scores for all variables in this study range from 0.610 to 0.958 and 3.21 to 4.41, respectively, suggesting a rather narrow score distribution around the minimum, as per the descriptive statistics provided in the previous chapter. Apart from the factor related to facility conditions, all factors have minimum scores of at least 3.68, suggesting that Malaysian Malay language teachers have a high level of acceptance of technology (Kim and Lee, 2022).

This can be explained by the respondents' intention to use technology since they find it easy to use and valuable in the post-COVID-19 era. Moreover, their motivation has been positively impacted by others around them, which has led to a high minimum level for the behavioural motivation variable, which is 4.32 (Sharma and Saini, 2022). Additionally, given the dearth of instruments and technological resources available for performing Malay language instruction following the COVID-19 pandemic, respondents may use technology minimally, according to a minimum score of 3.21 for facility circumstances.

Regarding to the first research question, using technology in teaching Malay Language in the post-COVID-19 era is highly held by Malaysian Malay Language teacher, as seen by the

mean value of 0.669, which falls within the high-level range, and the standard deviation of 4.32. As a result, their real use of technology is strongly impacted by their high degree of Malay Language (Orcan, 2020).

This study also intends to investigate the connection between elements of the UTAUT paradigm and the drive of Malaysian Malay language instructors to employ technology in the post-COVID-19 period. Using the SPSS programme, parametric correlation testing, also known as Pearson correlation analysis, was carried out to determine how much these teachers' motivation is influenced by performance expectancy, effort expectancy, social influence, and facilitating conditions. The results show that, while there is a weak but positive correlation between the facilitating conditions factor and the motivation of these teachers, there is a moderate positive relationship between the motivation of Malaysian Malay language teachers and factors like performance expectancy, effort expectancy, and social influence, respectively.

Out of all the variables in this study, the facilitating conditions factor had the lowest minimum score, according to the results of the descriptive analysis. Put another way, in the post-COVID-19 era, Malaysian Malay language teachers will be open to use technology as a tool if they believe it to be beneficial, user-friendly, or suggested by others.

Furthermore, multiple regression analysis was used to test the hypotheses put out in this study. Four null hypotheses were put forth in this study; three of them were rejected since their values were below 0.01. These findings suggest that the motivation of Malaysian Malay language teachers to employ technology in the post-COVID-19 era is related to three factors: performance expectancy, effort expectancy, and social influence. On the other hand, with p-values higher than 0.05, the association between teachers' motivation to employ technology and the facilitating conditions is not significant. These conclusions have been reinforced by the results of descriptive analysis and correlation.

In order to identify the key factors impacting Malaysian Malay language instructors' motivation to adopt technology, the standard coefficient values were analysed. According to the findings, effort expectancy is the most important factor, followed by social influence and performance expectancy. Less than 0.01 is the statistically significant level for these variables. In other words, most Malay language teachers in Malaysia prefer to use technology if it is perceived as easy and user-friendly.

Conclusion

The results of this study offer support to studies on students' acceptance of technology in Malaysian Malay language teachers. This illustrates the increasing demand for facilities, tools, and resources related to educational technology that will support Malay language teachers in their teaching and learning endeavours. One of the study's findings is the weak correlation between the enabling environment and the behavioural motivation of Malay language instructors to use technology into their lesson plans during the COVID-19 epidemic. According to survey results, the majority of participants voiced scepticism regarding the quality of instructional technology tools and resources available, which resulted in a modest level of technology acceptability in the post-COVID-19 environment.

The purpose of this study was to investigate how Malaysian Malay language instructors felt about using technology in their classes after COVID-19, as well as the factors that influenced their willingness to do so. The study's findings suggest that Malaysian Malay language teachers are generally very accepting of technology integration, and that their proficiency and acceptance of technology have improved as a result of teaching and learning

remotely (PdPR) or at home during the COVID-19 pandemic's school closures. Only three factors—performance expectancy, effort expectancy, and social influence have a significant relationship with Malaysian Malay Language teachers' motivation to use technology in the post-COVID-19 era, despite the fact that all independent variables in this study have a positive linear correlation with the dependent variable.

This study successfully identified factors influencing Malay Language teachers' technology acceptance and behavioural intents. Malay Language teachers have a high level of technological acceptability, having been engaged in an ERT atmosphere that relied heavily on technology during the pandemic. Teachers are eager to implement technology in their post-COVID-19 Malay Language classes because they found that technology was simple and easy to employ (Al-Anezi et al., 2021). In the post-COVID-19 age, PE, EE, and SI have a significant impact on teachers' adoption of technology in Malay Language classroom. This finding is consistent with past studies, which also found an increase in teachers' BI to adopt technology if they found it useful and beneficial for them (Bajaj et al., 2021). Teachers are more inclined to employ technology in Malay Language classes if they find it beneficial and easy to use, or if it is promoted by others. Teachers are more likely to employ technology in their Malay Language classrooms if it is easy to implement (EE is the most significant factor) (Asghar et al., 2021).

Some research indicates that the presence of FCs has no impact on a technology user's ability to use technology systems due to an unacceptable level of FCs among users (Ramillah and Nurkhin, 2020). Technology users are more likely to use technology if they believe they have access to necessary resources and tools for daily chores (Wah and Hashim, 2020). The study found a weak positive correlation and insignificant relationship between FC and respondents' intentions to use technology after the pandemic, with over half expressing doubt or disagreement about having adequate technological equipment and resources, such as Internet access and technical assistance (Aina and Opeyemi, 2020).

This study contributes to the educational psychology literature by examining how factors in the UTAUT model affect Malay Language teachers' behavioural intentions for technology employing. The findings highlight changes in technology acceptance levels following the implementation of emergency remote teaching during the COVID-19 pandemic. This study offers curricular stakeholders and planners' valuable ideas on how to persuade Malay Language teachers to use technology to improve teaching quality. This study found no significant relationship between facilitating conditions and Malay Language teachers' behavioural intention. Educational stakeholders should further investigate and develop infrastructure, policies, instructional strategies, and design to improve technology acceptance and use among Malay Language teachers.

To further investigate this topic, researchers should consider the following proposals. Longitudinal research can address the limitations of the cross-sectional design used in this study. Future studies should consider additional explanatory variables from the UTAUT model and other technology acceptance models, including TAM and TPB. Future research could examine technological acceptance across demographics, which this study does not include. Cultural and contextual factors can influence ESL teachers' intents to include technology in their courses.

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