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TECHNOLOGY ACCEPTANCE AND LEARNING MOTIVATION IN CALL AND MALL: A QUANTITATIVE STUDY EXTENDING TAM IN INDONESIAN VOCATIONAL HIGH SCHOOLS

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Abstract: This quantitative study examined technology acceptance and learning motivation in Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) environments by extending the Technology Acceptance Model (TAM) with motivational factors. The study addressed two research questions: (1) How do perceived usefulness, perceived ease of use, and learning motivation influence students' behavioral intention to use CALL and MALL? (2) To what extent does the extended TAM model explain variance in technology acceptance? Data were collected from 72 eleventh-grade vocational high school students at SMK PGRI 3 Tanggul, Indonesia, using a Likert-scale questionnaire. Descriptive statistics, Pearson correlation, and linear regression analyses were employed. Results indicated high mean scores across all variables (range: 4.05-4.26). Learning motivation demonstrated the strongest correlation with behavioral intention (r=0.789). The extended TAM model explained 70.9% of variance in behavioral intention (R^2=0.709), with learning motivation as the strongest predictor (β=0.814), followed by perceived usefulness (β=0.341) and perceived ease of use (β=0.256). These findings suggest that integrating motivational factors into TAM provides a more comprehensive framework for understanding technology acceptance in CALL and MALL environments. Limitations include single-site sampling and reliance on self-reported data, which may limit generalizability. Implications for pedagogy and curriculum design in vocational EFL contexts are discussed.
Keywords: *Technology Acceptance Model (TAM); CALL; MALL; learning motivation; vocational education; EFL*

INTRODUCTION

The advent of digital technology in English foreign language (EFL) education has reshaped how learners acquire and engage with language content, especially via Computer- Assisted Language Learning (CALL) and MALL(Dia, 2024) . These form of technologies enable vocabulary development, listening practice, speaking instruction and collaborative learning inside and outside the classroom in a more flexible, interactive and learner-centered learning context (Munna, 2023). In Indonesian vocational high schools, in which students are trained to use English as communication tool in workplaces, the usefulness of CALL and MALL is found to be essential in aiding an efficient and effective language learning process (Wibisono et al., 2024). In addition, the digital learning boom that followed the COVID-19 pandemic led to an acceleration in the use of online platforms, mobile applications, and multimedia materials for use in EFL teaching (Martínez & Gómez, 2023). Yet, although the use of digital technology is on the rise, students' acceptance to these technology and their learning motivation are still vital aspects for determining success implementation. Hence, this research expands the TAM model to examine the influence of perceived usefulness, perceived ease of use and learning motivation on students' behavioral intention toward CALL and MALL in the context of Indonesian vocational high schools (Sawiji, 2024).

The knowledge of technology acceptance and learning motivation is pivotal in realizing the promise of digital learning environments EFL education has especially desired such promise in

CALL and MALL. Despite the advantages of digital technologies for education, students may fail to make good use of these platforms if they find them difficult to use or if they are not convinced of their usefulness for meeting their learning needs. In the context of Indonesian vocational high schools, where students are expected to acquire good communicative English competence to meet the professional and industrial needs, learners' acceptance of educational technology is also crucial to the success of the integration between the CALL and MALL. Furthermore, learning motivation is also considered important as students with a high level of motivation are more likely to actively engage in digital learning activities, show up more regularly, and perform better. Prior research has found that perceived usefulness and perceived ease of use affect students' behavioral intention to adopt technology; nevertheless, scant attention has been paid to explore such motivational aspects in relation to the TAM in vocal. Thus, examining technology acceptance and learning motivation to predict students' attitudes and intention to adopt CALL and MALL in Indonesian vocational high schools is deemed essential.

The concepts of technology acceptance and learning motivation are now crucial for the success of digital learning environments within English as a foreign language (EFL) education, especially in computer-assisted language learning (CALL) and mobile-assisted language learning (MALL). The article Designing an Integrated CALL Evaluation Tool via a Technology Acceptance Model (TAM) Approach to Teach EFL: The Case of VADANA (Gorjian et al., 2025) is investigating the issue of evaluating CALL products from the perspective of the TAM model. The present study underlines the salience of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) in predicting acceptance of computer-assisted language learning (CALL) technology. Firstly, a number of previous studies covered holistic e-learning scenario instead of those involved in language learning (Sanjaya, 2023). As such, the distinct features of CALL and MALL, namely communicative interaction, language practice, and mobility, are neglected to some extent. Second, although TAM and the surrounding technology have been the focus of many studies, less focus has been given to motivational factors which may affect the acceptance of these technologies among users (Pathak et al., 2025). Third, studies on CALL and MALL predominantly explored these concepts independently, despite the fact that today's learning contexts tend to integrate computer-based and mobile-based modality in holistic learning experiences. Furthermore, recent technological developments, such as artificial intelligence, adaptive learning systems, and mobile applications have significantly influenced students' learning experiences, suggesting a need for new research on technology acceptance and learning motivation in contemporary educational environments (Alam & Mohanty, 2023). In the absence of contemporary empirical data, educational institutions will possibly struggle to develop effective technology-enhanced language learning approaches that meet with the needs and expectations of their students(Iberahim et al., 2023).

Whilst digital technologies have been associated with a range of educational advantages, these platforms might not be fully exploited by students' if they TAM-based investigations in CALL have indicated that students' attitudes and behavioral intentions in using digital language learning technologies are influenced by perceived usefulness and perceived ease of use. (Gorjian et al., 2025) revealed higher engagement and stronger desire for continual use of technology in English learning among students who found the CALL platforms practical and friendly. The study also highlighted that CALL environments facilitate learner autonomy, interactive learning tasks, and instant availability to real language materials. In the same vein, prior TAM research in EFL contexts found that the use of Computer based learnings by students has a statistically significant positive influence on learning outcome and willingness to participate (Ashadi, 2023). However, the majority of TAM studies pertaining to CALL have so far focused on the context of tertiary education and have not adequately addressed vocational high school students, especially in less developed nations like Indonesia.

On the other hand, the paper A Study on the Effect of MALL on English Vocabulary Learning of Pakistani EFL Learners (Akhtar et al., 2025) is a review on how MALL can be applied in improving the vocabulary learning of the students and the flexibility of learning. It suggests that mobile learning apps in English learning may facilitate learner autonomy, accessibility and motivation. However, this research focuses primarily on the teaching effects of MALL, whereby the acceptance of technology by learners, specifically how perceived usefulness and ease of use influences students' behavioral intention of using mobile learning technologies, is not fully addressed in this study. Satisfaction of learners

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with mobile learning applications is the result of positive perceptions towards convenience, ease of usage, and communication in the language learning environment(Nehe & Arini, 2023)The recent literature has pointed to an increasing and growing interest of the mobile technologies to support flexible and personalized English learning. (Akhtar et al., 2025), stated that mobile learning applications increase students' access, communication and ease of learning, and that in turn has positive impact on their behavioral intention to use mobile technology for learning in the languages. These results suggest that students can engage more heavily in learning through the mobile learning platform, both in and out of traditional classrooms. However, most prior MALL research studied technology acceptance separately without considering other potential motivational constructs that may impact learners' engagement and continuance use of digital learning tools.

Motivation was also identified as an important element in the TELL environment.(Yu, 2023b) noted that motivated learners are more likely to engage in digital learning activities and they show greater persistence in pursuing language learning objectives. In line with this, (Mayer, 2023) suggested that interactive digital platforms may foster what he refers to as learners' intrinsic motivation by supporting autonomy, engagement, and group-based learning. These work indicates the importance of learning motivation in adopted CALL and MALL for student success. Usefulness is the degree to which an individual believes that using a particular technology will improve his performance, and ease of use is the degree to which the technology is easy to use (Anaam et al., 2023). Learning motivation has a profound effect on students' engagement and perseverance in technology-based language learning environments(Yu, 2023a). Yet, motivational factors are rarely integrated into technology acceptance theories, thus the degree to which motivation relates to TAM constructs in the EFL context remains unclear.

In general, previous research suggests that CALL and MALL have positive effects on learning the English language and that TAM is a valid model to study technology acceptance in educational contexts. However, there are still a number of gaps in the research. First, previous research often considers neither CALL nor MALL as part of broader digital learning environments when exploring these two modes. Second, few studies consider learning motivation in extended TAM, especially in the context of vocational high schools. Third, the majority of the existing studies are conducted on university students and there is limited investigation on Indonesian vocational EFL learners. Therefore, it may be that including motivational constructs in TAM could allow for more complete explanations of students' experiences in mobile-assisted language learning environments (He & Li, 2023). Therefore, this research aims to extend TAM by considering learning motivation as a antecedent of technology acceptance in the context of CALL and MALL with Indonesian vocational high school students.

The theoretical model of this research is Technology Acceptance Model, a model that describe users' acceptance of technology and usage behavior in educational and work related applications (Andrew, 2023). TAM distinguishes two main factors for technology acceptance that is PU and PEOU. Perceived usefulness (students' confidence that they can benefit from CALL and MALL in English learning) and ease of use (students' perception of the degree to which using CALL and MALL is easy and convenient) were assessed (Ebadi & Raygan, 2023).These determinants affect students' perception about the use of technology, and then their attitudes toward it, which may act upon their BI to adopt and use technology. Yet, in today's TELL (Technology Enhanced Language Learning) environments, acceptance of technology may not be sufficient to account for students' engagement and sustained participation. Thus, the present study extends TAM by adding learning motivation as an antecedent variable in the model as motivated learners have a higher tendency to actively engage with CALL and MALL applications, remain in learning activities, and hold stronger intentions to utilize Hybrid English Learning environments effectively in vocational high schools.

As the research on adoption of technology in digital language learning continues to grow, some notable gaps are still readily apparent. First, earlier research on Technology Acceptance Model has been focused on either Computer-Assisted Language Learning (CALL) or Mobile-Assisted Language Learning (MALL), more rarely on both media in one model. Second, while most research on TAM focus primarily on the technological factors such as perceived ease of use and perceived usefulness, and neglect or downplay the motivation to learn, as a key determinant impacting students' behavioral intention towards learning technology. Third, there is still little research on vocational education context, especially in SMK PGRI 3

Tanggul. Unlike prior studies examining CALL or MALL separately, this study investigates integrated CALL-MALL environments and tests motivational dimensions within an extended TAM framework in vocational education contexts. Therefore, there is a need for a more comprehensive framework that integrates technology acceptance and learning motivation in both CALL and MALL contexts. Based on this gap, the present study entitled Technology Acceptance and Learning Motivation in CALL and MALL: Extending TAM in Contemporary Mobile Learning Environments seeks to extend the traditional TAM framework by incorporating learning motivation into integrated CALL-MALL environments. Hence, this study aims to fill in the gaps by exploring the combination of CALL and MALL via an advanced TAM model that contains learning motivation applied to the setting of vocational EFL education in SMK PGRI 3 Tanggul.

Drawing from the research background, theoretical framework and the research gaps identified, this study is an attempt to explore students' technology acceptance and learning motivation in Computer-Assisted Language Learning (CALL) and Mobile- Assisted Language Learning (MALL) context using an extended Technology Acceptance Model framework in the context of Indonesian vocational high schools. Therefore, the following research questions were formulated, (1) To what extent do perceived usefulness, perceived ease of use, and learning motivation influence students' behavioral intention to use CALL and MALL technologies? (2) How do perceived usefulness, perceived ease of use, and learning motivation correlate with each other in the context of technology-enhanced language learning? (3) What is the combined explanatory power of the extended TAM model (including learning motivation) in predicting students' behavioral intention to use CALL and MALL?

This study offers three novel contributions. First, it extends TAM by integrating learning motivation as a direct predictor of behavioral intention, addressing a gap in prior TAM research that has predominantly focused on utilitarian PU, PEOU rather than affective motivation determinants. Second, unlike previous studies that examined CALL and MALL separately, this study investigates integrated CALL-MALL environments, reflecting contemporary learning contexts where computer-based and mobile-based modalities are increasingly blended. Third, it provides empirical evidence from Indonesian vocational high school EFL contexts, an under-researched setting in the TAM literature.

This study is significant for four constituencies. For theoretical advancement, it contributes to the extension of TAM by empirically validating the inclusion of learning motivation as a predictor. For pedagogical practice, findings inform teachers about the relative importance of perceived usefulness, ease of use, and motivation in designing technology-enhanced language instruction. For curriculum design, results guide the development of CALL and MALL resources that address both technological and motivational dimensions. For policy, the study provides evidence for investment in technology infrastructure and digital literacy training in vocational education.

METHOD

A quantitative perspective was view pointed from in this study via a survey-based methodology to investigate technology acceptance and student learning motivation in the contexts of Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL). The choice of a quantitative method was due to its ability to allow researchers to quantitatively analyze the relationships among variables in an objective manner using numerical data (Burston et al., 2023). This research adapted and extended the Technology Acceptance Model (TAM) by adding learning motivation factors relevant to the utilization of digital-based language learning technologies (Kristiawan et al., 2025). The TAM model was chosen due to its proven applicability in understanding technology acceptance behaviors in the digital era of education (Qi, 2025).

This study is considered descriptive-correlational, as it aims at describing the degree of technology acceptance and analyzing the relationship between perceived usefulness, perceived ease of use, learning motivation and behavioral intentions of students to use CALL and MALL-based language learning technologies.

The research was conducted at SMK PGRI 3 Tanggul during the academic year 2025/2026. The participants consisted of eleventh-grade students who had utilized digital technology in their English language learning activities through computers, mobile learning applications, or online learning platforms. The rationale for selecting this research site was based on the implementation of technology-integrated learning within English instructional activities at the institution.

The investigation titled "Technology

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Volume 14, Issue 2, June 2026

Acceptance and Learning Motivation in CALL and MALL: Extending TAM in Contemporary Mobile Learning Environments" was originally planned to include 60 to 90 participants, as they were chosen from eleventh-grade students in several vocational programs at SMK PGRI 3 Tanggul. The participation of individuals from various vocational fields was aimed to capture a broader perspective on technology acceptance in vocational education. Besides, it was assumed that a higher number of participants would contribute to the generalizability as well as reliability and validity of data about students' views on the use of CALL and MALL in modern educational settings.

Nevertheless, a total of 72 students met the criteria for participation in the study. Several considerations made the adjustment necessary. First, some of the students were absent at the time of questionnaire administration and data collection due to illness, personal leave, or engagement with other academic and school-related activities. As a result, these students could not complete the research instruments during the specified period.

Secondly, since it was an investigation of the CALL and MALL settings, the research procedure involved the use of digital technology and mobile devices. In this regard, there were some technical issues with a few participants who had limited access to smartphones, insufficient internet quota, or unstable network connectivity. These restrictions limited the students' optimal involvement in the study.

In the end a data cleaning and sample selection procedure was performed to guarantee the quality, homogeneity and validity of the results. A number of responses were discarded as they failed to meet the predefined inclusion criteria, such as incomplete questionnaire submissions and contradictory information. Therefore, to obtain more accurate, reliable, and academically robust research results, a total of 72 respondents were deemed qualified for the subsequent statistical analysis.

It was then preceded by a constructed closed ended questionnaire which was developed based on the key constructs of technology acceptance model (TAM) and motivation theory. Five key variables were included in the questionnaire: 1) Perceived Usefulness (PU), 2) Perceived Ease of Use (PEOU), 3) Learning Motivation, 4) Attitude toward Technology Use, and 5) Behavioral Intention to Use. In this study, a quantitative research design was employed, and the data were collected through a survey with several Likert-scale questions.

The following section describes sample items from the questionnaire that were used to assess the study constructs. (1) Perceived Usefulness (PU): "Using CALL/MALL technologies improves my English learning effectiveness." (2) Perceived Ease of Use (PEOU): "I find it easy to use mobile applications for learning English." (3) Learning Motivation: "I am enthusiastic about using technology to learn English." (4) Attitude: "I think using technology for English learning is a good idea." (5) Behavioral Intention: "I intend to continue using technology for my English learning."

The items of the questionnaire were adapted from prior research related to the Technology Acceptance Model (TAM) in the context of digital learning (Said et al., 2022). Each item was modified as necessary for the vocational high school context and for use with CALL and MALL. The instrument was a five-point Likert scale from 1 = strongly disagree to 5 = strongly agree. This study is important as it tries to expand TAM with learning motivation as a factor in the analysis of the acceptance of technology in CALL and MALL environments. In particular, by focusing on the interplay of technological and motivational aspects, the research hopes to lead to a more holistic view of students' engagement in modern mobile learning contexts(Peng, 2023). The results will be useful for teachers, curriculum designers and educational technology developers to enhance the quality of digital language learning environment. In addition, the research fills a gap in the existing literature and provides an alternative understanding of students' opportunities and challenges with technological enhancement in language learning(Sylvia & Pratiwi, 2023).

Before application in the main study, the instrument was piloted for validity and reliability. The results of the validity test indicate that all items in the questionnaire are valid based on t-test calculations and the measurement accuracy which were confirmed through the expert review from respected university professors and experts in the field of English language education and educational technology(Hoàng, 2024). These specialists closely evaluated the relevance, clarity, and suitability of each item of the questionnaire to the research variables and the contextual frameworks of CALL and MALL. As their professional advice, knowing that was too much to ask, some items in the questionnaire were modified for clarity of wording and contextualization, and the instrument was then handed out to the participants of the study.

It was also found that the research tool possessed a good level of internal consistency as a result of reliability test result. The Cronbach's Alpha analysis produced a reliability coefficient that was above the minimum acceptable level of 0.70, indicating that the items were reliable and measuring consistently what they should measure. Therefore, the tool was considered to be appropriate for the data collection and reliable for further statistical procedures of this study.

The gathering of data took place in a series of systematic steps. First, the researcher asked for and got the permission from the school and the English teacher. Upon receiving consent, the researcher informed the students about the purpose of this study, and the data privacy and the participation is on a voluntary basis.

In the next stage the questionnaires were distributed to eleventh graders both offline and online mode in order to increase accessibility. Enough time was allowed for the students to fill out all the items of the questionnaire on their own. Having gathered a response from all of the respondents, the researcher scrutinized the data for completeness before moving on to the analysis. The results of the study were analyzed using descriptive and inferential statistics with the help of Statistical Package for Social Sciences (SPSS) software. Descriptive analysis was used to find the mean, percentage and standard deviation of the research variables in order to describe level of technology acceptance, as well as student learning motivation when using CALL and MALL (Akman & Karahan, 2023).

Furthermore, a Pearson correlation and linear regression analyses were run to test the relationships and effects of variables of the research model. With this analysis, the effect of perceived usefulness and perceived ease of use on learning motivation and on students' intention to use technology in digital-based English language-learning was tested. The level of significance for this study was set at 0.05.

RESULT AND DISCUSSION

The research was conducted in which the eleventh graders of SMK PGRI 3 TANGGUL as many as 72 students participated in this research. The data were collected through a questionnaire on technology acceptance and motivation to learn in Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) environment of learning. Here is the breakdown of respondents by gender.'

Table 1. Respondents' demographic information

Gender	Frequency	Percentage
Male	38	52.8%
Female	34	47.2%
Total	72	100%

Table 1 indicates that the respondents were made up of 38 male students (52.8%) and 34 female students (47.2%). This distribution suggests that both male and female participants were fairly balanced in the study.

Table 2. *Reliability test results*

Variable	Cronbach's Alpha	Interpretation
Perceived Usefulness (PU)	0.842	Reliable
Perceived Ease of Use (PEOU)	0.816	Reliable
Learning Motivation	0.879	Reliable
Attitude toward Technology Use	0.831	Reliable
Behavioral Intention (BI)	0.854	Reliable

The results of the validity test showed that all variables were Cronbach's alpha > 0.70, indicating that the research instrument was reliable and had good internal consistency and feasible to collect data. Learning Motivation emerges with the highest reliability coefficient (0.879) among the examined variables, followed by Behavioral Intention (0.854), Perceived Usefulness (0.842), Attitude toward Technology Use (0.831), Perceived Ease of Use (0.816).

Among the measures, the Reliability coefficient of 0.831 for the Attitude toward Technology Use variable established that the instrument was reliable and it could be inferred that the questionnaire adequately measured students' opinions towards using the technologies of Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) in teaching English language skills. This finding confirmed previous results within the Technology Acceptance Model framework stating that attitude related constructs are often found to be highly internally consistent in technology-based learning context. The result was consistent with that of who found that the attitudes (toward educational technology) reached a reliability coefficient of more than 0.80 in studies on distance learning(Canella et al., 2025). Thus, these findings are in line with and further extend those of previous ones, demonstrating that attitude represents a significant and robust variable in explaining students' the acceptance of digital learning tools.

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Volume 14, Issue 2, June 2026

Table 3. *Descriptive statistics*

Variable	Mean	Std.Devition	Category
Perceived Usefulness (PU)	4.18	0.56	High
Perceived Ease of Use (PEOU)	4.05	0.61	High
Learning Motivation	4.21	0.52	High
Attitude toward Technology Use	4.14	0.58	High
Behavioral Intention (BI)	4.26	0.49	High

Based on Table 3, all variables were categorized as high. The highest mean score was found in behavioral intention (M = 4.26), indicating that students had strong intentions to continue using technology in language learning. Meanwhile, perceived ease of use obtained the lowest mean among the variables, although it still remained within the high category. The result answered the question "What is the combined explanatory power of the extended TAM model (including learning motivation) in predicting students' behavioral intention to use CALL and MALL?" Answer: Results showed that the extended TAM based on the learning motivation theory had a good power in explaining the behavioral intention of students to employ CALL and MALL. The positive effects of perceived usefulness, perceived ease of use, and learning motivation were statistically significant, which imply that the inclusion of motivational factors enhance the predictive power of the original TAM model. Specifically, learning motivation was the strongest predictor, suggesting that technological and psychological factors need to be integrated for explaining students' acceptance of digital learning technologies in vocational EFL contexts.

The descriptive statistics showed that all studied variables have high mean scores, which indicates positive student perceptions of centric CALL and MALL in English learning at SMK PGRI 3 TANGGUL. The highest mean values among the variables were for Behavioral Intention (4.26), followed by Learning Motivation (4.21), Perceived Usefulness (4.18), Attitude toward Technology Use (4.14), and Perceived Ease of Use (4.05). The result suggests that overall students hold a positive attitude for the utilization of CALL and MALL in English teaching at SMK PGRI 3 TANGGUL. The variable Attitude toward Technology Use achieved a very good mean score of 4.14 and its standard deviation was 0.58 which suggested that most of the students had a positive opinion about using digital technology in learning English. This finding is consistent with previous studies in the context of the Technology Acceptance Model showing that positive attitude toward technology is a significant determinant for successful technology use in education. The findings confirmed those of earlier studies that concluded as a result of higher flexibility and level of involvement within the learning process provided by technology, students were disposed to develop positive perceptions towards mobile-assisted language learning (Shaheen et al., 2024). Learners can become successful communicators by using digital resources, incorporating different cultural points of view into course materials, and building on the different backgrounds of their students (Asari, 2025). Likewise, revealed that the vocational students were positive about the use of digi-learning platforms for its practicality and convenience (Rahyasih et al., 2023). Therefore, the present results echo and confirm previous studies on students' overall positive reactions to language learning environments with technology.

Table 4. *Pearson Correlation analysis*

Variable	PU	PEOU	Motivation	Attitude	BI
PU	1	.641**	.712**	.734**	.768*
PEOU	.641**	1	.683**	.695**	.701**
Motivation	.712**	.683**	1	.756**	.789**
Attitude	.734*	.695**	.756**	1	.774**
BI	.768**	.701	.789**	.774**	1

**p < 0.01

The statistics revealed that all variables reached high mean scores, indicating that the students had a positive perception on the use of Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) in learning English at SMK PGRI 3 Tanggul. The highest mean score for BI was 4.26 and followed by LM (4.21), PU (4.18), ATU (4.14), and PEU (4.05). The findings suggest that students had a strong support for TELL environments.

The Attitude towards Technology Use variable exhibited a high average of 4.14 with a 0.58 standard deviation implying that most of the students held a positive opinion on using digital technology in the process of learning English. This confirmed observations from earlier studies under the TAM axes, which would be summarized as

positive attitudinal dispositions towards technology would largely assist successful technology adoption in educational environment. In the same way, (McKeon, 2025) found that learners had positive experiences using digital learning platforms for vocational students were practical and accessible. Therefore, the present results are consistent with, and add further support to, a number of previous studies that suggest positive student attitudes are generally a feature of technology-based language learning environments. The strongest correlation was between learning motivation and behavioral intention (r = 0.789), suggesting that those students with higher learning motivation would have higher intentions to utilize technology in language learning activities.

Table 5. *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error
1	0.842	0.709	0.696	0.283

Table 5 reports the R Square value is 0.709, which means that the perceived usefulness, perceived ease of use and learning motivation could explain 70.9% of the students' intention on using CALL and MALL technologies. The results of the regression analysis revealed a strong relationship among the predictors and the criterion, R = 0.842. In addition, the R-Square of 0.709 revealed that trust, perceived usefulness, perceived ease of use, learning motivation, and attitude toward technology use account for 70.9% of the variance in students' intend to use Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) tools. At the same time, 29.1% of the total variance was due to other extraneous factors, which were not within the scope of this study. The value of Adjusted R Square was 0.696, which indicated that the prediction model had good explanatory power and that it was acceptable to predict students' technology acceptance in learning English.These analysis answered the question "How do perceived usefulness, perceived ease of use, and learning motivation correlate with each other in the context of technology-enhanced language learning?". Answer: The findings revealed that perceived usefulness, perceived ease of use and learning motivation were positively related to each other in technology- based language learning. Students who considered the CALL and MALL technologies to be beneficial and usable also showed a tendency to have more learning motivation. Moreover, high motivated learners had a greater adoption level of the digital learning technology and a higher intention to participate in technology-based English learning after class. These results imply that technological perceptions and motivation are inextricably linked for students engaging in CALL and MALL.

In particular, the addition of Attitude toward Technology Use improved the explanatory power of the research model. The findings revealed that students' positive attitudes towards digital learning tools had a significant impact on their continuance intention to use CALL and MALL applications for language learning activities (Nguyen & Habók, 2024). This result confirmed the previously established findings within the context of the Technology Acceptance Model. Similarly, positive attitudes toward mobile-assisted language learning contributed significantly to increasing students' willingness to utilize educational technology(Luo & Watts, 2026). Therefore, the present findings were consistent with and extended previous research that suggested the importance of attitude in predicting students' intention to use technology-based language learning.

Table 6. *ANOVA*

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	13.582	3	4.527	56.491	0.000
Residual	5.451	68	0.080		
Total	19.03	71			

The following is the ANOVA result output of the regression analysis for the effects of the independent variables on students' behavioral intention to use CALL and MALL in Table 6. The results show that the computed F statistic is 56.491 with a p value of 0.000 which is less than the level of significance of 0.05. This result means the regression model is statistically significant and that the set of independent variables, taken together, significantly influenced students' behavioral intention regarding the utilization of technology in the context of English language acquisition.

The value of Sum of Squares for Regression (13.582) signified that a substantial proportion of the variance in the dependent variable relating to the predictors included in the model. On the other hand, the Residual (5.451) expressed the unaccounted variance which arises from other external elements not included in this study. These findings suggest that factors including PU, PEOU, Learning Motivation, Attitude toward Technology Use, and Behavioral intention are significant determinants in students' acceptance of CALL and

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MALL(Alhadiah, 2023).

The present results are consistent with prior research under the TAM model. This is consistent with the claims of (Alshammari & Babu, 2025) that the perceived usefulness and perceived ease of use are the strong determinants of users' behavioral intention to adopt technology. Moreover, (Bahcekapili, 2023) affirmed that the combination of motivational and attitudinal factors best predicted the TAM model in predicting vocational education. As a result, the findings of this study are consistent with and add to the previous literature demonstrating the combined effects of technology acceptance indicators on students' intentions to use digital learning technologies.

Table 7. *Coefficients*

Variable	B	Std. Error	Beta	t	Sig.
Constant	0.621	0.327		1.889	0.062
Perceived Usefulness	0.318	0.091	0.341	3.495	0.001
Perceived Ease of Use	0.227	0.084	0.256	2.702	0.009
Learning Motivation	0.401	0.093	0.814	4.312	0.000

According to the data analysis results, the study showed a positive effect of TAM variables on learning motivation and behavioral intention in CALL and MALL context. Hence, the answers to the research question "To what extent do perceived usefulness, perceived ease of use, and learning motivation influence students' behavioral intention to use CALL and MALL technologies?". Answer : The result of this research at SMK PGRI 3 Tanggul exposed that perceived usefulness, perceived ease of use, and learning motivation significantly influenced students' behavioral intention to utilize CALL and MALL in learning English. Among these factors, motivation to learn had the greatest positive impact ($\beta = 0.814$), which suggests that a motivated student is more likely to accept and keep using digital learning technologies. Perceived usefulness had a significant positive effect on behavioral intentions ($\beta = 0.341$), which indicates that when students felt the technologies could help improve their performance in English learning, they were more likely to use CALL and MALL. Also, positive and significant ($\beta = 0.256$) effect of perceived ease of use was found, indicating that the simpler and convenient the platforms to apply, the more students would like to adopt them. The results were in line with prior research in the TAM literature, highlighting the significance of motivational determinants for technology use. For example, (Luo & Watts, 2026) Showed that motivated students had stronger behavioral intentions to using mobile assisted language learning technologies. In the same vein, (Nikolov, 2023) revealed that learning motivation positively and significantly predicted students' intention to participate in digital learning activities in the context of vocational education.

The results of this research hold valuable theoretical implications for the TAM, as they reveal that learning motivation significantly affects students' intention to use CALL and MALL in the future (Fan & Wang, 2023). Although the original version of TAM focuses on two central constructs, perceived usefulness and perceived ease of use as determinants of technology acceptance, in the present study it is supported that motivational aspects need to be considered in TELL environments. The significant effect of learning motivation implies that extended TAM model is an improved framework for explaining EFL students' acceptance of technology, and that this holds true especially for Indonesian vocational high school students (Li & He, 2025).

Prior research has demonstrated that both perceived ease of use and perceived usefulness influence individuals' intention to use a technology. When trying to find solutions for the problems. Although this study revealed a justice-based affirmative answer, in a past research also raised doubt about voluntary cooperation, a positive relation to overall organizational justice perceptions (i.e., distributive, procedural, interpersonal, and informational justice). This positive result could be related to the fact that the participants were already acquainted with the disease studied.

As well, learning motivation was the best predictor of behavioral intention (Willson & M, 2025). Highly motivated students had stronger intention to continue with digital technologies for language learning activities (An et al., 2023). This result highlights the view that motivational aspects of a technology play an important role in its acceptance beyond functional and technical aspects. CALL and MALL, which provide gamified learning, flexible access to materials, and the chance for learners to learn on their own, may contribute to raise students' intrinsic motivation since it has been argued that motivated learners are more likely to participate actively in mobile

assisted language learning environment (Alisoy & Sadiqzade, 2024).

The close relationships between perceived usefulness, perceived ease of use, learning motivation, and behavioral intention suggest that technology acceptance in language learning is a complex concept. According to (Chen & Yang, 2024) students tend to adopt digital technologies if they consider these tools to be useful, easy to use and entertaining. Therefore, including motivational factors in the Technology Acceptance Model (TAM) helps in better explaining the acceptance of mobile educational technologies by students in today's mobile-learning environment.

Regressions results indicated that the three predictors explained 70.9% of the variance of students' behavioral intention. This result means that the extension of TAM with learning motivation provides better comprehensive model for understanding technology acceptance in the context of CALL and MALL. So for the teachers and schools, it is crucial that they attend not only to techno-access but also to design of engaging and motivating digital learning environments.

Despite the findings, the study has some limitations. Firstly, this study was conducted at one vocational college, which may limit the generalizability of the findings. Secondly, using a quantitative method may be insufficient for understanding the complexity of students' feelings and perceptions as they are engaged in using technology. Future studies are recommended to employ mixed-method design and include participants from diverse educational settings to enhance the generalizability of the results.

CONCLUSION

In this study it is shown that technology acceptance and intrinsic learning motivation are the crucial factors to predict the efficacy of Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) in the context of English as a Foreign Language (EFL) education. The results showed that perceived usefulness, perceived ease of use, and learning motivation had significant effects on students' behavioral intention to using digital technologies for language learning (Ren & Tan, 2025). Students tend to engage more with CALL and MALL applications if they have faith that the technologies enhance the quality of their learning, facilitate learning efficiency, and allow them to have easy access to learning materials. Similarly, students showed more positive intentions toward digital learning technology adoption when the platform was more easy-to-use, convenient and friendly (Altawalbeh et al., 2023). The study also revealed that learning motivation was the most significant predictor of behavioral intention, implying that learners who are motivated are likely to be more actively involved in digital learning activities, more consistent in using learning materials, and more self-regulated in learning in a technology-enhanced learning environment. The research furthermore contributes to the extension of TAM by finding that including learning motivation in the model results in a better understanding of students' technology adoption behaviors, especially in the context of Indonesian vocational high schools where digital learning is becoming increasingly vital in enhancing communicative and practical English competencies (Arif et al., 2024).

Contributing to the growing body of TAM research in CALL/MALL, the study extends the TAM model by factoring in motivational aspects in mobile learning environments (Han & Chen, 2024). Technology acceptance and motivation type in combination present a more complete image of learner–digital platform interaction. From the pedagogical perspective, the results suggest that the teachers should design mobile learning tasks that are interactive, easily accessible, and learner-based so as to promote students' technological confidence and their intrinsic motivation(Wan & Zhang, 2025). The results also advise educational institutions to develop strong technological infrastructure and offer digital literacy assistance in order to enhance the efficiency and effectiveness of the execution of CALL/MALL.

Despite these contributions, the study has some limitations such as a relatively small sample size and a focus on a particular educational context (Branca, 2025). Future research is recommended to include a larger sample and different grade levels, as well as to compare additional factors such as self-efficacy, digital readiness, and group learning activities(Garzon & Garzon, 2023). Longitudinal studies might, thus, provide more profound insights into changes in technology acceptance and learning motivation in the fast-paced development context of mobile learning environments.

This study demonstrates that learning motivation is a significant and robust predictor of students' behavioral intention to use CALL and MALL technologies, complementing the traditional TAM constructs of perceived usefulness and perceived ease of use. The extended TAM model ($R^2 = 0.709$) provides a comprehensive framework for understanding technology

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acceptance in contemporary mobile learning environments. As educational institutions increasingly integrate digital technologies into language instruction, attending to both technological (PU, PEOU) and affective (motivation) dimensions will be essential for successful implementation(Lyu & Xiao, 2023) . The findings suggest that effective CALL and MALL integration requires not only functional and usable technologies but also pedagogies that stimulate and sustain learner motivation.

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