

## Technology Acceptance Among In-Service Teachers in Myanmar

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### ABSTRACT

Technological innovation is increasingly recognized as a transformative force driving educational change, especially within ASEAN contexts, where it promotes learner-centered pedagogies and flexible teaching practices. However, the effectiveness of such integration critically depends on teachers' acceptance, which is influenced by contextual and systemic factors. Using a quantitative survey design, this study examines technology acceptance among 590 in-service teachers in Myanmar. The results show generally positive levels of acceptance. Significant differences are also observed based on gender, designation, and teaching experience. Furthermore, technology acceptance is associated with the teachers' perceived technology usage and preferred pedagogical approaches. This study contributes to the existing literature by situating Myanmar's experiences within broader regional discussions and providing valuable insights for policymakers and higher education leaders seeking to align professional development, infrastructure upgrades, and sustainable educational reforms. It also suggests implementing blended and learner-centered approaches in teacher education institutions so that teachers will be prepared to cultivate resilient, digitally skilled citizens supported by the Sustainable Development Agenda.

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### Introduction

The rapid advancement of digital technologies under Industry 4.0 has transformed education systems worldwide. Across ASEAN member states, digital transformation has become central to promoting equitable, flexible, and learner-centered education that aims not only to strengthen 21st-century competencies but also to ensure equitable access to quality learning (Flórez et al., 2017; Fraillon et al., 2014).

Within the Education 4.0 paradigm, teachers are expected to do more than adopt new tools; they must transform pedagogical practices through innovative methods such as blended learning, flipped classrooms, project-based learning with digital tools, and AI-enabled personalized learning (Akturk et al., 2022; Huang et al., 2020). These approaches enhance student engagement, self-regulated learning, collaboration, and problem-solving, which are central to the ASEAN Learning Framework's goal of developing future-ready learners equipped with digital and transversal competencies (ASEAN Secretariat, 2022; UNESCO & SEAMEO, 2023).

In addition, frameworks such as the Southeast Asia Teacher Competency Framework (SEA-TCF) and the ASEAN Digital Literacy Framework emphasize the development of teachers' digital competence and pedagogical innovation to foster learner-centered pedagogies and personalized learning pathways (Flam et al., 2025). Similarly, the ASEAN Secretariat (2022, 2025) highlights digital literacy and transformation as key policy priorities for preparing students for the digital economy. However, the success of these innovations

is contingent upon teachers' willingness and acceptance of technology. Without such acceptance, innovations risk remaining policy ideals rather than classroom realities.

Previous studies reveal that teachers' reluctance often stems from perceptions of technology as inaccessible, time-consuming, inconvenient, or unnecessary (West et al., 2007). Such resistance hinders the integration of digital tools and obstructs opportunities to cultivate transformative, learner-centered environments. As McFarlane et al. (2024) argue, bridging the digital divide in ASEAN requires not only infrastructure investment but also fostering teacher readiness and confidence in technology use.

Despite this growing body of research, there remains limited empirical evidence on Myanmar, where technological infrastructure, policy priorities, and teacher professional development vary greatly from neighboring ASEAN countries. Although national strategies such as the Myanmar National Education Strategic Plan (2016–2021) highlight ICT integration, little is known about in-service teachers' perceptions, readiness, and pedagogical orientations.

Understanding how teachers perceive and adopt technology in relation to innovative pedagogical methods is, therefore, critical for aligning Myanmar's education system with ASEAN regional priorities. This study addresses this research gap by investigating technology acceptance among Myanmar's in-service teachers, linking demographic variables, perceived technology use, and preferred teaching styles within the TAM framework

to inform administrators, policymakers, and teacher trainers in advancing sustainable, technology-enabled innovation in teaching and learning.

### Literature Review

#### Technology Acceptance Models in Education

Among various theoretical frameworks, the Technology Acceptance Model (TAM) proposed by Davis (1989) has been one of the most widely applied models for explaining technology adoption in educational contexts. The model posits that actual system use is determined by behavioral intention (BI), which is shaped by users' attitudes (A) toward technology. Attitude, in turn, is influenced by two core determinants: perceived usefulness (PU) and perceived ease of use (PEOU). PU refers to the extent to which a user believes that technology enhances their task performance, while PEOU concerns the degree of effortlessness associated with its use (Davis, 1989, 2015). Numerous studies have validated the applicability of TAM in education, showing that teachers' perceptions of usefulness and ease of use strongly predict their willingness to adopt digital tools in classrooms (Pynoo et al., 2011; Teo & Noyes, 2014).

TAM's theoretical roots lie in the Theory of Reasoned Action (Fishbein, 1979) and the Theory of Planned Behavior (Ajzen, 1991). Over time, the model has been extended to increase its explanatory power. TAM2 (Venkatesh & Davis, 2000) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) incorporated additional determinants such as social influence, facilitating conditions, and moderating variables like age, gender, and self-efficacy (Abdullah & Ward, 2016;

Schepers & Wetzels, 2007). Later refinements, including UTAUT2 (Venkatesh et al., 2012) and the Integrative Model of Behavior Prediction (Fishbein & Ajzen, 2010), have been widely applied to explore technology adoption in education (Scherer et al., 2019).

The Technology Acceptance Model (TAM) (Davis, 1989) has been extensively validated across Southeast Asian contexts and remains one of the most widely applied frameworks for studying educators' digital adoption. Empirical studies in Thailand (Songkram & Osuwan, 2022), Malaysia (Raman & Don, 2013), Vietnam (Nguyen et al., 2021), Singapore (Teo, 2019), and the Philippines (Alieto et al., 2024) confirm that perceived usefulness and perceived ease of use strongly influence teachers' behavioral intentions to integrate technology. Similar validation of TAM and UTAUT across Indonesia (Machmud et al., 2021) demonstrates consistent predictive power of these constructs in explaining teachers' acceptance of educational technology.

#### Rationale for Using TAM in the Present Study

Despite the availability of more contemporary frameworks, this study employs the original TAM. The decision rests on both theoretical and contextual grounds. Theoretically, TAM is valued for its parsimony and predictive validity, providing a streamlined model with well-established constructs (PU and PEOU) that explain a large share of variance in technology adoption (Teo & Noyes, 2014). Its simplicity makes it particularly appropriate for exploratory research in settings where technology use is still emerging.

Contextually, Myanmar's education system is in the early stages of digital integration and continues to face significant challenges, including limited infrastructure, uneven connectivity,

and disparities in digital access (UNESCO & SEAMEO, 2023; ASEAN Secretariat, 2025). Recent ASEAN policy briefs emphasize that while facilitating conditions and social influence are critical in advanced integration phases, foundational perceptions of usefulness and ease of use remain the most immediate barriers to teachers' adoption of technology (ASEAN Secretariat, 2022; McFarlane et al., 2024). In such contexts, TAM offers a practical framework for capturing the core cognitive factors influencing teachers' initial acceptance, before extending analysis to broader environmental and social determinants.

Furthermore, TAM has been widely validated across Southeast Asian contexts, aligning with the ASEAN Learning Framework's call for learner-centered pedagogies and enhanced teacher digital competencies (Flam et al., 2025). Employing TAM in this study not only facilitates cross-comparison with prior international findings but also generates context-specific insights into Myanmar's teacher workforce. While models such as UTAUT and UTAUT2 may provide richer explanatory power

by incorporating facilitating conditions and social influence, their application may be more suitable for future studies once Myanmar advances further in its digital transformation journey.

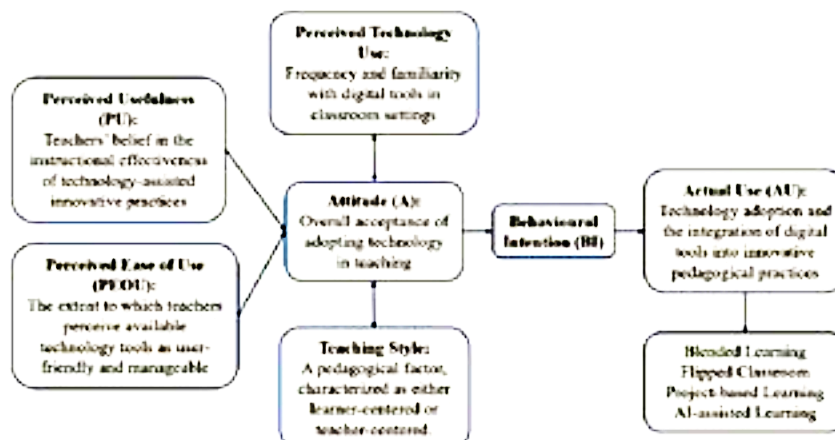
In summary, grounding this study in TAM enables a focused investigation into teachers' perceptions of usefulness and ease of use, offering an essential starting point for understanding technology acceptance in Myanmar.

### Conceptual Framework of the Study

The study adapts the Technology Acceptance Model (TAM) (Davis, 1989) to examine how in-service teachers in Myanmar accept and integrate educational technology within their pedagogical practices. TAM posits that two cognitive beliefs, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), shape teachers' Attitude Toward Technology Use, which subsequently influences their Behavioral Intention (BI) and Actual Use (AU) of technology, as illustrated in Figure 1.

Figure 1

Conceptual Framework based on TAM (Davis, 1989)



In the context of Myanmar's education system, PU refers to teachers' belief that technology enhances instructional effectiveness, facilitates student engagement, and supports innovative practices such as blended learning, flipped classrooms, project-based learning with digital tools, and AI-assisted personalized learning. PEOU reflects the extent to which teachers perceive these tools as user-friendly and manageable, given their existing skills and resources. Together, these factors shape teachers' overall attitude toward adopting technology or acceptance of technology-assisted modern pedagogies.

To contextualize TAM in Myanmar's teacher education environment, two additional external variables were incorporated: Perceived Technology Use and Teaching Style. Perceived Technology Use which represents the frequency and familiarity with digital tools in classroom settings, and Teaching Style, a pedagogical factor characterized as either *learner-centered* or *teacher-centered*, can influence both PU and PEOU. Teachers who frequently use technology or adopt learner-centered approaches are expected to perceive higher usefulness and ease of use, resulting in stronger behavioral intentions to use technology.

Thus, the revised conceptual framework integrates both technological and pedagogical dimensions of teacher practice, aligning fully with the study's three research questions. This contextualized framework further aligns with the ASEAN Learning Framework (ASEAN Secretariat, 2022, 2025), which prioritizes digital literacy, learner-centered pedagogy, and future-ready competencies. In this regard, Actual Use (AU) is conceptualized not merely as technology adoption but as the integration of digital tools into innovative pedagogical practices that

advance ASEAN's educational objectives. By situating TAM within Myanmar's infrastructural constraints and ASEAN's regional vision, this conceptual framework highlights how teachers' acceptance of technology serves as a gateway to broader pedagogical transformation.

### Research Objectives

This study aimed to investigate teachers' overall technology acceptance within the conceptual framework of the Technology Acceptance Model (TAM). Rather than analyzing each TAM construct separately, the model was operationalized as a unified construct representing teachers' integrated perceptions, attitudes, and behavioral intentions toward educational technology use. Specifically, the study sought to

- Investigate the significant differences, if any, in teachers' acceptance of technology according to their gender, designation, and teaching experiences
- Identify the association between in-service teachers' technology acceptance and their perceived use of technology in teaching
- Examine the association between in-service teachers' technology acceptance and their preferred teaching style.

### Participants

The target population of this study consisted of in-service basic education teachers across Myanmar. To ensure representation from different regions and school types, a stratified

random sampling method was employed. First, the population was divided into strata based on geographical regions (e.g., urban, semi-urban, rural areas) and school levels (primary, middle, and high school). Within each stratum, teachers were then randomly selected to participate. This approach was chosen to reduce sampling bias and to capture the diversity of teaching contexts in Myanmar.

A total of 590 in-service teachers (male = 269, female = 321) participated in the study. Participants came from various parts of Myanmar, with teaching experience ranging from less than 5 years to more than 20 years. However, it should be noted that the sample was somewhat skewed towards teachers with longer teaching experience, as more senior teachers were proportionally more available and accessible during data collection. This demographic imbalance is acknowledged as a limitation of the study, as the perspectives of novice teachers may be underrepresented.

### Methodology

#### Research Design

This study employed a quantitative research design using a structured questionnaire survey method. The design was chosen because it allows for the systematic collection and analysis of measurable data related to teachers' acceptance of technology.

#### Instruments

Two instruments were used in this study:

**Technology Acceptance Questionnaire (Venkatesh et al., 2003).** This instrument consists of 33 items measuring

constructs such as perceived usefulness, perceived ease of use, attitude toward technology, and behavioral intention to use technology. Responses were recorded on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

**Reliability:** The internal consistency reliability (Cronbach's alpha) for the full scale was .86 in this study, which is considered acceptable.

**Validity:** To establish content validity for the Myanmar context, the questionnaire was reviewed by a panel of five experts in educational technology and teacher education. The experts evaluated the items for clarity, cultural appropriateness, and relevance. Necessary revisions were made based on their feedback (e.g., minor wording adjustments for contextual clarity). In addition, a pilot test was conducted with 30 in-service teachers who were not part of the main study sample. Their responses were used to refine ambiguous items. Finally, Confirmatory Factor Analysis (CFA) was conducted to validate the structure of the Technology Acceptance scale adapted from Venkatesh et al. (2003). The analysis yielded a single-factor solution ( $\chi^2(480) = 1124.53, p < .001, CFI = .94, TLI = .92, RMSEA = .056, SRMR = .041$ ), explaining 47.8% of the variance with factor loadings ranging from .52 to .81.

While the original TAM distinguishes among *Perceived Usefulness*, *Perceived Ease of Use*, *Attitude toward Use*, and *Behavioral Intention*, the current data

demonstrated strong intercorrelations among these dimensions. This convergence supports treating technology acceptance as a higher-order, unidimensional construct, representing teachers' overall positive orientation toward technology use. Similar unidimensional patterns have been observed in other Southeast Asian studies where contextual and cultural factors lead to more holistic perceptions of technology adoption (Nguyen et al., 2021; Teo & Noyes, 2014).

Accordingly, the present study conceptualizes technology acceptance as an aggregate latent factor that captures the integrated effects of the original TAM constructs. This interpretation remains congruent with TAM theory, as it reflects the cumulative influence of cognitive and attitudinal beliefs on behavioral intention and use.

**Teachers' Demographic Form.** This form, developed by the researcher, collected background information including gender, age, years of teaching experience, school level (primary, middle, high school), subject taught, and geographic region.

### Data Collection Procedures

The data collection took place in June 2024. The process followed several steps. First, approval was obtained from the relevant educational authorities and school administrators before approaching teachers. Then, teachers were provided with an informed consent form that clearly explained the purpose of the study, the voluntary nature of participation, the estimated time to complete

the survey, assurances of confidentiality and anonymity, and their right to withdraw at any stage without penalty. Consent was obtained in writing before participation. Questionnaires were distributed in both paper-based and digital formats (depending on region and accessibility). Researchers provided standardized instructions to ensure consistency and offered clarification when requested. Teachers completed the survey individually in their own time.

### Data Analysis

Quantitative data were analyzed using IBM SPSS Version 26. Descriptive statistics summarized demographic variables and acceptance levels. Independent-samples *t*-tests and one-way ANOVA tested group differences (Research Question 1). Chi-square tests assessed associations between technology acceptance and (a) perceived technology use and (b) preferred teaching style (Research Questions 2 and 3). Statistical significance was evaluated at  $p < .05$ .

## Results and Discussion

### Demographic Distribution and Initial Insights into Technology Acceptance

Of the 600 questionnaires collected, 10 were excluded due to incomplete responses, leaving 590 valid cases for analysis. Table 1 presents the frequency distribution derived from the Teachers' Demographic Form. The results indicate that 30.5% of teachers reported infrequent use of technology in their teaching practice, underscoring the need for systematic professional development to strengthen teachers' digital competence. Additionally, 42.7% of respondents expressed a preference for teacher-

**Table 1**

*Frequency Distributions of Responses on Teachers' Demographic Form*

Variable	Responses	Frequency	Percentage
Gender	Male	269	45.6%
	Female	321	54.4%
Designation	Senior Teachers	205	34.7%
	Junior Teachers	197	33.4%
	Primary Teachers	188	31.9%
Teaching Experiences	Less than 10 years	233	39.5%
	10 years and above	357	60.5%
Perceived Use of Technology in Teaching	Rarely	180	30.5%
	Frequently	305	51.7%
	Almost Always	105	17.8%
Preferred Teaching Style	Teacher-centered	252	42.7%
	Learner-centered	338	57.3%

centered instructional approaches, revealing a continued reliance on traditional pedagogy. This highlights the necessity of reorienting teachers' instructional beliefs toward learner-centered models that align with students' expectations and contemporary educational demands (Lim, 2021).

**In-Service Teachers' Technology Acceptance**

Descriptive statistics revealed a mean technology acceptance score of 117.94 (SD = 10.40), corresponding to 57.53% of the maximum possible score (see Table 2). These results suggest that Myanmar's in-service teachers exhibit

**Table 2**

*Descriptive Statistics on In-Service Teachers' Technology Acceptance*

Variable	N	M	M%	SD
Technology Acceptance	590	117.94	57.53%	10.4

a moderate level of technology acceptance, reflecting cautious but incomplete integration of digital tools in classroom practice.

**RQ1: Differences in Teachers' Technology Acceptance by Gender, Designation, and Teaching Experience**

Independent-samples *t*-tests and ANOVA revealed significant differences in technology acceptance by gender, designation, and teaching experience. Male teachers (M = 121.30, SD = 9.83) reported significantly higher acceptance than female teachers (M = 117.21, SD = 10.39),  $t(588) = 2.99, p < .01$ . High school teachers (M = 119.25, SD = 10.18) scored higher than primary school teachers (M = 115.23, SD = 10.41),  $F(2, 587) = 4.75, p < .01$ . Teachers with more than 10 years of experience also demonstrated significantly higher acceptance (M = 118.33, SD = 10.34) than less experienced teachers (M = 113.67, SD = 10.19),  $t(588) = -2.48, p < .05$ .

These differences reflect sociocultural and institutional dynamics shaping teachers' professional identities in Myanmar. Male teachers' higher acceptance aligns with regional studies noting gender-based disparities in ICT confidence (Teo & Noyes, 2014). Within Myanmar, male teachers often occupy administrative or higher-status roles, affording greater access to digital systems and training (Htwe, Myae & Hlaing, 2021). Female teachers, who dominate the primary teaching workforce,

tend to experience heavier workloads and fewer opportunities for ICT upskilling, which may hinder their perceived ease of use.

Differences across designations further reveal how pedagogical roles shape digital adoption. High school teachers' stronger acceptance likely stems from the subject-driven nature of secondary education, where digital tools support assessment and resource management. Similar patterns were reported in Vietnam (Pham & Vo, 2022) and Thailand (Boonyanant et al., 2021), where institutional support and curriculum alignment encouraged greater technology uptake.

Experienced teachers' higher acceptance reflects the cumulative benefits of exposure and familiarity with ICT initiatives. Many senior teachers in Myanmar have participated in SEAMEO or ministry-led digital literacy programs, while novice teachers, especially those in rural areas, face infrastructural barriers such as unreliable internet and limited equipment (UNESCO, 2023). These contextual challenges lower perceived ease of use and can inhibit positive attitudes toward technology.

Overall, these demographic patterns confirm the Technology Acceptance Model (TAM) premise that both individual attributes and contextual enablers shape users' perceptions of usefulness and ease of use. The Myanmar findings highlight that acceptance is not merely attitudinal but is tied to access and institutional opportunity.

Addressing these disparities requires targeted professional learning strategies, particularly for female and primary-level teachers, to enhance digital confidence and equitable participation in Myanmar's ongoing educational transformation.

**RQ2: Association between Technology Acceptance and Perceived Technology Use**

Chi-square analysis revealed a significant association between acceptance levels and frequency of technology use,  $\chi^2 (4, N = 590) = 287.67, p < .001$ , Cramer's  $V = 0.61$  (see Table 3). Teachers with high acceptance were more likely to frequently integrate technology, while those with low acceptance reported rare use.

**Table 3**

*Association between In-Service Teachers' Technology Acceptance Level and Perceived Use of Technology in Teaching*

	Rarely	Sometimes	Perceived Use of Technology			$\chi^2$	p	
			Often	Total				
Technology Acceptance Level	Low	N	146	47	6	287.67***	.000	
		%	73.3%	23.6%	3.1%			
	Moderate	N	23	198	12			233
		%	9.9%	85%	5.1%			100%
	High	N	11	60	87			158
		%	6.9%	37.9%	55.2%			100%
Total	N	180	305	105	590			
	%	30.5%	51.7%	17.8%	100%			

\*\*\* $p < .001$ , Cramer's  $V = 0.607$

This finding demonstrates how psychological readiness and actual digital practice reinforce one another. Teachers who view technology as useful and manageable are more likely to apply it in teaching, supporting TAM's proposition that attitudes and intentions predict behavior (Davis, 1989; Venkatesh et al., 2003). Within Myanmar, high-acceptance teachers tend to work in environments offering stable internet access, administrative encouragement, and exposure to ICT-focused programs (SEAMEO & UNESCO, 2023). These enabling contexts both enhance positive attitudes and facilitate consistent technology use.

Positive early experiences with technology also appear to strengthen adoption. Successful integration of multimedia or online learning tools can increase teachers' confidence, reinforcing perceived usefulness and ease of use. This reciprocal relationship has been observed across ASEAN; for instance, Thailand's ICT in Education Masterplan (2017) identified perceived usefulness as a key predictor of classroom technology use, while Alieto et al. (2024) found in the Philippines that teacher attitudes directly influenced usage frequency, even amid infrastructural constraints.

Similar patterns emerge regionally, as Pham and Vo (2022) in Vietnam and Wu et al. (2023) in China reported that high acceptance predicted greater use only when institutional readiness and leadership support were present. Myanmar mirrors this trend: teachers in better-resourced and supportive schools demonstrate consistent technology integration, whereas others struggle despite positive intentions.

Together, these results confirm that acceptance and use frequency are mutually reinforcing processes influenced by Myanmar's infrastructural and cultural realities. Increasing technology use thus requires a dual focus: improving access and nurturing teachers' self-efficacy through sustained professional development.

### **RQ3: Association between Technology Acceptance and Preferred Teaching Style**

Chi-square analysis demonstrated a significant association between teaching style and technology acceptance,  $\chi^2(2, N = 590) = 6.76$ ,  $p < .001$ , Cramer's  $V = 0.13$ . Teachers favoring learner-centered approaches demonstrated higher acceptance, while those preferring

**Table 4**

*Association between In-service Teachers' Technology Acceptance Level and Preferred Teaching Style*

Low Moderate		Technology Acceptance Level					$\chi^2$	p
		High	Total					
Teacher-centered	N	133	107	12	252	6.758***	.000	
	%	52.8%	42.4%	4.8%	100%			
Learner-centered	N	56	116	166	338			
	%	16.6%	34.3%	49.1%	100%			
Total	N	199	233	158	590			
	%	33.7%	39.5%	26.8%	100%			

\*\*\* $p < 0.001$ , Cramer's  $V = 0.132$

teacher-centered approaches reported lower acceptance.

Pedagogical orientation significantly shapes openness to technology. In Myanmar's classrooms, where traditional teacher-centered methods have long prevailed, educators adopting learner-centered philosophies tend to see ICT as compatible with their goal of fostering inquiry, collaboration, and autonomy (Lwin & Khine, 2020). In contrast, teacher-centered practitioners often perceive digital tools as incompatible with rigid, exam-focused instruction.

This association aligns with regional and international findings. Sakata et al. (2022) reported that learner-centered pedagogy promotes ICT adoption in developing education systems by encouraging experimentation and reflective practice. Similarly, Hsu (2020) and Lim (2021) observed that constructivist teaching beliefs predict higher technology use. Within ASEAN, Singapore's "Teach Less, Learn More" initiative demonstrated how policy frameworks promoting student-centered learning accelerate technology integration (Fraillon et al., 2014).

In Myanmar, these patterns are especially relevant to ongoing reforms under the National Education Strategic Plan (NESP 2016–2021), which promotes child-centered learning as a core standard (Ministry of Education [MOE], 2019). Teachers trained through SEAMEO and NGO-led digital pedagogy programs report greater engagement with technology and higher perceived usefulness (Aung & Lwin, 2020; SEAMEO & UNESCO, 2023). Conversely, those maintaining traditional teaching styles often encounter conceptual dissonance, viewing ICT as a challenge to hierarchical classroom norms and time-pressured syllabi.

Thus, pedagogical beliefs act as both cognitive and cultural mediators of technology acceptance. Learner-centered teachers view technology as a vehicle for active learning, while teacher-centered counterparts may regard it as peripheral to instruction. Building digital adoption therefore requires not only infrastructure but also pedagogical transformation, helping teachers align technology use with their instructional philosophies through reflective, context-sensitive professional development.

## Major Findings and Implications

This study provides new empirical insights into how Myanmar's in-service teachers engage with technology, revealing that acceptance is shaped by a dynamic interaction among demographic characteristics, behavioral tendencies, and pedagogical orientations. Together, the findings highlight that technology acceptance is not simply a matter of attitude but a reflection of how social structures, institutional environments, and professional identities converge in shaping teachers' digital readiness.

The observed gender, designation, and experience-based disparities highlight persistent inequities in teachers' access to digital opportunities. Male and more experienced teachers displayed greater technology acceptance, suggesting that systemic advantages, such as administrative access, exposure to training, and leadership roles, amplify digital confidence (Teo & Noyes, 2014). In contrast, female and early-career educators may face hidden barriers, including time constraints, cultural expectations, and limited institutional support. Addressing these disparities requires gender-sensitive and tiered capacity-building initiatives.

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National training programs should incorporate differentiated pathways, ensuring that teachers at various career stages can acquire digital competencies through structured mentoring, peer collaboration, and sustained professional learning communities. This approach is consistent with global evidence that equitable ICT policies improve long-term adoption outcomes (Diseko, 2022; Nguyen et al., 2020).

The strong linkage between technology acceptance and frequency of use affirms that positive attitudes translate into sustained pedagogical application when adequate support mechanisms exist. Yet, the Myanmar findings also demonstrate that acceptance alone does not ensure consistent technology use without stable infrastructure and institutional reinforcement. Teachers who perceived technology as both useful and manageable were those embedded in schools with leadership encouragement, accessible digital tools, and a supportive peer culture.

Thus, future policy interventions should shift from short-term training models toward ecosystem-based strategies that strengthen infrastructure, institutional readiness, and teacher agency simultaneously. Providing reliable connectivity and localized learning management systems, coupled with recognition mechanisms for innovative teaching, will help sustain motivation and integration (SEAMEO & UNESCO, 2023; Venkatesh et al., 2003). These systemic enhancements are particularly vital in rural Myanmar, where infrastructural inequality remains a core barrier to technology-enabled teaching.

The finding that learner-centered educators exhibit stronger technology acceptance reinforces the theoretical position that

pedagogical beliefs serve as cognitive filters for technology adoption. Teachers embracing student-centered approaches perceive ICT as a facilitator of inquiry and collaboration, while those adhering to traditional models view it as disruptive to instructional control (Lim, 2021; Sakata et al., 2022). This insight points to the need for pedagogical transformation alongside digital investment. Pre-service and in-service teacher education should emphasize integrated digital pedagogy—not treating technology as an external tool but as an embedded component of effective teaching. Collaborative lesson design, peer observation, and reflective practice should be institutionalized within teacher professional development frameworks. By linking digital literacy with pedagogical innovation, Myanmar can foster a generation of teachers who see ICT as a medium for empowerment rather than compliance.

As theoretical and policy-level contributions, the findings extend the Technology Acceptance Model (TAM) by situating it within a developing Southeast Asian context, demonstrating that perceived usefulness and ease of use are contingent on local realities such as gender norms, institutional culture, and policy enactment. This contextualization enriches TAM by showing its adaptability in environments where infrastructural and sociocultural constraints intersect.

At the policy level, sustained investment in ICT infrastructure, harmonized teacher competency standards, localized digital resources, and cross-border ASEAN collaborations are critical for equitable and sustainable technology adoption. Sustained investment in broadband infrastructure, resource equity, and regional collaboration through

ASEAN's Digital Literacy and Education Transformation Framework (ASEAN Secretariat, 2025) can support systemic coherence. Additionally, embedding continuous feedback loops between schools and policymakers will ensure that reform efforts remain grounded in classroom realities.

Ultimately, the study's findings highlight that advancing digital transformation in Myanmar's education system requires aligning three interdependent pillars:

1. equitable access to digital infrastructure,
2. sustained teacher empowerment through professional learning, and
3. pedagogical reform toward learner-centered education.

Integrating these components can create the enabling conditions under which technology acceptance evolves from an individual trait into a collective professional norm, one that places Myanmar's teachers at the forefront of regional digital innovation.

### Conclusion

The primary objective of this study was to examine the technology acceptance of in-service teachers in Myanmar by exploring demographic characteristics, teaching experience, technology use, and pedagogical orientation within the framework of the Technology Acceptance Model (TAM). This investigation fills a major gap in the literature, as few empirical studies have systematically analyzed technology acceptance in Myanmar's educational sector compared to other ASEAN contexts. By embedding the analysis within

the broader regional discourse on digital transformation and teacher readiness, the study not only validates the applicability of TAM in an under-researched setting but also contributes to ASEAN's shared Education 4.0 vision of innovation, inclusivity, and equity in digital pedagogy.

The analysis of demographic characteristics revealed meaningful disparities in technology acceptance. Male teachers, high school educators, and those with more extensive teaching experience reported significantly higher levels of acceptance than their counterparts. These outcomes are consistent with TAM's theoretical assumptions that perceived usefulness and ease of use are moderated by familiarity, experience, and exposure to technological environments. The results also align with regional studies indicating that senior or higher-ranking teachers often display stronger acceptance due to increased institutional exposure and leadership responsibilities. The results extend existing theoretical frameworks by highlighting the importance of socio-institutional variables such as role hierarchy and access to professional development in shaping behavioral intention. In the Myanmar context, these demographic patterns indicate that technological confidence grows not merely through personal motivation but through sustained exposure, mentorship, and institutional trust.

A strong relationship was observed between teachers' frequency of technology use and their overall acceptance levels. Teachers who integrated digital tools more consistently tended to perceive greater usefulness, reinforcing TAM's claim that behavioral intention is strongly tied to perceived utility. Furthermore, teachers who embraced learner-centered pedagogical approaches reported

higher acceptance compared to those who favored traditional teacher-centered methods. These findings resonate with national initiatives in neighboring countries such as Thailand's ICT in Education Masterplan (2017) and Singapore's Smart Nation initiative, which demonstrate that pedagogical orientations interact with technology perceptions. These findings expand the theoretical reach of TAM by integrating pedagogical belief systems into its attitudinal components, suggesting that technology acceptance is influenced not only by cognitive evaluation but also by philosophical alignment with constructivist approaches to teaching and learning.

Taken together, the results indicate that Myanmar's in-service teachers possess a moderate level of technology acceptance shaped by both structural conditions and personal pedagogical orientations, yet face systemic barriers including limited infrastructure and insufficient policy support. Theoretically, the study reaffirms TAM's robustness in diverse cultural settings, while also demonstrating its contextual adaptability. Practically, it underscores the necessity of connecting digital training with pedagogical innovation to ensure technology serves as a catalyst for interactive learning rather than as a supplementary tool. At the policy level, alignment with ASEAN's Digital Literacy and Education Transformation Framework can guide the harmonization of teacher competency standards, infrastructural investment, and inclusive professional learning systems that promote equitable digital participation nationwide.

Conducting this study has offered the author deeper insights into the interplay between teachers' beliefs, institutional realities, and systemic readiness. Engaging with educators

across different backgrounds illuminated how digital transformation in education extends beyond technology itself to encompass issues of culture, leadership, and empowerment. This reflective process has reinforced the importance of empathy and contextual sensitivity in educational innovation and also inspired the researcher to pursue further cross-cultural investigations within ASEAN to uncover both shared patterns and context-specific challenges in digital pedagogy.

While this study provides meaningful contributions, several limitations must be acknowledged. The reliance on self-reported data may introduce bias, and the cross-sectional design restricts causal interpretation. The exclusion of pre-service teachers who may hold different perspectives on technology use and administrators narrows the scope of generalization, and regional disparities in ICT infrastructure might have influenced teachers' experiences unevenly. Future investigations should employ mixed-methods approaches, incorporating classroom observations, interviews, and longitudinal tracking to triangulate behavioral data with self-perceptions. Expanding the sample to include pre-service teachers and other educational contexts, such as schools from remote regions, would yield a more comprehensive understanding of Myanmar's digital education landscape.

Looking ahead, longitudinal studies are needed to track how teachers' acceptance evolves alongside improvements in Myanmar's digital infrastructure and digital training initiatives. Comparative studies across ASEAN countries could identify best practices and shared constraints in fostering technology-supported pedagogy. Investigations into emerging innovations, such as artificial intelligence, adaptive learning systems, and

mobile platforms, may reveal new dimensions of teacher acceptance and student engagement. Collaborative, interdisciplinary research linking education, psychology, and information systems can further refine TAM-based models to reflect the sociocultural complexities of developing contexts. Through such work, Myanmar and its ASEAN partners can move toward a more cohesive, inclusive, and future-ready educational ecosystem.



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