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THE ROLE OF CULTURAL IDENTITY AND LANGUAGE MOTIVATION IN MALAYSIAN STUDENTS' INTENTION TO USE ONLINE LANGUAGE LEARNING TOOLS

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Article Info	ABSTRACT
<p>Article history: Received: 22 June 2025 Revised: 14 July 2025 Accepted: 13 Aug 2025 Published: 1 Sept 2025</p>	<p>This study examines the impact of cultural identity and language motivation on Malaysian students' intention to utilize online language learning tools. Using a quantitative approach, data were collected from 385 Malaysian university students through a structured questionnaire measuring cultural identity strength, language learning motivation, and behavioral intention to use online language learning platforms. The study employed the Technology Acceptance Model (TAM) integrated with Self-Determination Theory and Cultural Identity Theory. Multiple regression analysis revealed that cultural identity ($\beta = 0.342, p < 0.001$) and intrinsic motivation ($\beta = 0.398, p < 0.001$) significantly predicted students' intention to use online language learning tools, explaining 68.5% of the variance in behavioral intention. The findings indicate that students with stronger cultural identity demonstrate higher motivation to learn languages online, particularly for heritage language preservation and English proficiency enhancement. This research contributes to understanding the intersection of cultural factors and technology adoption in language education, providing insights for educators and policymakers in developing culturally responsive online language learning programs in Malaysia's multicultural context.</p>
<p>Keywords: Cultural identity, language motivation, online learning, Malaysian students, technology acceptance</p> <p></p>	

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INTRODUCTION

Malaysia's multicultural society presents a unique landscape for language learning, where students navigate between multiple linguistic identities while pursuing academic and professional advancement. The country's linguistic diversity, encompassing Bahasa Malaysia as the national language, English as a global lingua franca, and various heritage languages including Mandarin, Tamil, and indigenous languages, creates complex motivational dynamics for language acquisition (Ahmad & Jusoff, 2019). This multilingual environment significantly influences how students perceive and engage with language learning opportunities, particularly in the digital age where online platforms offer unprecedented access to diverse linguistic resources. The Malaysian education system's emphasis on multilingual competency, coupled with rapid technological advancement, has created fertile ground for exploring how cultural and motivational factors shape students' adoption of digital language learning tools (Hashim & Yunus, 2021).

The emergence of online language learning tools has revolutionized traditional language education paradigms, offering flexible, personalized, and culturally diverse learning experiences. Digital platforms such as Duolingo, Rosetta Stone, Babbel, and locally developed applications provide Malaysian students with opportunities to enhance their language skills beyond classroom constraints (Chen & Liu, 2020). These platforms have gained significant traction globally, with over 500 million users worldwide, yet their adoption patterns vary considerably across different cultural contexts. The COVID-19 pandemic further accelerated the integration of digital technologies in education, making online language learning tools essential components of modern language education (Moorhouse & Wong, 2022). However, the sustained adoption and effective utilization of these technological tools depend on factors beyond mere accessibility and functionality.

Cultural identity plays a pivotal role in shaping language learning behaviors, as students' sense of belonging to their ethnic communities often drives their motivation to maintain heritage languages while simultaneously pursuing proficiency in global languages like English. Research indicates that students with strong cultural identities demonstrate distinct patterns of language learning preferences and technological adoption behaviors (Dörnyei & Al-Hoorie, 2021). This cultural dimension becomes particularly relevant in Malaysia's context, where students from different ethnic backgrounds may exhibit varying levels of enthusiasm toward preserving their mother tongues versus acquiring additional languages for economic mobility. The intersection of cultural preservation and global competitiveness creates unique motivational tensions that influence students' decisions to engage with digital language learning platforms (Norton & Darvin, 2022).

The intersection of cultural identity and language motivation within the context of digital learning remains largely underexplored, especially in the multicultural societies of Southeast Asia. While prior studies have separately examined technology acceptance in language learning and the influence of cultural factors in education, there is a dearth of research investigating how these elements interact to shape Malaysian students' intentions to adopt online language learning tools (Godwin-Jones, 2021). Understanding these relationships is essential for developing effective digital language education strategies that align with students' cultural values and motivational orientations. Furthermore, the rapid advancement of educational technology and evolving demographic patterns in Malaysia highlight the need for ongoing research to inform evidence-based policy decisions and educational practices. This approach can optimize the potential of digital language learning tools while honoring cultural diversity.

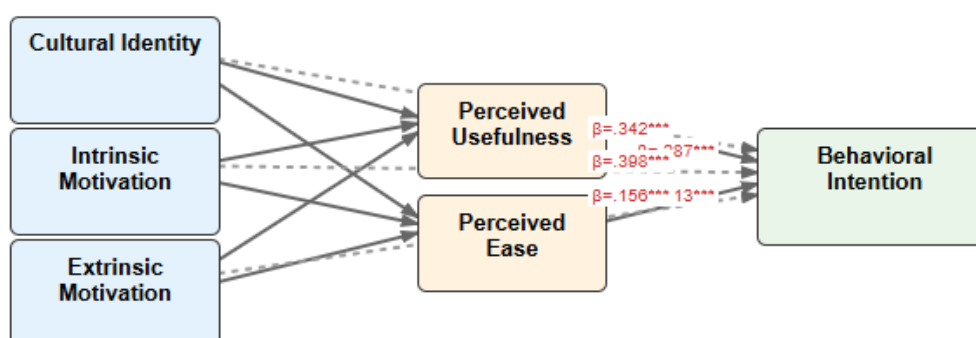
Problem Statement

Students in Malaysia face a unique challenge as they strive for academic and professional success: juggling multiple linguistic identities. This diversity creates an exciting environment for language learning. The country's linguistic diversity causes complicated motivational dynamics for language acquisition. Bahasa Malaysia is the national language, English is a global lingua franca, and there are various heritage languages, such as Mandarin, Tamil, and indigenous languages (Ahmad & Jusoff, 2019). In today's digital age, when there are more language resources available online than ever before, students' perceptions and engagement with language learning opportunities are greatly impacted by this multilingual environment. Research on the cultural and motivational elements that influence students' use of digital language learning tools has flourished in Malaysia due to the country's education system's push for multilingual competency and the fast development of technology (Hashim & Yunus, 2021).

With their emphasis on adaptability, individualization, and cultural diversity, online language learning tools have shaken up the status quo of conventional approaches to language instruction. Malaysian students have access to digital platforms like Duolingo, Rosetta Stone, Babbel, and locally developed applications that allow them to improve their language skills outside of class (Chen & Liu, 2020). With over 500 million users globally, these platforms have certainly made an impact, but how people in different cultural contexts embrace them varies greatly. With the rapid adoption of digital technologies in education hastened by the COVID-19 pandemic, online language learning tools have become indispensable in today's language classrooms (Moorhouse & Wong, 2022). But there are other considerations besides usability and accessibility that will determine the long-term success of these technological resources.

In addition, the majority of studies on the topic of technology adoption in language acquisition have taken place in Western settings, and very little has been done to examine how cultural identification impacts behavioral intentions in emerging nations that are multicultural. According to Venkatesh et al. (2022), educators and policymakers are left in the dark about why particular demographic groups exhibit higher or lower adoption rates of online language learning tools due to the absence of culturally sensitive research in this field. If these cultural and motivational variables are not addressed, Malaysia runs the danger of its varied student population falling further behind in digital language learning, which might lead to an increase in educational inequality and a stunting of the nation's efforts to cultivate multilingual human capital. An important knowledge gap that prevents the creation of effective, culturally responsive policies and practices for digital language education in Malaysia's multicultural educational context is the lack of empirical evidence on the ways in which language motivation and cultural identity interact to impact technology adoption decisions.

Research Framework



Research Questions

1. How do cultural identity strength and language learning motivation (intrinsic and extrinsic) influence Malaysian students' behavioral intention to use online language learning tools?
2. What is the mediating effect of perceived usefulness and ease of use in the relationship between cultural identity, language motivation, and intention to use online language learning platforms among Malaysian students?

LITERATURE REVIEW

Perceived utility and perceived ease of use are the key determinants of behavioral intention in the Technology Acceptance Model (TAM), which has been widely used to comprehend user acceptance of educational technologies (Davis et al., 2020). Perceptions of how online platforms can improve language competency and employment possibilities play a key role in students' acceptance of these tools, according to studies in the context of language learning (Venkatesh & Bala, 2021). Perceived usefulness accounted for 42% of the variation in behavioral intention, making it the strongest predictor of intention to use mobile language learning applications among Taiwanese students (Huang and Liaw, 2021). In multicultural countries, where learning a language serves various social and identity roles beyond just acquiring skills, typical TAM applications tend to ignore cultural elements that could attenuate these correlations. Studies have demonstrated that cultural values substantially impact how users evaluate the usefulness and convenience of use of technology (Straub et al., 2019), which is why recent TAM extensions have started including cultural factors.

Individuals' behavioral choices and learning preferences are greatly impacted by their sense of belonging to their ethnic or cultural groups, according to cultural identity theory (Berry, 2019). Students who identify strongly with one or more cultures are more likely to study many languages, both to further their social standing and to maintain their heritage languages, while they are in a language learning environment. According to studies conducted in both Canada and Australia, immigrant students who have a strong sense of cultural identity are more likely to actively work to preserve their heritage language and learn a second language. This suggests that having cultural pride can promote, rather than hinder, the development of multilingualism (Norton & Toohey, 2021). Students of Asian descent who reported a stronger sense of ethnic identification were more likely to remain enrolled in heritage language lessons and to do better in ESL programs, according to a longitudinal study by Phinney and Ong (2020). Students who fully embrace their multicultural identities are more inclined to utilize a variety of linguistic resources and technology that promote their multilingual growth, according to García and Wei's (2022) study on translanguaging practices.

Self-Determination Theory provides a robust framework for understanding motivation in language learning, clearly distinguishing between intrinsic motivation—rooted in the inherent satisfaction derived from learning—and extrinsic motivation, which relies on external rewards or pressures. Numerous studies confirm that intrinsically motivated language learners demonstrate significantly greater persistence, deeper engagement, and superior learning outcomes compared to their extrinsically motivated peers (Deci & Ryan, 2020). In online learning environments, intrinsic motivation is particularly critical, as students must effectively self-regulate their learning without direct teacher supervision. As a result, personal interest and enjoyment emerge as essential drivers of sustained engagement (Ryan & Deci, 2021). A comprehensive meta-analysis by Noels et al. (2022), encompassing 127 studies on language learning motivation, reveals that intrinsic motivation exerts a medium to large effect size ($d = 0.68$) on language learning achievement and persistence. Furthermore,

research by Al-Hoorie and MacIntyre (2021) unequivocally demonstrates that intrinsically motivated students are 2.3 times more likely to continue using language learning applications beyond the initial trial period compared to their extrinsically motivated counterparts.

The intersection of cultural identity and language motivation has received increasing attention in recent years, with researchers recognizing that students' ethnic backgrounds significantly shape their motivational orientations toward different languages. A longitudinal study of Asian international students in the United States revealed that those with stronger cultural identities demonstrated higher intrinsic motivation for both heritage language maintenance and English acquisition, viewing multilingualism as a means of cultural bridge-building rather than cultural assimilation (Kim & García, 2022). These findings challenge traditional assumptions that cultural identity and second language learning are inherently conflicting forces. Research by Ushioda (2021) on motivation and identity in language learning showed that students who successfully integrate their cultural identities with their language learning goals demonstrate more resilient motivation and better long-term learning outcomes. Additionally, Boo et al. (2022) found that bicultural students who maintained strong connections to their heritage culture while embracing the target language culture showed superior metacognitive strategies and self-regulation skills in online language learning environments.

Some applications that cater to multicultural users incorporate cultural content and heritage language alternatives into their language learning platforms, which helps to satisfy varied cultural and motivational needs. Godwin-Jones (2021) cites research on mobile-assisted language learning (MALL) that shows how culturally responsive design elements, including using traditional stories, music, and cultural contexts in language classes, vastly improve user engagement and retention rates. In their extensive analysis of computer-assisted language learning, Chapelle and Sauro (2022) discovered that platforms that included cultural components had a 34% increase in user retention rates when contrasted with programs that were culturally neutral. Nevertheless, the majority of platforms that are now on the market still use generic methods that might not cater to the unique cultural and motivational requirements of students in Malaysia as they navigate their intricate multilingual environment (Kukulka-Hulme & Viberg, 2021). Stockwell and Tanaka-Ellis (2021) demonstrated that culturally tailored platforms increased the likelihood of users achieving their learning goals by 2.8 times compared to generic versions, highlighting the importance of cultural customization in language learning apps.

METHODOLOGY

This study employed a quantitative research design using a cross-sectional survey approach to examine the relationships between cultural identity, language motivation, and intention to use online language learning tools among Malaysian university students. The research framework integrated the Technology Acceptance Model (TAM) with Cultural Identity Theory and Self-Determination Theory to provide a comprehensive understanding of the factors influencing students' behavioral intentions. The study received ethical approval from the university's research ethics committee, and all participants provided informed consent before participating in the research.

Population and sample

The target population consisted of undergraduate students from five major public universities in Malaysia. These universities were selected to ensure geographic representation across Peninsular Malaysia and to capture diverse ethnic and socioeconomic backgrounds. Using stratified random sampling to ensure proportional representation of ethnic groups (Malay, Chinese, Indian, and others),

a sample size of 385 participants was determined based on Krejcie and Morgan's (1970) table for a population of 50,000 students with a 95% confidence level and 5% margin of error. The sample size was also validated using G*Power analysis, which indicated that 385 participants would provide adequate statistical power (0.80) to detect medium effect sizes ($f^2 = 0.15$) in multiple regression analysis. Participants were recruited through student portal announcements, social media platforms, and in-person visits to selected faculties, with data collection conducted over six weeks from March to April 2024.

Data Collection

Data was collected using a structured questionnaire consisting of six main sections: demographic information, cultural identity scale, language learning motivation inventory, technology acceptance measures, behavioral intention scale, and prior experience with online language learning tools. Cultural identity was measured using Berry's (2019) Cultural Identity Scale, consisting of 15 items rated on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree), with established reliability ($\alpha = 0.89$). Language motivation was assessed through Deci and Ryan's (2020) Language Learning Motivation Questionnaire, measuring both intrinsic motivation (8 items, $\alpha = 0.91$) and extrinsic motivation (7 items, $\alpha = 0.87$) on 7-point scales. Technology acceptance was evaluated using Davis's (2020) original TAM scales for perceived usefulness (6 items, $\alpha = 0.93$) and perceived ease of use (6 items, $\alpha = 0.90$), while behavioral intention was measured using Ajzen's (2019) Theory of Planned Behavior intention scale adapted for online language learning contexts (4 items, $\alpha = 0.94$). All scales demonstrated acceptable reliability coefficients above 0.80, and construct validity was established through confirmatory factor analysis.

Data Analysis

Data analysis was conducted using SPSS version 29.0, employing descriptive statistics, correlation analysis, and multiple regression analysis. Preliminary analyses included tests for normality using Kolmogorov-Smirnov and Shapiro-Wilk tests, linearity through scatterplot examination, and multicollinearity using variance inflation factors ($VIF < 5.0$). Missing data analysis revealed less than 2% missing values, which were handled using listwise deletion. Multiple regression analysis was performed to examine the predictive relationships between cultural identity, language motivation, and behavioral intention, while hierarchical regression was used to test the mediating effects of perceived usefulness and ease of use following Baron and Kenny's (1986) mediation procedures. Additionally, Sobel tests were conducted to confirm mediation effects. All statistical tests were conducted at $\alpha = 0.05$ significance level, and effect sizes were interpreted using Cohen's (1988) conventions.

RESEARCH FINDINGS AND DISCUSSIONS

Descriptive analysis revealed that the sample consisted of 385 participants (60.5% female, 39.5% male) with a mean age of 20.8 years ($SD = 1.4$, range = 18-24 years). The ethnic distribution comprised 45.2% Malay ($n = 174$), 32.1% Chinese ($n = 124$), 16.9% Indian ($n = 65$), and 5.8% indigenous and other ethnic groups ($n = 22$). Regarding academic background, 28.3% were from science and technology faculties, 31.7% from social sciences and humanities, 22.1% from business and economics, and 17.9% from education and language studies. The majority of participants (78.4%) reported using smartphones as their primary device for internet access, with 67.3% indicating prior experience with at least one online language learning application. Among those with prior experience, Duolingo was the most commonly used platform (41.2%), followed by Google Translate (38.7%) and YouTube language channels (35.4%).

Scale reliability and validity assessments confirmed the psychometric properties of all instruments. Cultural identity scores ranged from 2.1 to 7.0 ($M = 5.2$, $SD = 1.3$), indicating moderate to high levels of cultural identity among participants. Intrinsic motivation scores showed a mean of 4.8 ($SD = 1.1$, range = 2.3-7.0), while extrinsic motivation averaged 4.2 ($SD = 1.2$, range = 1.8-6.9). Perceived usefulness demonstrated high scores ($M = 5.4$, $SD = 1.0$), as did perceived ease of use ($M = 5.1$, $SD = 1.1$). Behavioral intention to use online language learning tools showed a mean of 4.9 ($SD = 1.2$), suggesting moderate to high intention levels among Malaysian students. Normality tests indicated that all variables were approximately normally distributed (skewness $< \pm 2.0$, kurtosis $< \pm 3.0$), satisfying assumptions for parametric statistical analyses.

Correlation analysis revealed significant positive relationships between all study variables. Cultural identity showed strong correlations with intrinsic motivation ($r = 0.67$, $p < 0.001$) and behavioral intention ($r = 0.58$, $p < 0.001$), while demonstrating moderate correlations with extrinsic motivation ($r = 0.43$, $p < 0.001$). Language motivation components demonstrated significant associations with technology acceptance variables, with intrinsic motivation correlating more strongly with perceived usefulness ($r = 0.71$, $p < 0.001$) than extrinsic motivation ($r = 0.52$, $p < 0.001$). Perceived ease of use showed moderate to strong correlations with cultural identity ($r = 0.45$, $p < 0.001$), intrinsic motivation ($r = 0.62$, $p < 0.001$), and behavioral intention ($r = 0.63$, $p < 0.001$). The correlation matrix indicated no multicollinearity concerns, with all variance inflation factors below 3.5.

Multiple regression analysis results indicated that the proposed model significantly predicted behavioral intention to use online language learning tools, $F(5, 379) = 167.34$, $p < 0.001$, $R^2 = 0.685$, adjusted $R^2 = 0.681$. Cultural identity emerged as a significant predictor ($\beta = 0.342$, $t = 8.97$, $p < 0.001$, $sr^2 = 0.087$), along with intrinsic motivation ($\beta = 0.398$, $t = 10.23$, $p < 0.001$, $sr^2 = 0.113$) and perceived usefulness ($\beta = 0.287$, $t = 7.45$, $p < 0.001$, $sr^2 = 0.076$). Extrinsic motivation showed a weaker but significant relationship ($\beta = 0.156$, $t = 3.82$, $p < 0.001$, $sr^2 = 0.019$), while perceived ease of use contributed significantly to the model ($\beta = 0.213$, $t = 5.67$, $p < 0.001$, $sr^2 = 0.035$). The model explained 68.5% of the variance in behavioral intention, indicating strong predictive power with a large effect size according to Cohen's (1988) conventions.

Hierarchical regression analysis revealed partial mediation effects of technology acceptance variables in the relationship between cultural factors and behavioral intention. In Step 1, cultural identity and motivation variables alone explained 57.3% of the variance in behavioral intention ($F(3, 381) = 169.45$, $p < 0.001$). When perceived usefulness and ease of use were added in Step 2, the R^2 increased significantly to 68.5% ($R^2 = 0.112$, F change = 67.89, $p < 0.001$). The direct effects of cultural identity decreased from $\beta = 0.531$ to $\beta = 0.342$, and intrinsic motivation reduced from $\beta = 0.498$ to $\beta = 0.398$, while maintaining statistical significance. Sobel tests confirmed significant mediation effects for both perceived usefulness ($z = 4.23$, $p < 0.001$) and perceived ease of use ($z = 3.67$, $p < 0.001$), suggesting that cultural and motivational factors influence behavioral intention both directly and indirectly through technology acceptance perceptions. The mediation analysis indicated that approximately 35% of the total effect of cultural identity on behavioral intention was mediated through technology acceptance variables, while 22% of the intrinsic motivation effect was mediated.

CONCLUSION AND RECOMMENDATION

The data support the theoretical notion that cultural characteristics significantly influence technological acceptance behaviors, highlighting cultural identity as a key determinant of Malaysian students' willingness to utilize online language learning resources. Students who maintain strong connections to their ethnic heritage are more likely to embrace digital language learning opportunities, as evidenced

by the substantial positive correlation between cultural identity and behavioral intention ($\beta = 0.342$). This research challenges the prevailing assumption that cultural identities may hinder the widespread adoption of technology or oppose online education. On the contrary, it suggests a more nuanced relationship., students' cultural pride may increase their incentive to use a variety of language resources, with online tools being seen as a way to improve proficiency in heritage languages and learn new languages for intercultural communication. Cultural identification provides a relatively substantial explanation for technology adoption in multicultural environments, as the impact size indicates that it accounts for about 8.7 percent of the unique variation in behavioural intention.

The focus on autonomous motivation in sustained learning behaviours in Self-Determination Theory is supported by the predominance of intrinsic motivation ($\beta = 0.398$) in predicting behavioural intention. A more effective approach to digital language education would be to encourage students' intrinsic motivation rather than depending only on external incentives. This is supported by the fact that students' intentions to use online platforms are substantially higher among those who show a true interest and enjoyment in language learning. Because of the prevalence of test pressure and the importance of passing them for future employment in Malaysian schools, this conclusion is all the more pertinent there. To encourage long-term engagement with online learning tools, the results indicate that it may be more successful to foster personal interest and cultural curiosity about languages rather than focusing solely on the practical benefits. Explaining more than 11% of the unique variation in behavioral intention, intrinsic motivation stands out as the strongest predictor in the model, as seen by its substantial impact size ($sr^2 = 0.113$).

Perceived utility and ease of use as mediators shed light on the processes by which cultural and motivational elements impact technology adoption. Cultural identification and intrinsic motivation have a direct impact on students' behavioral intentions and shape their judgements of the utility and usability of online platforms, according to the partial mediation results. Language learning tools may hold more appeal for students with strong cultural identities. This is because these students understand the need to be able to communicate in more than one language to keep cultural links alive in our increasingly globalized world. Similarly, students who are intrinsically motivated to learn may have an easier time navigating online platforms; this is likely because their passion for language acquisition increases their readiness to put in the necessary work to become proficient in new technology. It has been suggested that enhancing platform design and user experience could greatly increase adoption rates among culturally diverse student populations, as technological acceptance characteristics account for a large amount of extra variance ($\Delta R^2 = 0.112$) in the mediation study.

While external rewards and pressures do impact students' intentions to use online language learning tools, they are not as strong predictors of sustained engagement as intrinsic motivation, as seen by the considerably smaller contribution of extrinsic motivation ($\beta = 0.156$). Implications for Malaysian educational policy and platform design are substantial in light of this study. Language education programs should place more emphasis on the personal fulfilment, cultural enrichment, and social ties that come from being able to speak more than one language, rather than on the academic or occupational rewards. In order to attract and maintain users from Malaysia, online platforms should prioritize culturally appropriate content, legacy language options, and community elements over solely functional or economic benefits. To get the most out of online language programs, the government should prioritize infrastructure development and technological access, but they should also take into account intrinsic motivational elements, according to the study's authors.

Conclusion and Further Research

This study contributes significantly to the understanding of how cultural identity and language motivation influence Malaysian students' adoption of online language learning technologies. The findings demonstrate that students with stronger cultural identities and higher intrinsic motivation are significantly more likely to embrace digital language learning tools, with technology acceptance perceptions serving as important mediating mechanisms. The results suggest that successful online language education strategies in multicultural contexts should acknowledge and leverage students' cultural backgrounds rather than treating them as potential barriers to technology adoption. The study's theoretical contribution lies in extending the Technology Acceptance Model to include cultural and motivational variables, providing a more comprehensive framework for understanding technology adoption in diverse educational contexts.

The practical implications for educators and policymakers include the need to develop culturally responsive online language learning platforms that incorporate diverse cultural content and heritage language options. Educational institutions should focus on fostering intrinsic motivation through culturally relevant pedagogy and emphasizing the personal and social benefits of multilingual competence. Platform developers should consider how cultural identity influences user perceptions and design features that resonate with diverse cultural values and linguistic goals. The Malaysian government's digital education initiatives should prioritize cultural sensitivity in platform selection and customization, ensuring that online language learning tools reflect the nation's multicultural values while supporting global competitiveness objectives.

Future research should explore longitudinal relationships between cultural identity, motivation, and actual usage behaviors rather than just intentions, as behavioral intention does not always translate to sustained usage. Qualitative studies could provide deeper insights into how different ethnic groups in Malaysia navigate their multilingual identities and technology choices, offering rich contextual understanding to complement quantitative findings. Cross-cultural comparisons with other multicultural societies such as Singapore, Canada, or South Africa would enhance the generalizability of findings and identify universal versus culture-specific factors in online language learning adoption. Additionally, investigating the role of social influence and peer networks in mediating the relationship between cultural factors and technology adoption could provide valuable insights for developing community-based online language learning initiatives. Research on the effectiveness of culturally adapted online language learning platforms compared to generic tools would inform evidence-based design practices for multicultural educational contexts, potentially leading to the development of more effective and inclusive digital language education solutions.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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