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ANALYSIS OF THE ACCEPTANCE OF INTERACTIVE E-COMICS AS AN ENGLISH LANGUAGE LEARNING MEDIUM BASED ON VOCATIONAL NEEDS: A TECHNOLOGY ACCEPTANCE MODEL PERSPECTIVE

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Abstract

Vocational High School (VHS) students require English language competencies that are aligned with their specific vocational fields. However, existing learning materials often lack contextual relevance, and the adoption of digital learning technologies remains suboptimal. This study aims to investigate the key determinants of students' acceptance of interactive e-comics in English language learning, using the Technology Acceptance Model (TAM) as the theoretical framework. Data were collected through a quantitative survey methodology involving 99 students. The participants were drawn from three different vocational programs (Multimedia, Computer and Network Engineering, and Software Engineering) at SMK Telekomunikasi Darul Ulum Jombang. Statistical analysis was conducted using multiple regression analysis with the assistance of SPSS version 26.0. The main findings indicate that Perceived Usefulness (β = 0.428) and Perceived Ease of Use (β = 0.341) significantly predict Attitude Toward Using e-comics, with both relationships reaching statistical significance ($p < 0.001$). Furthermore, the analysis reveals a statistically significant moderating effect of Content Relevance (β = 0.293, $p = 0.003$) on the relationship between Perceived Usefulness and Attitude Toward Using, indicating that the influence of Perceived Usefulness on students' attitudes is conditional upon the level of content relevance. The proposed model explains 69.1% of the variance in Behavioral Intention. Overall, acceptance of e-comics is primarily driven by students' perceptions of usefulness in enhancing vocational English competence and by their perceptions of ease of use. Aligning instructional content with students' vocational fields significantly enhances technology acceptance.

Keywords : *Technology Acceptance Model*; *E-Comic*; Vocational English Learning; Digital Media; Vocational High School.

I. Introduction

Vocational education in Indonesia faces ongoing challenges in preparing graduates who are competent and responsive to the demands of Industry 4.0 (Sulistyanto et al., 2021; Suharno et al., 2020; Tjandra & Budiastuti, 2024). One crucial competency required in this context is the ability to communicate effectively in English,

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particularly English that is relevant to specific vocational fields (Anhar et al., 2021; Aryawan, 2023). However, studies indicate that the English proficiency of Vocational High School (VHS) students remains relatively low, with one of the primary contributing factors being the limited availability of learning media that are contextualized and aligned with workplace needs (Cahyati & Rizkiani, 2017).

The current English curriculum for vocational high schools tends to employ instructional materials similar to those used in general senior high schools, thereby failing to adequately reflect the communicative demands of professional vocational contexts such as Computer and Network Engineering, Multimedia, and Software Engineering (Muslim et al., 2020; Hastowohadi & Hapsari, 2023). Students in Multimedia programs require terminology related to graphic design and video editing; those in Computer and Network Engineering need vocabulary associated with network installation and troubleshooting; while Software Engineering students require familiarity with programming concepts and software development terminology.

Advances in digital technology provide opportunities for innovation in instructional media, one of which is the development of interactive e-comics. Due to their capacity to integrate visuals, text, audio, and interactivity, interactive e-comics have demonstrated strong potential in enhancing learner motivation and learning outcomes (Al Farissi et al., 2024; Berger et al., 2023; Widyawati et al., 2024; Belda-Medina, 2024). Empirical studies by Mustikasari et al. (2020) and Susanti and Agustina (2024) further confirm the effectiveness of digital comics as instructional media. Nevertheless, the success of educational technology is highly contingent upon the level of user acceptance (Davis, 1989).

The Technology Acceptance Model (TAM) has been extensively validated and widely employed as a framework for predicting technology adoption and implementation in educational settings (Venkatesh & Davis, 2000; Granić & Marangunić, 2019). Bibliometric reviews by Abuhassna et al. (2023) and analytical studies by Lin et al. (2024) affirm that TAM remains the most prominent theoretical model in research on educational technology adoption. According to TAM, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are fundamental determinants that directly influence users' Attitude Toward Using a technology and their Behavioral Intention to use it (Davis, 1989; Schorr, 2023; Yan et al., 2024). Despite this extensive body of research, studies examining the acceptance of e-comics in the context of vocational English learning across multiple vocational programs remain limited.

In response to these gaps, this study addresses four key research questions: (1) Does Perceived Usefulness have a statistically significant effect on students' Attitude Toward Using e-comics? (2) Does Perceived Ease of Use significantly influence students' Attitude Toward Using e-comics? (3) Does Attitude Toward Using serve as a significant predictor of Behavioral Intention to use e-comics? (4) Is the relationship between Perceived Usefulness and Attitude Toward Using significantly moderated by Content Relevance?

Accordingly, this study aims to empirically evaluate the factors influencing the acceptance of interactive e-comics as instructional resources for vocational English learning. The investigation involves students from three vocational programs (Multimedia, Computer and Network Engineering, and Software Engineering) and is examined through the Technology Acceptance Model framework. Specifically, this study conducts a comprehensive analysis of TAM by testing the effects of Perceived

Usefulness and Perceived Ease of Use on Attitude Toward Using, the effect of Attitude Toward Using on Behavioral Intention, and the moderating role of Content Relevance in the relationship between Perceived Usefulness and Attitude Toward Using, all within the context of vocational English instruction across the three selected programs.

II. Research Methods

A. Research Design

This study adopts a quantitative approach as its primary methodological framework. Data were collected using a survey method, which was selected due to its efficiency in gathering information from a relatively large sample population and its suitability for measuring observed variables.

An explanatory research design was employed. The primary objective of this design is to test and validate the proposed hypotheses concerning causal relationships among relevant variables. Specifically, the design focuses on examining cause–effect relationships among constructs within the Technology Acceptance Model (TAM) framework (Davis, 1989; Venkatesh & Davis, 2000; Rodríguez-Sabiote et al., 2024), thereby enabling the identification and explanation of key determinants influencing respondents' acceptance of technology.

B. Population and Sample

The population of this study consisted of all eleventh-grade students at SMK Telekomunikasi Darul Ulum Jombang who were involved in the use of interactive e-comics for English language learning, with a total population of N = 150. The minimum required sample size was determined using Slovin's formula with a margin of error of 5%, resulting in a minimum sample requirement of 109 respondents. In practice, the study successfully collected 99 valid questionnaires, yielding a response rate of 90.8%.

To ensure accurate representation of the three vocational groups, a stratified random sampling technique was employed. Stratification was conducted based on students' vocational programs, namely Computer and Network Engineering (TKJ), Multimedia, and Software Engineering (RPL).

C. Research Instruments

The questionnaire was developed based on the validated Technology Acceptance Model (TAM) instrument proposed by Davis (1989), with contextual adaptations for the use of interactive e-comics in vocational English learning. All variables were measured using a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Table 1. Operationalization of Variables

Variable	Operational Definition	Number of Items	Source
Perceived Usefulness (X1)	Students' perception that the e-comic helps improve their vocational English competence	4	Davis (1989)
Perceived Ease of Use (X2)	Students' perception that the e-comic is easy to use	4	Davis (1989)
Content Relevance (Z)	The extent to which the e-comic content is aligned with students' vocational field	4	Brown (2016)

Variable	Operational Definition	Number of Items	Source
Attitude Toward Using (Y1)	Students' positive or negative attitudes toward the use of the e-comic	4	Venkatesh & Davis (2000)
Behavioral Intention (Y2)	Students' intention to continue using the e-comic	4	Davis (1989)

D. Validity and Reliability

The validity of the research instrument was evaluated using the Pearson Product–Moment correlation technique. The criterion for determining the validity of each item was whether the calculated correlation coefficient (r-value) exceeded the critical r-table value. In this study, with a sample size of n = 99, degrees of freedom (df) = 97, and a significance level of $\alpha = 0.05$, the critical r-table value was 0.197. Questionnaire items were considered valid if the calculated r-value exceeded 0.197.

To ensure the consistency and stability of the instrument, reliability testing was conducted using Cronbach's Alpha (α). The instrument was considered reliable if the obtained alpha coefficient exceeded the commonly accepted threshold of $\alpha > 0.70$, indicating satisfactory internal consistency.

E. Data Analysis Technique

Data analysis in this study was conducted using IBM SPSS Statistics version 26.0. The analytical procedure followed a series of structured stages as outlined below.

1. Descriptive Analysis
   This stage aimed to provide an initial overview of respondents' demographic characteristics and to describe the distribution of data for each research variable. Descriptive statistics were reported in the form of means, standard deviations, and percentages for each questionnaire item.
2. Classical Assumption Tests
   Prior to conducting multiple regression analysis, a set of classical assumption tests was performed to ensure that the regression model met the BLUE (Best Linear Unbiased Estimator) criteria:
   a. Normality Test
      Normality was examined using the Kolmogorov–Smirnov test to verify whether the residuals were normally distributed.
   b. Multicollinearity Test
      Multicollinearity was assessed using Variance Inflation Factor (VIF) and Tolerance values to ensure the absence of high correlations among independent variables.
   c. Heteroskedasticity Test
      Heteroskedasticity was tested using the Glejser test to confirm that the residual variance was constant across observations (homoskedasticity).
3. Multiple Regression and Moderation Analysis
   Multiple regression analysis was employed to test the causal hypotheses proposed in this study. Two regression models were specified to examine direct relationships and moderation effects:
   a. Model 1 (Direct Effects): This model examined the effects of Perceived Usefulness and Perceived Ease of Use on Attitude Toward Using:

$$Y1=a+ß1X1+ß2X2+ε$$

(Where: Y1= *Attitude Toward Using*, X1= *Perceived Usefulness*, X2= *Perceived Ease of Use*)

b. Model 2 (Subsequent Relationship and Moderation)
This model tested the effect of Attitude Toward Using on Behavioral Intention. In addition, a moderation model using an interaction term between Perceived Usefulness and Content Relevance was employed to determine whether Content Relevance moderates the relationship between X1 and Y1:

$$Y2=α+β3Y1+ε$$

(Where: Y2 = Behavioral Intention).

4. Moderated Regression Analysis (MRA)

$$Y1 = α + β1X1 + β2Z + β3(X1×Z) + ε$$

The hypothesis testing criteria were as follows: the null hypothesis (H_0) was rejected if the p-value < 0.05 and the calculated t-value exceeded the critical t-value (t = 1.985 for df = 96, α = 0.05).

III. Results and Discussion

A. Respondents' Characteristics

The distribution of respondents indicates a predominance of male students (88.9%), which is consistent with the general demographic characteristics of vocational high school students in technology-oriented fields. The Multimedia program accounted for the largest proportion of participants (45.5%), followed by Computer and Network Engineering and Software Engineering, each comprising 27.3% of the sample. See Table 2 below.

Table 2. Respondents' Characteristics

Characteristics	Category	Frequency	Percentage
Gender	Male	88	88.9%
	Female	11	11.1%
Class	XI	99	100%
Major	Multimedia	45	45.5%
	TKJ	27	27.3%
	RPL	27	27.3%
E-learning Experience	< 1 year	34	34.3%
	1-2 year	48	48.5%
	> 2 year	17	17.2%

Source: Research Data Analysis

B. Validity and Reliability Test Results

All questionnaire items were found to be valid, as the calculated item–total correlation coefficients exceeded the critical r-table value of 0.197. The Cronbach's Alpha coefficients for each construct, Perceived Usefulness (0.882), Perceived Ease of Use (0.861), Content Relevance (0.887), Attitude Toward Using (0.896), and Behavioral Intention (0.912), indicate very good internal consistency, with all values exceeding the acceptable threshold of α > 0.70.

C. Descriptive Statistics of Variable

The descriptive analysis indicates that respondents generally hold positive perceptions of the use of interactive e-comics in vocational English learning. All variables recorded mean scores above 4.00, suggesting high levels of agreement across the measured constructs. Perceived Usefulness, Perceived Ease of Use, and Content Relevance were all categorized as high, indicating that students view the e-comics as beneficial, easy to use, and relevant to their vocational fields.

Table 3. Descriptive Statistics

Variable	Mean	Std. Deviation	Category
Perceived usefulness	4.15	0.66	High
Perceived ease of use	4.02	0.69	High
Content relevance	4.08	0.68	High
Attitude toward using	4.21	0.63	Very High
Behavioral intention	4.24	0.61	Very High

Source: Research Data Analysis

Moreover, the highest mean score was observed for Behavioral Intention (M = 4.24), followed closely by Attitude Toward Using (M = 4.21), both of which fall into the very high category. These results reflect strong acceptance and a clear willingness among students to continue using interactive e-comics as a learning medium. The relatively low standard deviation values across variables further suggest a consistent pattern of responses among participants.

D. Classic Assumption Test

Based on the results presented in Table 4, all required classical assumptions for multiple regression analysis were satisfactorily met. The Kolmogorov–Smirnov test indicates that the residuals are normally distributed, as the significance value exceeds the 0.05 threshold. Additionally, the Variance Inflation Factor (VIF) and Tolerance values for Perceived Usefulness and Perceived Ease of Use confirm the absence of multicollinearity among the independent variables.

Table 4. Results of Classical Assumption Tests

Test	Result	Criterion	Remark
Normality (K-S)	Sig. = 0.092	Sig. > 0.05	Fulfilled
Multicollinearity VIF	PU=1.842, PEOU=1.917	VIF < 10	Fulfilled
Multicollinearity (Tolerance)	PU=0.543, PEOU=0.522	Tolerance > 0.1	Fulfilled
Heteroskedasticity (Glejser)	Sig. PU=0.426, PEOU=0.394	Sig. > 0.05	Fulfilled

Source: Research Data Analysis

Furthermore, the Glejser test results show no indication of heteroskedasticity, as all significance values are greater than 0.05, indicating homoscedastic residuals. Taken together, these findings demonstrate that the proposed regression model fulfills the necessary statistical assumptions and is therefore appropriate and reliable for hypothesis testing.

E. Multiple Regression Analysis

1. Effects of Perceived Usefulness and Perceived Ease of Use on Attitude Toward Using

Model statistics indicate a strong relationship between the independent variables and Attitude Toward Using (R = 0.789). The coefficient of determination shows that the model explains a substantial proportion of variance in the dependent variable (R^2 = 0.623; Adjusted R^2 = 0.615). The overall regression model is statistically significant, as indicated by the F-test result (F = 79.316, p < 0.001).

Table 5. Results of Regression Analysis (Model 1)

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	0.528	0.224	-	2.357
Perceived usefulness	0.408	0.071	0.428	5.746
Perceived ease of use	0.311	0.068	0.341	4.574

Source: Research Data Analysis

R = 0.789; R^2 = 0.623; Adjusted R^2 = 0.615; F = 79.316 (p < 0.001)

ATU = 0.528 + 0.408PU + 0.311PEOU

Model statistics indicate a strong relationship between the independent variables and Attitude Toward Using (R = 0.789). The coefficient of determination shows that the model explains a substantial proportion of variance in the dependent variable (R^2 = 0.623; Adjusted R^2 = 0.615). The overall regression model is statistically significant, as indicated by the F-test result (F = 79.316, p < 0.001).

The hypothesis testing results confirm that Perceived Usefulness is a significant predictor of Attitude Toward Using, with a positive standardized regression coefficient (β = 0.428, p < 0.001). Similarly, Perceived Ease of Use also exerts a significant positive influence on Attitude Toward Using (β = 0.341, p < 0.001). The adjusted R^2 value indicates that Perceived Usefulness and Perceived Ease of Use collectively explain 61.5% of the variance in Attitude Toward Using, suggesting a strong explanatory power of the model within the Technology Acceptance Model framework.

2. Effect of Attitude toward *Behavioral intention*

Model fit statistics indicate a strong explanatory power (R = 0.821; R^2 = 0.674; Adjusted R^2 = 0.664). The inclusion of the interaction term (PU × CR) resulted in an increase in explained variance of ΔR^2 = 0.051, which was statistically significant (p = 0.003).

Table 6. Results of Regression Analysis Model 2

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	0.672	0.198	-	3.394
Attitude toward using	0.812	0.047	0.831	17.277

Source: Research Data Analysis

The regression analysis produced strong model fit statistics (R = 0.831; R^2 = 0.691; Adjusted R^2 = 0.688), indicating a high explanatory power of the model. The overall regression model was statistically significant, as evidenced by the F-test result (F = 298.495, p < 0.001). The resulting regression equation is expressed as follows:

$$BI = 0.672 + 0.812ATU$$

The results confirm that Attitude Toward Using functions as a significant predictor of Behavioral Intention, with a strong positive standardized regression coefficient (β = 0.831, t = 17.277, p < 0.001). Accordingly, Hypothesis 3 (H3) is accepted. The model explains 69.1% of the variance in Behavioral Intention, suggesting that students' attitudes toward interactive e-comics play a critical role in shaping their intention to continue using this learning medium.

F. Moderation Analysis

The moderated regression model demonstrates strong explanatory power, with a correlation coefficient of R = 0.821 and a coefficient of determination of R^2 = 0.674. After adjusting for the number of predictors, the model accounts for 66.4% of the variance in Attitude Toward Using (Adjusted R^2 = 0.664). Importantly, the inclusion of the interaction term between Perceived Usefulness and Content Relevance resulted in a statistically significant increase in explained variance (ΔR^2 = 0.051, p = 0.003).

Tabel 7. Results of Moderated Regression Analysis

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	0.398	0.208	-	1.913
Perceived usefulness	0.362	0.073	0.379	4.959
Content relevance	0.204	0.069	0.226	2.957
PU × CR (Interaksi)	0.274	0.089	0.293	3.079

Source: Research Data Analysis

R = 0.821; R^2 = 0.674; Adjusted R^2 = 0.664; ΔR^2 = 0.051 (p = 0.003)

These findings indicate that Content Relevance plays a significant moderating role in the relationship between Perceived Usefulness and Attitude

Toward Using. The positive and significant interaction effect (β = 0.293, t = 3.079, p = 0.003) suggests that the influence of perceived usefulness on students' attitudes toward using interactive e-comics becomes stronger when the learning content is perceived as more relevant to their vocational field. Therefore, Hypothesis 4 (H4) is accepted. The addition of the interaction variable improved the model's explanatory power by 5.1%, highlighting the critical importance of aligning instructional content with students' vocational needs in fostering technology acceptance.

Table 8. Summary of Hypothesis Testing

Hypotheses	Path	β	t-value	p-value	Decision
H1	PU → ATU	0.428	5.746	0.000	Accepted
H2	PEOU → ATU	0.341	4.574	0.000	Accepted
H3	ATU → BI	0.831	17.277	0.000	Accepted
H4	CR moderates PU → ATU	0.293	3.079	0.003	Accepted

Source: Research Data Analysis

G. Discussion

1. Effect of Perceived Usefulness on Attitude Toward Using

The findings of this study highlight that Perceived Usefulness exerts a positive and statistically significant influence on Attitude Toward Using, with the strongest effect among the examined predictors (β = 0.428, p < 0.001). This result is consistent with the foundational work of Davis (1989) and Venkatesh and Davis (2000), which emphasizes perceived benefit as a primary determinant of technology acceptance.

In the context of interactive e-comics for vocational English learning across three programs (Multimedia, Computer and Network Engineering, and Software Engineering) students perceived this medium as useful for several reasons: (1) it provides technical vocabulary that is directly relevant to their vocational specialization, (2) it presents authentic workplace communication contexts, and (3) it facilitates comprehension through visual representation. Empirically, these findings align with previous research by Al Farissi et al. (2024), which demonstrated that the use of e-comics significantly contributes to vocabulary acquisition.

The relatively high mean score for Perceived Usefulness (M = 4.15) further indicates that students experienced tangible benefits from using interactive e-comics. Respondents reported that materials tailored to their specific vocational fields made learning more relevant and meaningful compared to conventional, generalized textbooks.

B. Effect of Perceived Ease of Use on Attitude Toward Using

Perceived Ease of Use was also found to have a positive and significant effect on Attitude Toward Using (β = 0.341, p < 0.001), although its influence was weaker than that of Perceived Usefulness. This finding supports the Technology Acceptance Model, which posits that ease of use enhances users' positive attitudes toward a technology (Davis, 1989).

The intuitive interface of the e-comic, clear navigation, and easily accessible interactive features minimized technical difficulties for students. The high mean

score for Perceived Ease of Use (M = 4.02) suggests that most students felt comfortable and confident using the mobile-based application.

Students across all three vocational programs (Multimedia, TKJ, and RPL) demonstrated relatively high levels of digital literacy, which facilitated rapid adaptation to the e-comic platform. This observation is consistent with the characteristics of digital-native learners (Berger et al., 2023), who tend to exhibit strong preferences for mobile devices and interactive technologies in learning environments.

C. Effect of Attitude Toward Using on Behavioral Intention

Attitude Toward Using was identified as a very strong and significant predictor of Behavioral Intention ($\beta = 0.831$, $p < 0.001$), explaining 69.1% of the variance. This is a critical finding, underscoring that the formation of positive attitudes is essential for the sustained use of educational technology.

Students who held favorable attitudes toward the interactive e-comic demonstrated a strong intention to (1) continue using it as a self-directed learning tool, (2) recommend it to peers, and (3) integrate it into their regular learning routines. The very high mean score for Behavioral Intention (M = 4.24) indicates strong potential for long-term adoption across the three vocational programs.

Overall, these findings reinforce the central role of attitudinal factors within the Technology Acceptance Model and suggest that fostering positive user experiences is key to ensuring the continued use of interactive digital learning media in vocational education.

D. The Moderating Role of Content Relevance

Content relevance was found to significantly moderate the relationship between Perceived Usefulness and Attitude Toward Using ($\beta = 0.293$, $p = 0.003$). This moderating effect indicates that the alignment between learning content and students' vocational specializations strengthens the influence of perceived usefulness on users' attitudes. In other words, when students perceive the content as highly relevant to their field of expertise, the positive impact of perceived usefulness on attitude becomes more pronounced.

Further analysis revealed distinct patterns of appreciation across vocational programs:

a. Multimedia (n = 45): Students reported high appreciation for content related to graphic design, video editing, and digital content production, as these topics closely reflect their core competencies and future professional demands.
b. Computer and Network Engineering (TKJ) (n = 27): Students showed greater interest in materials focusing on network installation, router configuration, and troubleshooting, which directly correspond to their technical skill development.
c. Software Engineering (RPL) (n = 27): Students valued content addressing programming algorithms, debugging processes, and software documentation, as these elements are essential to their vocational learning and career preparation.

These findings underscore the critical importance of adopting an English for Specific Purposes (ESP) approach in vocational English instruction. By tailoring language materials to learners' disciplinary contexts, ESP enhances perceived relevance, strengthens positive attitudes, and ultimately supports more effective technology acceptance and learning outcomes (Brown, 2016; Agustina, 2014).

IV. Conclusion

This study successfully confirmed all four proposed hypotheses and demonstrated the validity of the Technology Acceptance Model (TAM) in the context of vocational English learning through interactive e-comics. The analysis revealed that Perceived Usefulness exerted the strongest and most significant influence on students' Attitude Toward Using e-comics, with a path coefficient of 0.428 ($p < 0.001$). This finding indicates that improvements in students' perceptions of the usefulness of e-comics, particularly in supporting English learning materials aligned with their vocational expertise, proportionally enhance their positive attitudes toward the use of this medium.

Further analysis showed that Perceived Ease of Use also made a significant positive contribution to Attitude Toward Using, supported by a path coefficient of 0.341 ($p < 0.001$). This result highlights the importance of usability aspects in operating e-comics. Technical features such as intuitive navigation and a user-friendly interface play a crucial role in shaping students' positive attitudes toward this digital learning medium. Together, perceived usefulness and perceived ease of use provided a substantial contribution to the formation of attitude toward using, which was subsequently identified as a very strong predictor of Behavioral Intention, with a path coefficient of 0.831 ($p < 0.001$). This strong relationship explains 69.1% of the variance in continued usage intention, indicating that consistently formed positive attitudes strongly motivate students to use e-comics on an ongoing basis in their learning process.

The primary contribution of this study lies in demonstrating the moderating role of Content Relevance. This variable was shown to strengthen the predictive relationship between Perceived Usefulness and Attitude Toward Using, with a moderation coefficient of 0.293 ($p = 0.003$). These results confirm that aligning e-comic content with the specific needs of each vocational program (Multimedia, Computer and Network Engineering, and Software Engineering, significantly amplifies the effect of perceived usefulness on attitudes toward use. In other words, e-comics that present terminology and contextualized content relevant to students' vocational fields are not only perceived as more useful but also generate more positive attitudes than generic instructional content. Overall, the Technology Acceptance Model was found to be both valid and reliable in explaining technology acceptance in vocational English learning contexts. Interactive e-comics that are relevant, useful, and easy to use therefore demonstrate strong potential for sustainable adoption among vocational high school students across these three programs.

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