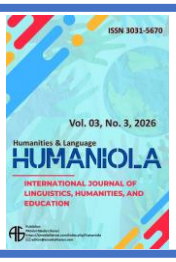
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Bridging the Intention-Behavior Gap in EdTech Communities: A Theory of Planned Behavior Approach to Bootcamp Alumni Participation

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ABSTRACT

The sustainability of alumni participation in the educational technology (EdTech) digital community ecosystem is a fundamental challenge due to the low actual engagement compared to the potential number of members. This study aims to analyze the effect of attitude toward participation, subjective norms, and perceived behavioral control on community participation through the intention to participate among Harisenin.com bootcamp alumni in Indonesia. We define actual community participation through four specific tangible behaviors: event attendance, information seeking, knowledge sharing, and member interaction. Using a causal explanatory design, survey data from 368 active Slack members were analyzed via Path Analysis and the Sobel Test. The results demonstrate that the Theory of Planned Behavior constructs, mediated by intention, jointly explain 67.1% of the variance in actual community participation (R^2=0.671). Notably, intention acts as a partial mediator between psychological drivers (attitude, subjective norms, perceived control) and actual behavior. The findings empirically confirm the intention-behavior gap phenomenon: strong intentional drive must be supported by high perceived behavioral control (infrastructure convenience and minimal technical barriers) to translate into actual participation. EdTech community managers must align strategies for communicating professional benefits with the reduction of operational participation costs to ensure the long-term sustainability of member engagement.

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1. Introduction

Current digital technology developments have profoundly changed the way society interacts, obtains information, and builds both social and professional networks. In Indonesia, internet penetration has experienced a very rapid increase, with hundreds of millions of active users making cyberspace the primary medium for conducting various daily activities (Kemp, 2025). This development encourages the shift of interaction spaces from physical environments to digital ecosystems that allow individuals from various geographic locations to connect flexibly without spatial and temporal boundaries (Hwang & Foote, 2021). In its development, digital communities no longer merely function as interpersonal communication media; they have

transformed into collaborative platforms, lifelong learning spaces, as well as means for strengthening competencies and expanding professional relations (Hernández Soto et al., 2021; Limam & Slaimi, 2024).

In the context of the educational technology (EdTech) industry, the existence of post-training digital communities has become a highly strategic means to maintain sustainable relationships with participants. Training institutions no longer limit interactions only during the program but continue them through the establishment of alumni forums to facilitate the exchange of knowledge, work experiences, and career information (Harisenin.com, n.d.; Pujiono et al., 2022). Through these alumni forums, a shared learning ecosystem or community of practice is formed, providing added value for members' professional development while strengthening alumni loyalty to the organization (Wenger et al., 2002). Therefore, the sustainability and activeness of the digital alumni ecosystem heavily depend on the extent to which its members are willing to utilize and participate in the sprovided interaction spaces.

Although digital alumni communities promise substantial collaboration potential, reality shows a significant gap between the potential number of members and the actual participation rate. Ideally (das sollen), all alumni who have joined the community platform are expected to be actively involved in various self-development activities, hold discussions, and share career opportunities (Kumi & Sabherwal, 2019). However, in reality (das sein), internal documentation data shows that the participation rate of members in the Harisenin.com alumni community varies and is relatively limited compared to the total number of alumni registered on the Slack communication platform (Harisenin.com, n.d.). The majority of members tend to only be passive observers (lurkers) who consume information without contributing back or attending interactive activities organized by the community (Malinen, 2015).

This participation inequality phenomenon indicates that the availability of communication facilities and regular activities does not necessarily automatically mobilize all members to be actively involved. An individual's decision to participate in a community is not a spontaneous action, but rather the result of psychological considerations that develop within the individual before the action is realized (Jahan & Kim, 2021; Myers & Twenge, 2022). Members will evaluate whether the participation provides benefits commensurate with the allocated time, consider social expectations from their surrounding environment, and assess their ability and convenience to get involved (Alajmi, 2012; Aronson et al., 2022). Therefore, community member participation dynamics need to be understood through a social psychology approach capable of explaining the mental processes behind an individual's decision (Baumeister & Bushman, 2021).

A highly relevant theoretical approach for explaining the psychological consideration process before someone takes action is the Theory of Planned Behavior (TPB) developed by Ajzen (1991). This theory explains that a person's actual behavior begins with the formation of behavioral intention, which is influenced by three main factors: attitude toward behavior, subjective norm, and perceived behavioral control (Fishbein & Ajzen, 1975, 2011). Various previous studies have proven the reliability of the TPB framework in predicting participation intention in diverse digital spaces, such as professional teacher communities (Peddell et al., 2025), online health communities (Cao et al., 2023), prospective educator learning communities (Ullah et al., 2024), and public participation platforms (Van Den Berg, 2019).

This series of studies confirms that a positive evaluation of the benefits of an activity consistently increases an individual's motivation and intention to participate (Savari & Khaleghi, 2023; Tran et al., 2021). Additionally, social support and expectations from the surrounding environment have been shown to strengthen a person's normative drive to be involved in community activities (Jia et al., 2022; Rapi & Kassim, 2023). Furthermore, an individual's belief in their abilities, along with the availability of adequate resources and opportunities, also serves as an important determinant in facilitating intentional drive into real action (Cheng et al., 2022; Gu et al., 2025; Zhang et al., 2022). These findings affirm that the Theory of Planned Behavior is a highly flexible model with strong explanatory power in unraveling the dynamics of individual participation behavior.

Although the application of the Theory of Planned Behavior is widespread, most literature so far has focused on volunteer communities, environmental communities, health platforms, or formal educational environments (Bosnjak et al., 2020; Park & Yang, 2012). There is still a limitation of studies that specifically test the application of TPB in the context of post-program digital training (bootcamp) alumni communities. Bootcamp alumni communities possess unique characteristics: all members share the same intensive learning experience, have a strong orientation toward short-term career advancement, and their participation is voluntary without formal academic ties after the program concludes. This research gap demands empirical evidence regarding how TPB constructs influence actual participation actions through the mediation of intention in the bootcamp alumni ecosystem in Indonesia.

To fill this research gap, the central research question of this study is formulated as follows: How do attitude toward participation, subjective norms, and perceived behavioral control influence actual community participation, and what is the mediating role of the intention to participate? Consequently, this study aims to comprehensively analyze and explain these structural effects within the Harisenin.com alumni community in Indonesia. Harisenin.com was deliberately selected as a representative case study because it is one of the prominent EdTech bootcamps in Indonesia with a massive and structurally facilitated digital alumni network, providing an ideal context for observing participation dynamics and the intention-behavior gap. The novelty of this research lies in testing the complete TPB structural model that positions multifaceted community participation (event attendance, information seeking, knowledge sharing, and interpersonal interaction) as actual behavior within the EdTech ecosystem. The main hypothesis proposed states that attitude, subjective norm, and perceived behavioral control have a positive effect on intention and actual participation, where the intention to participate acts as the main mediator. This research is expected to provide theoretical contributions to the development of organizational communication and digital communities, while simultaneously offering practical recommendations for digital training institution managers in designing more effective alumni engagement strategies.

2. Method

This study employs a positivism paradigm that views social reality as objective, real, measurable, and possessing a constant cause-and-effect relationship pattern (Kivunja & Kuyini, 2017; Sugiyono, 2019). Based on this framework, the selected research approach is quantitative with a causal explanatory survey design. The selection of this explanatory design aims to empirically test theoretical hypotheses and explain the strength and direction of causal relationships among variables within the Theory of

Planned Behavior framework (Ajzen, 1991; Sekaran & Bougie, 2016). Through a deductive approach, this study positions the variables of attitude toward participation, subjective norm, and perceived behavioral control as independent (exogenous) variables, intention to participate as a mediating (intervening) variable, and community participation as the dependent (endogenous) variable within the Harisenin.com educational technology alumni ecosystem in Indonesia (Sari et al., 2022).

The target population in this study comprises all alumni who have completed the bootcamp program at Harisenin.com and are actively registered on the alumni Slack communication platform, totaling 5,108 people out of 10,697 total alumni as of March 2026. Setting Slack members as the population boundary is based on the consideration that the platform is the primary medium for interaction and observation of actual community participation behavior. Subject inclusion criteria cover Indonesian citizen alumni within the productive age range of 18 to 40 years. The sample size was calculated using the Yamane formula with a 5% margin of error at a 95% confidence level, yielding a minimum sample size of 371 respondents (Sugiyono, 2023). The sampling technique applied was simple random sampling (probability sampling), where each alumnus in the Slack database was assigned a serial number and randomly selected using the digital number drawing function in Microsoft Excel to ensure population representativeness (Sekaran & Bougie, 2016).

Primary data collection was conducted via a structured questionnaire instrument arranged online using Google Forms. The measurement of each variable indicator used a five-point Likert rating scale, ranging from a score of 1 for the Strongly Disagree category to a score of 5 for the Strongly Agree category (Sekaran & Bougie, 2016). Variable operationalization referred to the Theory of Planned Behavior standard guidelines developed by Francis et al. (2004) and Ajzen (2002). The attitude toward participation variable was measured through two dimensions, namely instrumental attitude (perceived benefits of competency and professional network development) and affective attitude (feelings of pleasure and comfort in interacting) (Peddell et al., 2025; Wenger et al., 2002). The subjective norm variable included social approval norms (expectations and support of mentors or peers) and descriptive norms (observations of other alumni's activeness) (Bosnjak et al., 2020; Fishbein & Ajzen, 2011). The perceived behavioral control variable was measured through self-efficacy (belief in the capability to act) and control over behavior (platform accessibility and time availability) (Ajzen, 2002; Chai et al., 2023). Meanwhile, the intention to participate variable was operationalized through three aspects: desire, planning, and participation commitment (Francis et al., 2004). The dependent variable, community participation, was measured as actual behavior encompassing four tangible actions: event attendance, information seeking, knowledge sharing, and member interaction (Malinen, 2015; Tsai & Pai, 2013).

Data quality testing was performed to ensure that the questionnaire instrument possessed adequate reliability and measurement accuracy before being utilized in the main model analysis. Item validity testing was analyzed using the Pearson Product-Moment correlation method by correlating each item's score against the variable's total score at a 5% significance level (Purnomo, 2016). An indicator is declared valid if the calculated correlation coefficient (r-count) is greater than the r-table and has a significance value below 0.05. Furthermore, the instrument's internal consistency was measured using the Cronbach's Alpha Coefficient formula. Based on standard methodological criteria, all indicators within a research variable are declared reliable

and possess high dependability if the resulting Cronbach's Alpha value exceeds the 0.70 threshold (Purnomo, 2016; Sekaran & Bougie, 2016).

Field data collection procedures were systematically carried out by distributing the online questionnaire link via the official alumni Slack platform channels and Harisenin.com WhatsApp communication groups. The entire research execution process upheld high standards of academic research ethics. Each prospective respondent was provided a written informed consent form explaining the research objectives, the fully voluntary nature of participation without coercion, and guarantees of privacy protection and personal identity confidentiality (anonymity) (Sekaran & Bougie, 2016). Data collected from respondents were guaranteed to be used exclusively for the purposes of research analysis and scientific knowledge development.

The data analysis technique combined descriptive statistics and parametric inferential statistics using IBM SPSS version 32.0 software. Given that the primary data obtained were in the form of an ordinal Likert scale, the data were first transformed into an interval scale using the Method of Successive Interval (MSI) to meet parametric statistical analysis requirements (Iba & Wardhana, 2023; Riduwan & Kuncoro, 2014). Prior to hypothesis testing, the regression model was examined through a series of classical assumption tests encompassing the residual normality test via Normal P-P Plots and the One-Sample Kolmogorov-Smirnov test, the multicollinearity test via Tolerance values (> 0.10) and Variance Inflation Factor (VIF < 10), the autocorrelation test using Durbin-Watson, and the heteroscedasticity test using the Glejser Test (Ghozali, 2021; Purnomo, 2016).

The structural causal relationship among variables was tested using Path Analysis, which was divided into two substructure equations (Ghozali, 2021; Riduwan & Kuncoro, 2014). While Structural Equation Modeling (SEM) is increasingly common, ordinary least squares (OLS) regression-based Path Analysis combined with the Sobel Test remains a robust and well-established method for testing observed variables and specific, theory-driven mediation pathways in a single sequential model (Ghozali, 2021; Sobel, 1982). This approach was deemed highly adequate for this study as the measurement items were directly summated into composite scores, forming clear observed variables that strictly met all parametric classical assumptions. The first substructure formulated the effect of attitude (X1), subjective norm (X2), and perceived behavioral control (X3) on intention to participate (Z) with the equation $Z = \rho ZX1X1 + \rho ZX2X2 + \rho ZX3X3 + e1$. The second substructure formulated the effect of attitude (X1), perceived behavioral control (X3), and intention to participate (Z) on actual community participation behavior (Y) with the equation $Y = \rho YX1X1 + \rho YX3X3 + \rho YZZ + e2$. Hypothesis testing was conducted simultaneously via the F-Test and partially via the t-Test at a significance level of $\alpha = 0.05$, as well as evaluating the coefficient of determination (R^2) to measure the magnitude of variance contribution explained by the model (Ghozali, 2021). To test the significance of the intention to participate (Z) role as a mediating variable connecting independent variables to community participation, this study applied the Sobel Test by calculating the z-statistic value from the indirect effect coefficient and its associated standard error (Ghozali, 2021; Sobel, 1982).

3. Result and discussion

3.1 Results

3.1.1 Demographic Profile of Respondents

The respondents' background description provides an overview of the alumni composition serving as subjects in this study. Primary data collection conducted via the online questionnaire successfully gathered 371 responses from alumni actively registered on the Harisenin.com alumni Slack communication platform. Based on completeness and consistency evaluation, 368 respondent data entries were deemed eligible for further analysis. Understanding these demographic characteristics is crucial to providing a comprehensive contextual overview of the studied sample's social and professional profile.

Table 1 demonstrates that the majority of respondents in this study were female, numbering 216 individuals or 58.2 percent, whereas male respondents numbered 155 individuals or 41.8 percent. In terms of age groups, the majority of respondents fell into the early productive age bracket. The 26 to 30 years age group was the largest, with 180 individuals or 48.5 percent, followed by the 21 to 25 years age group with 161 individuals or 43.4 percent. Combined, alumni aged between 21 and 30 years comprised 91.9 percent of the entire sample. This dominance of the young age group aligns with the characteristics of digital short course participants who are in a transition phase from education to the workforce or are attempting to develop their early careers.

Table 1. Demographic Distribution of Respondents

Demographic Category	Classification	Frequency	Percentage (%)
Gender	Male	155	41.8
	Female	216	58.2
Age	18–20 years	5	1.3
	21–25 years	161	43.4
	26–30 years	180	48.5
	31–35 years	20	5.4
	36–40 years	2	0.5
	Over 40 years	3	0.8
Highest Education	High School/Vocational	39	10.5
	Diploma	14	3.8
	Bachelor's Degree (S1)	303	81.7
	Master's Degree (S2)	15	4.0
Employment Status	Private Employee	186	50.1
	Jobseeker	119	32.1
	University Student	18	4.9
	Civil Servant	17	4.6
	Entrepreneur	14	3.8
	Fresh Graduate	5	1.3
	Others	12	3.2
Training Program	Microsoft Excel	71	19.1
	Digital Marketing	57	15.4

Virtual Assistant & Secretary	46	12.4
External Auditor	34	9.2
Administration Staff	33	8.9
Full Stack Web Developer	32	8.6
Human Resources	31	8.4
UI/UX Design & Product Management	28	7.5
Other Programs	39	10.5

Based on the highest education level, the majority of respondents were highly educated with a Bachelor's Degree (S1) numbering 303 individuals or 81.7 percent, followed by High School/Vocational graduates at 10.5 percent, Master's Degree (S2) at 4.0 percent, and Diploma graduates at 3.8 percent. The educational background dominated by university graduates reflects that the alumni possess a solid understanding of digital media and the usage of online communication platforms. Meanwhile, based on the occupational profile, respondents working as private employees formed the largest group with 186 individuals or 50.1 percent, followed by the jobseeker group with 119 individuals or 32.1 percent. The combination of these two groups reached 82.2 percent, confirming that the primary orientation of members joining the alumni community is for professional competency development, work relation expansion, and the search for career opportunities.

The distribution of respondents based on the training programs attended demonstrated a diversity of expertise backgrounds. The Microsoft Excel training program contributed the largest number of respondents with 71 individuals or 19.1 percent, followed by Digital Marketing with 57 individuals or 15.4 percent, and Virtual Assistant with 46 individuals or 12.4 percent. This diversity of training program origins indicates that the Harisenin.com alumni community ecosystem is multidisciplinary. This characteristic enriches the dynamics of information and knowledge exchange within the digital community platform.

3.1.2 Variable Description and Data Quality Test

Descriptive statistical analysis was performed to provide a general overview of respondents' perceptions and response tendencies toward the five research variables. The measurement of all indicators utilized a five-point Likert scale, hence the total score mean was converted into a per-item mean scale for direct interpretation. The measurement results in Table 2 indicate that all research variables possess a high per-item mean value, specifically in the range of 4.000 to 4.076. This indicates that respondents generally provided highly positive responses to all measured dimensions.
The community participation variable as the dependent variable obtained the highest per-item mean value of 4.076 with a standard deviation of 4.0067. This value illustrates that alumni's actual involvement in seeking information, discussing, and attending community activities is classified as highly active. Furthermore, the intention to participate variable acquired a per-item mean value of 4.068 with a standard deviation of 2.9738, reflecting strong psychological readiness, planning, and commitment from

alumni to continuously engage in community activities. Meanwhile, the attitude toward participation and perceived behavioral control variables obtained per-item mean values of 4.053 and 4.038, respectively. The subjective norm variable garnered a per-item mean value of 4.003, showcasing that alumni felt positive encouragement and behavioral examples from their surrounding environment to participate.

Table 2. Descriptive Statistics and Variable Reliability

Research Variable	Number of Respondents (N)	Total Mean	Standard Deviation	Item Mean	Cronbach's Alpha	Reliability Note
Attitude toward Participation (X1)	368	32.4266	3.7315	4.053	0.723	Reliable
Subjective Norm (X2)	368	32.0245	3.8005	4.003	0.729	Reliable
Perceived Behavioral Control (X3)	368	32.3016	3.9221	4.038	0.730	Reliable
Intention to Participate (Z)	367	24.4087	2.9738	4.068	0.780	Reliable
Community Participation (Y)	368	32.6087	4.0067	4.076	0.846	Highly Reliable

Before the data were used to test the structural relationship model, data quality testing encompassing instrument validity and reliability checks had to be fulfilled. Question item validity testing was analyzed using Pearson Product-Moment correlation by comparing the calculated correlation coefficient value (r-count) against the r-table value at a 5 percent significance level for a sample of 368 respondents, which is 0.102. The test results showed that all question items possessed an r-count value significantly exceeding the r-table value and had a significance value of $p < 0.001$. The r-count value range for the attitude variable was 0.374 to 0.681; subjective norm was 0.338 to 0.624; perceived behavioral control was 0.374 to 0.681; intention to participate was 0.428 to 0.700; and community participation was 0.306 to 0.750. These findings proved that all questionnaire instrument items were empirically declared valid.

Instrument reliability testing was analyzed utilizing the Cronbach's Alpha internal consistency technique. An instrument is deemed reliable and acceptable if the Cronbach's Alpha value surpasses the standard methodological threshold of 0.70 (Purnomo, 2016; Sekaran & Bougie, 2016). As presented in Table 3.2, the community participation variable held the highest reliability value of 0.846, followed by intention to participate at 0.780, perceived behavioral control at 0.730, subjective norm at 0.729, and attitude toward participation at 0.723. Because all variables exhibited a Cronbach's Alpha coefficient value above 0.70, the questionnaire instrument used in this study was declared reliable and possessed excellent measurement dependability for subsequent data processing stages.

3.1.3 Regression Model Assumption Testing

Classical assumption testing was carried out to assure that the collected data met parametric regression analysis requirements and yielded unbiased parameter estimates (Best Linear Unbiased Estimator). This series of classical assumption tests included the residual normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test on both structural regression equations.

Residual normality was visually evaluated via the Normal P-P Plot of Regression Standardized Residual graph. The plot results for the first equation with the dependent variable of intention to participate, as well as for the second equation with the dependent variable of community participation, showed that the data points were distributed tightly around the diagonal straight line and followed the direction of the diagonal line. This distribution pattern verified that the residual values of both regression models were normally distributed, thus meeting the normality assumption requirement.

Table 3. Multicollinearity and Autocorrelation Test Results

Substructure Model	Independent Variable	Tolerance	VIF	Durbin-Watson	Assumption Note
Substructure 1 (Z)	Attitude toward Participation (X1)	0.459	2.178	2.101	Free from Multicollinearity & Autocorrelation
	Subjective Norm (X2)	0.531	1.882		
	Perceived Behavioral Control (X3)	0.499	2.006		
Substructure 2 (Y)	Attitude toward Participation (X1)	0.422	2.371	1.950	Free from Multicollinearity & Autocorrelation
	Perceived Behavioral Control (X3)	0.518	1.932		
	Intention to Participate (Z)	0.503	1.988		

The multicollinearity test was executed to examine whether there was perfect correlation or highly severe linear correlation among the independent variables within the regression model. The requirement for a model free from multicollinearity is possessing a Tolerance value above 0.10 and a Variance Inflation Factor (VIF) value below 10 (Ghozali, 2021). Based on Table 3.3, all independent variables in the first substructure equation had Tolerance values between 0.459 to 0.531 and VIF values between 1.882 to 2.178. Similarly, in the second substructure equation, Tolerance values resided in the range of 0.422 to 0.518 with VIF values between 1.932 to 2.371. Because all Tolerance values were well above 0.10 and VIF values were well below 10, it was concluded that no multicollinearity issues occurred among independent variables in the regression models.

Subsequently, the autocorrelation test was evaluated using the Durbin-Watson statistic to ensure that there was no correlation between confounding errors in the observation period. Analysis results exhibited a Durbin-Watson value of 2.101 for the first substructure equation and 1.950 for the second substructure equation. These Durbin-Watson values, residing around the number 2, indicated that the cross-sectional data residuals in this study were free from autocorrelation problems. Lastly, heteroscedasticity was tested via a scatterplot graph charting standardized predicted values against standardized residual values. The scatterplot display showed that data points spread randomly above and below the number 0 on the Y-axis without forming specific regular patterns such as waves or fan-like widening. This confirmed that the variance of the residuals was homogeneous (homoscedasticity).

3.1.4 Path Analysis and Mediation Testing

The structural causal relationship among variables was analyzed utilizing the Path Analysis method, divided into two substructure regression equations. Prior to analysis execution, the ordinal data from the Likert scale was first transformed into an interval scale using the Method of Successive Interval (MSI) to comply with parametric statistical test requirements (Iba & Wardhana, 2023). Regression testing results for both substructures are succinctly presented in Table 4.

Table 4. Summary of Path Analysis Estimation

Substructure Equation	Predictor Variable	Regression Coefficient (B)	Standard Error	Path Coefficient (β)	t-Value	Significance (p)	R^2	F-Test (p)
Substructure 1 Dependent Variable: Intention (Z)	Constant	3.820	1.059	-	3.606	< 0.001	0.518	F = 129.823 (p < 0.001)
	Attitude (X1)	0.347	0.043	0.436	8.125	< 0.001		
	Subjective Norm (X2)	0.160	0.039	0.204	4.096	< 0.001		
	Perceived Control (X3)	0.130	0.039	0.171	3.321	0.001		
Substructure 2 Dependent Variable: Participation (Y)	Constant	1.442	1.152	-	1.252	0.211	0.671	F = 247.331 (p < 0.001)
	Attitude (X1)	0.329	0.049	0.310	6.697	< 0.001		
	Perceived Control (X3)	0.347	0.042	0.342	8.200	< 0.001		
	Intention (Z)	0.382	0.057	0.286	6.744	< 0.001		

The first substructure equation tested the simultaneous and partial effect of attitude toward participation (X1), subjective norm (X2), and perceived behavioral control (X3) on the intention to participate (Z). The F-Test statistical results produced an F-count value of 129.823 with a significance value of $p < 0.001$. The coefficient of determination (R^2) value of 0.518 showed that 51.8 percent of the intention to participate variance could be jointly explained by attitude, subjective norm, and perceived behavioral control variables, while the remaining 48.2 percent was explained by other factors outside the model. The magnitude of the first substructure residual effect was $e1 = \sqrt{(1 - 0.518)} = 0.694$. Partially through the t-Test, all three variables were proven to have a positive and significant effect on intention to participate. Attitude toward participation served as the most dominant predictor in forming intention ($\beta = 0.436$; $t = 8.125$; $p < 0.001$), followed by subjective norm ($\beta = 0.204$; $t = 4.096$; $p < 0.001$), and perceived behavioral control ($\beta = 0.171$; $t = 3.321$; $p = 0.001$). Consequently, Hypotheses H1, H2, H3, and H8 were declared significantly accepted.

The second substructure equation tested the effect of attitude toward participation (X1), perceived behavioral control (X3), and intention to participate (Z) on actual community participation (Y). The F-Test results yielded an F-count value of 247.331 with a significance value of $p < 0.001$. The coefficient of determination (R^2) value of 0.671 demonstrated that 67.1 percent of the actual community participation variance was successfully explained by this model, with a residual value of $e2 = \sqrt{(1 - 0.671)} = 0.574$. Partially through the t-Test, all independent variables possessed a positive and significant effect on community participation. Distinct from intention formation, perceived behavioral control emerged as the determinant with the largest direct effect on actual community participation ($\beta = 0.342$; $t = 8.200$; $p < 0.001$), followed by attitude toward participation ($\beta = 0.310$; $t = 6.697$; $p < 0.001$), and intention to participate ($\beta = 0.286$; $t = 6.744$; $p < 0.001$). These results confirmed that Hypotheses H4, H6, and H7 were declared significantly accepted.

Table 5. Sobel Test Mediation Effect Results

Mediation Hypothesis	Indirect Relationship Path	Indirect Effect Coefficient (a×b)	Sobel Standard Error	z-Value	Significance (p)	95% Confidence Interval Limit	Mediation Test Note
H10	Attitude → Intention → Participation (X1 → Z → Y)	0.1326	0.0257	5.156	< 0.001	[0.0822; 0.1829]	Significant Partial Mediation
H11	Subjective Norm → Intention → Participation (X2 → Z → Y)	0.0611	0.0175	3.499	< 0.001	[0.0269; 0.0954]	Significant Mediation
H12	Perceived Control → Intention → Participation (X3 → Z → Y)	0.0497	0.0166	2.985	0.003	[0.0170; 0.0823]	Significant Partial Mediation

To test the significance role of intention to participate (Z) as a mediating variable linking exogenous variables to community participation (Y), this study applied the Sobel Test (Sobel, 1982). As listed in Table 5, mediation testing on the relationship of attitude toward community participation (H10) produced a calculated z-value of 5.156 with $p < 0.001$ and an indirect effect magnitude of 0.1326. Because the direct effect of X1 on Y remained significant ($\beta = 0.310$), the intention to participate was proven to execute a function as a partial mediator (partial mediation). Furthermore, mediation testing on the relationship of subjective norm toward community participation (H11) resulted in a calculated z-value of 3.499 with $p < 0.001$ and an indirect effect of 0.0611. Mediation testing on the relationship of perceived behavioral control toward community participation (H12) yielded a calculated z-value of 2.985 with $p = 0.003$ and an indirect effect of 0.0497. Since all calculated z-values exceeded the critical value of 1.96 at the 5 percent significance level and the 95 percent confidence interval range did not include the number zero, Hypotheses H10, H11, and H12 were officially declared significantly accepted.

3.2 Discussion

3.2.1 The Role of Cognitive and Affective Attitudes in Forming Participation Intention

Research findings indicated that attitude toward participation constitutes the strongest and most dominant predictor in forming alumni participation intention ($\beta = 0.436$; $t = 8.125$; $p < 0.001$). This statistical result confirms the theoretical foundation of the Theory of Planned Behavior, explaining that a person's intention to act begins with an internal evaluation process of that action's impact (Ajzen, 1991; Fishbein & Ajzen, 2011). When alumni believe that involvement in a community will offer tangible benefits for themselves, the psychological drive to participate in community activities will be robustly established. Within the digital training alumni ecosystem, this positive evaluation forms because members perceive clear added value toward their self-development.

Alumni's positive attitude is formed via two main dimensions: instrumental cognitive evaluation and affective experience evaluation (Francis et al., 2004). Cognitively and instrumentally, alumni assess that participation in the community provides direct benefits in the form of professional competency enhancement, work network expansion, and an openness of access to new career opportunity information. Meanwhile, affectively, alumni feel comfort, pleasure, and an absence of pressure when interacting within the community's digital platform. The combination between perceived concrete career benefits and a pleasant emotional experience triggers the birth of readiness, planning, and alumni commitment to continually be involved in various future community agendas (Offermann et al., 2025).

The dominance of the attitude variable as an intention driver aligns with the findings of Peddell et al. (2025), who examined teacher participation in online learning communities. The study confirmed that professional benefit evaluation acts as the primary key mobilizing individual participation intention. The consistency of this finding is also corroborated by the research of Tran et al. (2021) and Savari and Khaleghi (2023), which demonstrated that positive assessment of an action's consequence consistently becomes the main determinant in building intention. For digital training institution alumni, career development benefits are highly concrete because they are in the workforce transition phase. Therefore, community managers cannot merely multiply

event announcements; they must clearly communicate the value, benefit, and tangible impact of every organized activity.

3.2.2 Social Influence and the Alumni Community's Normative Environment

Structural analysis results proved that subjective norm has a positive and significant effect on intention to participate ($\beta = 0.204$; $t = 4.096$; $p < 0.001$). This finding strengthens the normative belief concept in the Theory of Planned Behavior, which posits that an individual's perception concerning the expectations of people around them concurrently forms motivation to perform an action (Fishbein & Ajzen, 2011). In the context of alumni communities, this social push originates from the support of fellow cohort peers, mentor invitations, observations of other alumni's activeness, and platform administrator facilitation. When alumni see their social environment viewing community participation as something positive and beneficial, they will be driven to adjust their behavior to those social expectations.

Although possessing a significant effect, the contribution of subjective norm in forming intention is relatively smaller compared to the attitude variable. This phenomenon provides an interesting picture concerning the psychological characteristics of young adults in digital spaces. Alumni community members tend to make decisions based on independent evaluations regarding an activity's benefit for their personal career rather than merely fulfilling pushes or pressures from the external environment (Alfarizi & Hanum, 2023). Social influence continues to operate as a secondary driver that strengthens commitment, yet it does not serve as the primary reason for a person to join if the activity is deemed not to provide relevant professional benefits.

The finding regarding the positive role of subjective norm reinforces the research results of Rapi and Kassim (2023) and Jia et al. (2022), which discovered that social environment support is capable of elevating an individual's intention to get involved in group activities. This support is also aligned with the research of Ullah et al. (2024) and Gu et al. (2025), emphasizing the significance of social proof in fostering digital community engagement. Practically, community managers can utilize the involvement of successful alumni figures and mentors as positive behavioral role models. The presence of key figures actively sharing experiences will create a mutually supportive community atmosphere, consequently encouraging other members to get involved without feeling emotionally coerced.

3.2.3 Perceived Behavioral Control and the Intention-Behavior Gap Phenomenon

The most crucial finding in this study is seen in the role of perceived behavioral control. This variable not only exerted a positive effect on intention formation ($\beta = 0.171$; $t = 3.321$; $p = 0.001$) but also served as the determinant with the largest direct effect toward actual participation behavior ($\beta = 0.342$; $t = 8.200$; $p < 0.001$). This dual pattern confirms the Theory of Planned Behavior's assumption that perceived behavioral control can directly trigger real action if individuals feel they possess adequate resources and opportunities (Ajzen, 1991, 2002). Alumni who believe they are capable of managing their time, easily accessing the communication platform, and overcoming technical constraints will more easily manifest their intention into concrete participation actions.

The magnitude of perceived control's direct effect on actual behavior elucidates the intention-behavior gap phenomenon. An alumnus might hold a highly positive

attitude and a strong intention to participate, yet that intention frequently fails to actualize into real action if they encounter operational hindrances. Such hindrances could take the form of event schedules clashing with working hours, complicated platform usability, or difficult-to-find event information (Fontaine & Cossette, 2022). When these practical barriers are successfully diminished, the convenience felt by alumni will directly mobilize them to attend, discuss, or seek information within the community.

These results support the findings of Zhang et al. (2022) and Cheng et al. (2022), illustrating that belief in ease and resource availability constitutes the primary determinant for participation behavior realization. This finding also aligns with Low et al.'s (2026) study concerning the importance of controlling technical barriers in bridging intention into tangible action. The practical implication for community managers is the imperative to reduce alumni participation costs. Managers need to provide consistent event schedules, one-click access links, material summaries, post-event recording options, as well as user-friendly digital platform interfaces to minimize members' operational constraints.

3.2.4 Intention Mediation Mechanism and Alumni Ecosystem Management Implications

Sobel Test evaluation confirmed that the intention to participate legitimately executes a function as a mediating variable connecting attitude ($z = 5.156$; $p < 0.001$), subjective norm ($z = 3.499$; $p < 0.001$), and perceived behavioral control ($z = 2.985$; $p = 0.003$) with actual community participation. Because the direct effects of attitude and perceived control on participation remained significant after intention was incorporated into the model, the mediation form that occurred was partial mediation (Ghozali, 2021). This finding offers a critical theoretical extension to the traditional Theory of Planned Behavior. While TPB traditionally positions intention as the primary direct antecedent to behavior, this study reveals that in digital community contexts, attitude and perceived behavioral control can directly trigger actual participation without strictly going through a conscious planning phase. These results proved a hierarchical psychological process: beliefs concerning benefits, social drives, and access ease primarily form mental readiness in the shape of intention, which subsequently culminates in tangible participation action in the field. The existence of this partial mediation indicates that actual community participation is formed via two paths simultaneously: an indirect path demanding mature intention planning, and a spontaneous direct path. Unlike physical environments where participation (e.g., attending in-person seminars) requires significant logistical preparation and strong premeditated intention, digital environments inherently promote more impulsive and spontaneous engagement. Platform features such as push notifications and frictionless interfaces allow members who simply possess a positive attitude or feel high platform accessibility (PBC) to instantly execute micro-participations such as leaving quick replies, liking a post, or opening an announcement without requiring prolonged intention (Cao et al., 2023). On one hand, alumni plan their attendance at major events such as knowledge-sharing sessions or career clinics. On the other hand, several forms of participation in digital communities can occur spontaneously. Therefore, community participation must be broadly understood to encompass four action forms: event attendance, information seeking, knowledge sharing, and interpersonal interaction (Malinen, 2015; Tsai & Pai, 2013; Wenger et al., 2002).

The validation of all relationship paths within this model bestows a theoretical contribution toward the extension of the Theory of Planned Behavior on digital training alumni community ecosystems in Indonesia. Practically, community management strategies must not focus on solely one aspect. Educational technology platform managers must execute two strategies concurrently: building perceived benefits and social support to cultivate participation intention, while simultaneously trimming various technical and operational barriers to facilitate that intention transforming into real action (Tridapalli & Elliott, 2023). By harmonizing internal psychological drives and external infrastructure ease, the long-term sustainability of alumni engagement can be optimally actualized.

4. Conclusion

This study concludes that the Theory of Planned Behavior is capable of explaining member engagement dynamics within digital training alumni community ecosystems in Indonesia. The formation of alumni participation intention is dominantly mobilized by cognitive evaluations of career benefits and pleasant affective emotional experiences. However, the realization of tangible participation actions is substantially determined by the magnitude of perceived behavioral control. This proves that strong intention will not transform into real participation action if alumni face operational hindrances and platform accessibility constraints. The intention to participate was proven to serve as a partial mediator connecting internal psychological drivers with real action in the digital community, encompassing event attendance, information seeking, knowledge sharing, and interpersonal interaction.

Practically, Harisenin.com community managers and educational technology platforms should focus strategies on reducing participation costs through the provision of one-click access, schedule flexibility, and a user-friendly platform interface, in addition to continuously communicating concrete event impacts for career development. Managers can also utilize successful alumni figures as social role models to fortify normative drives without exerting emotional pressure. Academically, future research is recommended to apply variance-based structural equation modeling (PLS-SEM) with the bootstrapping method, adopt a longitudinal design to measure temporal sequences precisely, and integrate contextual variables such as a sense of belonging to the community and digital interaction quality.

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