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Measuring Blended Learning Acceptance: Integrative Learning And Utaut Models

Khaerudin[1]*, Sriadhi[2] , Otib Satibi Hidayat[3]
[1, 3]*Universitas Negeri Jakarta, Indonesia*
[2]Universitas Negeri Medan
E-mail address: khaerudin@unj.ac.id ; sriadhi@unj.ac.id ; otibsatibi@unj.ac.id

ABSTRACT

Purpose – This look at investigates the acceptance of blended learning among students with the aid of using the Integrative Learning Design Framework and the Unified principle of acceptance and Use of generation (UTAUT) model. As educational establishments more and more adopt blended learning of tactics and information the elements influencing scholar acceptance are critical for a successful implementation. These research objectives are to evaluate the effectiveness of those fashions in measuring attractiveness tiers and discover key determinants of adoption.

Methodology – A combined-methods technique was utilized, related to surveys and interviews with college students from numerous educational backgrounds. The UTAUT-primarily based questionnaire assessed factors inclusive of overall performance expectancy, attempt expectancy, and social impact on, and facilitating conditions. The information was analyzed the usage of statistical techniques to decide the connection between these factors and attractiveness ranges.

Findings – The findings indicate that overall performance expectancies and social impact appreciably effect students' attractiveness of mixed mastering. The Integrative Learning of the Design Framework provided precious insights into the contextual factors influencing adoption. They have a look at and conclude that each fashions efficaciously investigate blended learning acceptance and provides hints for educators to enhance pupil engagement in blended learning environments.

Significance – enhancing instructional results: with the aid of knowledge of the elements influencing scholar acceptance of bleanded learning, educators and establishments can tailor their processes to maximize engagement and improve learning consequences.

Keywords: Blended Learning, Integration Learning, Model UTAUT, student engagement, blended learning environments.

INTRODUCTION

Blended learning has gained extensive traction in instructional settings due to its ability to merge traditional teaching techniques with modern online knowledge of reviews. It offers students a broad and tasty knowledge of the environment. An important factor in the information student popularity of blended learning lies in using installed theoretical frameworks, including the Unified Theory of Acceptance and Use of Technology (UTAUT) model. The UTAUT model identifies key elements, consisting of overall performance expectancy, attempt expectancy, social impact, and facilitating situations, that are, in particular, relevant for assessing how college students perceive and are given blended learning environments (W. Cao, 2023; Wang & Lin, 2024).

Recent research indicates that blended learning enhances flexibility and actively contributes to college students' emotional and cognitive engagement. For example, Cao emphasizes the role of blended learning in fostering technological skills amongst college students through flexible schedules and self-paced knowledge of possibilities (C. Cao, 2023). This potential to tailor learning stories aligns with the UTAUT version's emphasis on performance expectancy, wherein students understand blended learning as useful for his or her academic outcomes. Moreover, studies have recognized that social interplay within mixed environments fosters an experience of community and collaboration, which might be crucial

factors for pupil attractiveness, as observed in diverse blended learning studies (Chitanana, 2024; X. Li et al., 2024).

Demanding situations persist inside the implementation of blended learning, such as limitations inclusive of insufficient infrastructure and a lack of proper schooling for educators, which could restrict successful adoption and sustainability. Nonstop funding for generation and academic infrastructure is vital to enhance the effectiveness of blended learning methodologies, as highlighted through current findings on blended learning in better training contexts (Khan et al., 2021). Furthermore, the transition necessitates that educators no longer best adapt their teaching patterns; however, they additionally include the powerful integration of generation in ways that resonate with college students' gaining knowledge of alternatives and desires, as discussed in studies of emotional engagement and educational design (de Ávila Fialho et al., 2020; Fu et al., 2024).

The empirical proof indicates that blended learning environments align well with pupil options and are instrumental in driving better engagement levels. Findings from a systematic evaluation regarding the utility of the Community of Inquiry framework show that pupil engagement is considerably stimulated with the aid of the elements present in blended learning fashions (X. Li et al., 2024). Moreover, personalized instructional processes utilizing adaptive mastering technology have proven promising in taking pictures of pupil interest and promoting active participation in their mastering journeys (Filippidi et al., 2023; Ingham, 2021). Such insights into the determinants of pupil acceptance can inform educational strategies that correctly utilize blended learning frameworks. Understanding the factors that foster student acceptance of blended learning with the aid of applying theoretical frameworks, including UTAUT and the Integrative Learning of Design Framework, is pivotal for enhancing instructional practices. As academic institutions continue to navigate those multifaceted demands, insights gleaned from modern-day research underscore the significance of creating supportive infrastructures and adopting revolutionary pedagogical practices that embody the era's position in education.

This observation objectives to bridge the distance within the literature with the aid of employing those models to evaluate the popularity of blended learning amongst college students. Through doing so, it seeks to identify the important determinants that affect pupil attitudes in the direction of blended learning and provide actionable insights for educators and policymakers. The research questions guiding this observation are: (1) What elements substantially impact scholar acceptance of blended learning? (2) How effective are the Integrative Learning Design Framework and UTAUT model in measuring acceptance tiers?

This paper starts with a comprehensive overview of the literature on blended learning and technology acceptance models, observed with the aid of an in-depth description of the method employed in the have a look. The effects segment provides the important findings, which are then mentioned within the context of existing research. The paper concludes with pointers for boosting blended learning adoption and recommendations for destiny research instructions. Through this examination, we aim to make a contribution to the information of blended learning dynamics and help the improvement of powerful instructional techniques.

LITERATURE REVIEW

Blended learning, described by way of the combination of conventional face-to-face training with online knowledge of activities, has garnered extensive interest in present-day instructional studies. This rising hobby is essentially due to its capacity to provide greater mastery reviews and advanced instructional effects. As institutions internationally step by step embody this educational technique, a nuanced know-how of the factors influencing its reputation and effectiveness is paramount. This literature overview synthesizes existing research surrounding blended learning of the Integrative Learning Design Framework and the Unified Theory of Acceptance and Use of Technology (UTAUT) model, elucidating their relevance in this domain.

Blended learning fundamentally alters the academic landscape by way of allowing for a more personalized and flexible getting-to-know experience. According to Kaur and Gopal, the transition to online training catalyzed by the COVID-19 pandemic marked a pivotal moment for digital mastering

practices, emphasizing a need for frameworks that enhance engagement and accessibility in gaining knowledge of environments (Kaur & Gopal, 2024). The role of combined getting to know in selling flexibility is, in addition, underscored utilizing Cao, who asserts that such frameworks empower college students to interact with academic substances at their own pace, facilitating effective knowledge of techniques tailor-made to their desires (W. Cao, 2023).

The effectiveness of blended learning is closely tied to the empirical frameworks that underpin its implementation, which include the Integrative Learning Design Framework and the UTAUT model. The UTAUT model, which identifies overall performance expectancy, attempt expectancy, social effect on, and facilitating conditions as essential factors, offers a treasured lens through which to assess pupil acceptance of blended learning environments. Studies by Wang and Lin spotlight how these elements substantially make contributions to mastering engagement in combined settings, revealing that once students experience the version that complements their gaining knowledge of consequences, they're much more likely to embrace it (Wang & Lin, 2024). Moreover, the Integrative learning design Framework emphasizes the importance of contextual and learner-centric considerations in the layout of blended environments, suggesting that powerful educational interventions should align with the precise needs and contexts of students (Rocha & Doyle, 2024).

Research similarly emphasizes the implications of social and cognitive engagement combined, getting-to-know frameworks. Li et al. performed a systematic assessment that revealed how the combination of social, cognitive, and coaching presence significantly enhances student engagement and mastery results in combined education, specifically in language acquisition contexts (Y. Li et al., 2025). Building on this research that specializes in collaborative practices, consisting of the ones noted by Kasmini et al. and Chitanana, shows how blended learning can solidify values which include solidarity and problem-solving abilities amongst inexperienced persons (Chitanana, 2024; Kasmini & Prayudi, 2024).

Even though challenges still abound, particularly regarding infrastructure and educator preparedness. The findings indicate that while combined studying offers promising possibilities for boosting educational studies, massive barriers persist, together with insufficient technological resources and a deficit in educator education necessary for powerful mixed instructional strategies (Abuhassna et al., 2022; Dascalu et al., 2021). This necessitates ongoing funding in education and assets to make sure that blended learning can be implemented effectively and sustainably inside numerous instructional contexts. The exploration of blended learning through the lens of installed frameworks, along with the UTAUT model and the Integrative Learning Design Framework, exposes valuable insights into the elements that can decorate or inhibit student acceptance and effectiveness of combined environments. By spotting and addressing the multidimensional factors that impact pupil engagement and attractiveness, educators and institutions can better cater to the evolving panorama of schooling that increasingly integrates technological advancements into pedagogical practices.

Blended Learning and Its Significance

Blended learning, which integrates conventional face-to-face coaching with online mastering additives, has emerged as a good-sized instructional modality, recognized for its flexibility and its capacity to tailor learning experiences to diverse student desires. Key blessings of blended learning encompass more suitable scholar engagement, motivation, and academic overall performance, supported utilizing evidence that highlights the benefits of combining online and conventional academic fashions (Bayley & Hurst, 2018; Glazer, 2023; Liao et al., 2023). A hit implementation of blended learning calls for cautious attention to numerous critical elements, such as technological infrastructure, educational layout, and pupil readiness(C. Brown et al., 2018; Hongli & Shuang, 2024).

Research suggests that the flexibility inherent in blended learning fosters more accessibility and personalized reports. For instance, Kaur and Gopal illustrate how tasks like PM e-VIDYA have superior virtual schooling through reaching millions of inexperienced persons, showcasing the impact of blended learning throughout the COVID-19 pandemic (Kaur & Gopal, 2024). Furthermore, Cao emphasizes the potential for blended learning to enhance college students' generation talents by supplying possibilities for independent learning at their own pace, fundamentally reshaping their instructional reviews (W. Cao,

2023). Building on this, Chitanana's studies highlight that to preserve beneficial educational practices, non-stop investments in generation and professional education for educators are crucial (Chitanana, 2024).

Moreover, blended learning environments have been proven to create a more engaging atmosphere for students. Yang et al. performed a scientific evaluation revealing that the combination of social, cognitive, and teaching presence appreciably boosts pupil engagement in mixed settings, particularly in contexts together with language acquisition (Yang et al., 2024). This aligns with Wu et al.'s findings that various academic strategies, together with gender mainstreaming and collaborative hassle-fixing in flipped study room fashions, not only enhance vital thinking but also foster a feeling of network among students (H.-T. Wu et al., 2021). This research suggests that mixed knowledge can no longer handiest instructional fulfillment; however, additionally critical to have interpersonal competencies(de Brito & Terrado, 2024).

Despite its advantages, the hit deployment of blended learning encounters challenges. Vital limitations such as inadequate infrastructure, insufficient educator education, and variability in scholar readiness need to be addressed. For instance, a focal point on instructional design that incorporates various pedagogical techniques can beautify pupil engagement; studies suggest that after students understand blended learning as enriching, their engagement ranges drastically (Krishnan, 2018). Moreover, effective education packages for educators are crucial to equip them with the abilities essential to facilitate engagement in combined environments correctly, thereby enabling them to take on a mentor-like function at some stage in one-on-one or group sessions (Esnaashari et al., 2025; Öncü & Bichelmeyer, 2021). Blended learning represents a transformative method of schooling that holds full promise for improving student outcomes. With the aid of integrating theoretical insights from existing frameworks with empirical study findings, academic establishments can navigate the complexities associated with their implementation. The insights won from research on scholar engagement, the significance of supportive technological infrastructure, and targeted expert improvement are vital for harnessing the entire capacity of combined learning in diverse instructional contexts.

Learning Acceptance and Adoption

Studies on getting to know acceptance and adoption emphasize knowledge of the factors that affect students' willingness to interact with emerging instructional technology. Key determinants of this popularity encompass perceived usefulness, ease of use, and the compatibility of generation with students' gaining knowledge of styles and goals. As combined getting to know continues to benefit prominence in academic contexts, successfully addressing these determinants is essential for designing environments that align with students' wishes and enhance their educational experiences.

Blended learning environments, which merge traditional pedagogy with online preparation, were shown to enhance engagement and satisfaction amongst college students extensively. For example, research using Brown et al. discusses how the rapid transition to online mastering at some stage in the COVID-19 pandemic necessitated improvements that, in the end, highlighted the importance of generation in schooling, revealing a growing attractiveness amongst beginners (T. Brown et al., 2022). This aligns with findings from Sun et al., which reveal that introducing various perspectives and methodologies within combined frameworks can enhance vital questioning and universal engagement among college students, suggesting that instructional technology should not must be perceived as useful but also be integrated into the learning enjoy in meaningful ways (Sun et al., 2024).

The role of perceived usefulness, a core element of the UTAUT model, is highlighted in Zaim et al.'s research, which shows that blended learning can facilitate the acquisition of critical skills wished for a cutting-edge team of workers in environments through leveraging technology for academic functions (Zaim et al., 2024). This displays the significance of educational design, which considers the specific pedagogical wishes and gaining knowledge of the goals of students. Effective blended learning requires that academic technologies align intently with college students' current skills and learning possibilities, thereby improving their perceived ease of use and overall engagement within the mastering system (Liao et al., 2023). Moreover, the concept of scholar readiness is essential in know-how acceptance. Research performed with the aid of Wang and Lin identifies various factors that drastically impact studying engagement in combined settings, which include students' previous studies with technology(Hongli &

Shuang, 2024). It's far stated that after students arrive in blended learning surroundings with a proactive mindset and previous know-how of the gear being used, their engagement levels boom, demonstrating the necessity for educational institutions to implement preparatory applications that foster technological competence among college students earlier than they participate in blended learning approaches.

The significance of social capabilities in technology reputation also plays an important role. For example, the presence of social interplay and collaboration potential in blended learning structures can impact college students' perceptions of these environments. Research shows that when students sense a sense of community and reference to peers, their motivation to interact with technology increases (Fu et al., 2024). Therefore, designing blended learning studies that promote social interaction can result in higher costs of technology reputation. Understanding the determinants of studying attractiveness and adoption in the context of blended learning is vital for growing powerful instructional stories. By way of making use of theoretical frameworks, including the UTAUT model, and specializing in factors like perceived usefulness, ease of use, and compatibility, educators can lay out blended learning environments that better meet pupils wishes and expectations, thereby facilitating greater engagement and success in mastering.

Integrative Learning Design Framework

The Integrative Learning of Design Framework (ILDF) serves as a complete technique for designing and enforcing powerful learning environments that account for various factors, including context, content, and learner characteristics. This framework emphasizes the alignment of tutorial techniques with freshmen's needs and the academic context, thereby enhancing the general studying experience. By applying the ILDF, educators can create more attractive and effective blended learning environments that cater to various student populations.

Adopting the ILDF allows for a nuanced knowledge of the instructional panorama, which is crucial in the latest dynamic studying environments. Baranova et al. affirm the importance of leveraging advancements in digital schooling to beautify learning stories, especially via the thoughtful integration of eras that suit pedagogical desires (Baranova et al., 2019). This underscores the necessity for educators to bear in mind contextual elements and era landscapes whilst designing combined learning experiences. Furthermore, the ILDF fosters collaboration and vital thinking among college students. Kannan et al. illustrate how regarding college students in various views through a blended learning flipped lecture room version can improve critical questioning and problem-solving talents (Kannan et al., 2020). This approach aligns with the ILDF's standards of enticing inexperienced persons actively in their educational trips, accordingly facilitating deeper learning results. By way of encouraging students to take part in dialogue and collaborative activities, educators can create an extra inclusive and interactive learning environment that displays the essential values of the ILDF.

Shaya et al. research into mixed coaching emphasizes that such learning models can efficaciously foster vital abilities through the mixing of flexible and handy technological sources (Shaya et al., 2025). The ILDF advocates for leveraging those assets to create educational greatness and tailoring the learning knowledge of reviews to the character pupil's wishes. This pliability is especially essential in the context of gaining knowledge of patterns and possibilities because it lets instructors conform their coaching strategies to higher alignment with freshmen' expectations. Moreover, the significance of incorporating pupil feedback into academic design can't be overstated. Wu et al. provide insights into comment mechanisms that may inform improvements in blended learning environments (L. Wu et al., 2023). This aligns with the ILDF, which promotes continuous assessment and adjustment of instructional strategies to decorate learner engagement.

Furthermore, the mixing of AI and different technological innovations can improve those comment mechanisms, facilitating real-time modifications and personalized learning of pathways (Altowairiki, 2024). The Integrative Learning Design Framework gives an established and holistic method for designing blended learning environments that meet the various needs of students. Via prioritizing context, content, and learner traits, this framework empowers educators to create attractive and powerful academic reviews. Via the considerate utility of technological assets, lively learning techniques, and

comment mechanisms, the ILDF serves as a guiding framework for the holistic integration of combined learning in current schooling.

UTAUT model and its utility in training

The Unified Theory of Acceptance and Use of Technology (UTAUT) model, advanced by Venkatesh et al., is pivotal in know-how era acceptance, particularly in academic contexts. Through figuring out four key constructs: performance expectancy, effort expectancy, social affect, and facilitating situations, the version offers a framework for assessing elements that pressure students' intentions to interact with instructional technologies. Within the context of training, the utility of the UTAUT model gives treasured insights into the dynamics of era adoption and pupil engagement. Overall performance expectancy relates to the degree to which college students understand that the usage of the era will enhance their learning effects. Studies by Heilporn et al. emphasize how perceived usefulness through the transition to online education can force generation popularity amongst students, especially in initiatives like PM e-VIDYA geared toward improving accessibility and mastering effects (Heilporn et al., 2024). This aligns with the UTAUT assemble, as students are much more likely to adopt technology they consider will help their instructional achievements.

Any other construct, attempt expectancy, refers back to the perceived ease of use associated with technology. Kossen et al. studies indicate that incorporating interactive technology in blended learning environments can simplify the studying process for college students, for that reason improving their willingness to engage (Kossen & Ooi, 2021). While students locate instructional technologies intuitive and reachable, their motivation to engage with the one's technology increases, directly influencing their engagement tiers.

Social influence, the third assemble, captures the effect of social norms and peer dynamics on generation attractiveness. Research by Ayub et al. suggests that collaborative components of blended learning environments foster a feeling of community among students, thereby improving their engagement through peer guidance and shared studying (Ayub et al., 2021)(Kasmini et al., 2024). This social aspect of the studying environment plays a critical role in motivating students to adopt new learning technologies.

Finally, facilitating conditions, inclusive of the availability of assets and institutional guidance, are vital for the successful implementation of blended learning. Although the look of Tomas et al. focuses on nursing training and not in particular on combined learning technology, it does propose that ok infrastructure and assistance significantly have an impact on pupil engagement and the attractiveness of tutorial improvements (Tomas et al., 2024). Moreover, the studies by Ye et al. emphasize the significance of institutional readiness for efficaciously integrating technology in educational settings (Ye et al., 2024). The UTAUT model affords a strong framework for understanding the intricacies of technology acceptance in educational contexts. With the aid of focusing on overall performance expectancy, effort expectancy, social influence, and facilitating situations, educators and establishments can better design interventions and guide systems that sell effective generation adoption. This method fosters a fascinating and responsive learning environment, attuned to the evolving desires of students in increasingly more digital landscapes.

Research Gap

Regardless of the awesome body of research committed to blended learning and era acceptance, massive gaps exist in the literature, in particular regarding the integration of insights from the Integrative Learning of Design Framework (ILDF) and the Unified Theory of Acceptance and Use of Technology (UTAUT) version. Addressing the gaps is crucial for a more nuanced understanding of the factors influencing student acceptance of combined studying environments. This study seeks to employ both models to assess those determinants comprehensively while imparting actionable guidelines for educators and policymakers.

The software of the UTAUT model in educational settings has furnished precious insights into era beauty, yet an integrative method, the use of the ILDF, remains underexplored. For instance, Li et al., diagnosed that present research in massive elements of awareness of the English language and shortage of

exploration of different disciplines at the graduate stage, elevating questions on the generalizability of their findings (X. Li et al., 2024). Furthermore, at the same time as the UTAUT version identifies key constructs together with performance expectancy and social affect, integrating those constructs with contextual and learner trends, as endorsed via the ILDF, might yield an extra holistic framework for assessing blended learning attractiveness.

Moreover, Breiki & Yahaya highlight the urgency for combined analysis strategies to comply in respond to the COVID-19 pandemic, demonstrating the need for academic rules that resource at-scale era integration to decorate reading reviews for diverse populations (Breiki & Yahaya, 2022). However, examples of empirical research that effectively combine ILDF insights with the UTAUT version remain confined. Furthermore, the research conducted by way of the usage of Tomas et al. on nursing students shows that, irrespective of enticing academic opinions, traumatic situations associated with path design and the socio-emotional weather in blended settings persist (Tomas et al., 2024). This emphasizes the need to make use of a comprehensive framework that carries both the wider instructional contexts noted by way of the manner of the ILDF and the predictive efficacy of the UTAUT version to deal with one's stressful situations.

In literature discussing blended learning implementation, Zou & Yu (2022) recognized different factors influencing engagement, which include trainer presence and social interaction (Zou & Yu, 2022). But a maximum of those studies no longer explicitly join those elements to the constructs of the UTAUT version or the factors of the ILDF, hence offering an opportunity for similar research into those correlations. The modern-day literature underscores the need for further studies that combine ILDF and UTAUT model insights to test the factors influencing student attractiveness of combined analysis significantly. Using the use of addressing those research gaps, future research can show the improvement of extra effective blended learning techniques that increase pupil engagement and optimize learning results. This incorporated method can beautify the non-public getting to know opinions of college students and guide educators and policymakers in developing supportive academic environments that foster innovation and achievement.

METHODOLOGY

The studies were performed at Universitas Negeri Jakarta, which has implemented blended gaining knowledge of throughout diverse publications. This examination was conducted with the use of the UTAUT version advanced via (Venkatesh et al., 2016). There are 4 independent variables from the unique UTAUT version that decide the popularity and use of technology, specifically overall performance expectancy (PE), effort expectancy (EE), social impact on (SI), and facilitating situations (FC), as well as 2 structured variables, namely behavioral intention, and use behavior (Venkatesh et al., 2016) so that the variables studied in this study are illustrated in Figure 2.

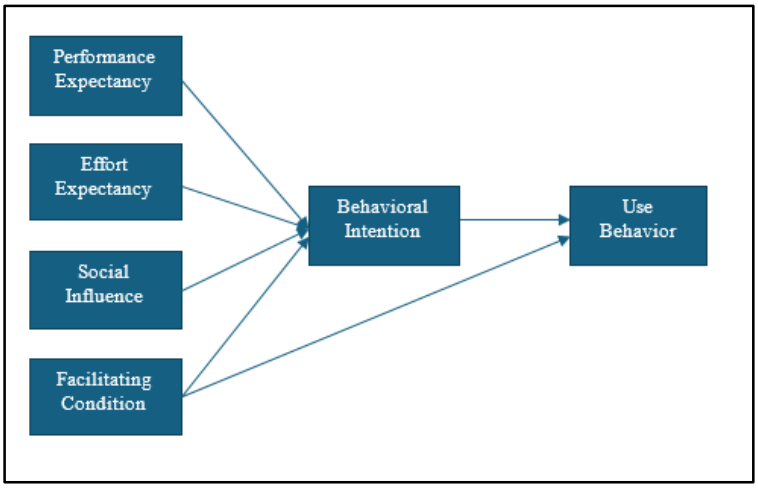

Figure 1. Research Design

The information used in this take a look at is number one, particularly facts acquired directly from respondents. The records collection technique for this examination was a survey. The sampling method used was technical purposive sampling with the subsequent criteria: respondents were all academic technology college students who took the research technique path, which was carried out with a blended learning lecture model. The wide variety of students who became respondents was 68. They're college students who are taking study methods courses in the even semester of the 2019-2020 academic year. They consist of 33 guys and 35 ladies, with a subset of 20 college students selected for follow-up interviews based on their survey responses.

The blended learning model has evolved the usage of the integrated learning of design Framework (ILDF) version. The device used to measure all variables used a Likert scale, namely: 1) Strongly Disagree, 2) Disagree, 3) Neutral, 4) Agree, and 5) Strongly Agree. This device was developed in the study of (Venkatesh et al., 2011). This device turned into advanced to collect statistics on overall performance expectations (PE), attempt expectancies (EE), social impact (SI), facilitating conditions (FC), behavioral intentions (BI), and utilization behavior (UB). Qualitative statistics had been accrued through semi-structured interviews, which explored students' stories with mixed getting to know, their perceptions of its blessings and challenges, and the contextual elements influencing their acceptance. Interviews were carried out in person and recorded with contributors' consent.

Quantitative information has been analyzed using descriptive and inferential statistics, consisting of a couple of regression analyses, to look at the connection between the UTAUT constructs and blended mastering popularity. Statistical software is used to control and examine the statistics, ensuring accuracy and consistency. Qualitative information from interviews was transcribed and analyzed thematically, following the concepts of thematic analysis. This concerned coding the statistics to identify emerging issues and patterns associated with students' acceptance of mixed learning and the contextual elements influencing it. By employing this combined-strategies method, the study provides a comprehensive assessment of blended learning acceptance, providing valuable insights into the elements that power student engagement and adoption.

RESULTS

The results of this study provide insights into the factors influencing student acceptance of blended learning, as assessed through the UTAUT Model and the Integrative Learning Design Framework. The findings are presented in two parts: quantitative results from the survey and qualitative insights from the interviews. The data were analyzed using path analysis in two stages. The first stage tested the effects of performance expectancy, effort expectancy, social influence, and facilitating conditions on behavioral intention, referred to as Regression Model 1. The second stage analyzed the effects of behavioral intention and facilitating conditions on usage behavior, referred to as Regression Model 2. The details can be seen in Table 1.

Table 1

Results of the Analysis Regression Model

Model		Unstandard Coeff.		Std. Coeff β	t	R	R Square	Sig.
		B	Std. Err					
1	(Constant)	0.868	1.650		0.526	0.742	0.550	0.601
	Performance Expectation	0.007	0.108	0.007	0.065			0.949

	Effort Expectation	0.331	0.093	0.437	3.566			0.001
	Social Influence	0.012	0.086	0.016	0.137			0.891
	Facilitating Condition	0.356	0.115	0.366	3.104			0.003
2	(Constant)	25.626	4.195		6.109	0.281	0.079	0.000
	Behavioral Intention	0.554	0.335	0.261	1.655			0.103
	Facilitating Condition	0.061	0.325	0.030	0.187			0.852

The consequences from Regression Model 1 indicate that the significance value for effort expectancy (X2) is 0.001. At the same time, for facilitating situations (X3), it's far 0.003. Both values are below 0.05, signifying that effort expectancy (X2) and facilitating conditions (X4) have a significant effect on behavioral aim (Y1). Conversely, the significance value for overall performance expectancy (X1) is 0.949, and for social impact on (X3), it's 0.891, each of which can be more than 0.05, indicating that those variables do not significantly impact behavioral aim (Y1).

The model precision table for Regression Model 1 shows that the R rectangular cost is 0.550, indicating that 55.0% of the variance in behavioral aim is explained by X1, X2, X3, and X4, even as the last 45.0% is attributed to other variables not covered in this observation. Additionally, the error term e1 is calculated by the usage of the formulation e1 = √(1 - 0.550), resulting in a price of 0.671.

Regression Model 2 effects indicate that the importance value for behavioral aim (Y1) is 0.103 and for facilitating situation (X4) is 0.852. Each value exceeds 0.05, implying that neither the behavioral intention nor facilitating situations drastically impact use conduct (Y2). The model precision table for Regression model 2 suggests that the R rectangular value is 0.554, which means that 55.4% of the variance in use behavior is explained with the aid of X3 and X4, whilst the remaining 44.6% is due to different variables not accounted for in this examination. The error term e2 is calculated as e2 = √(1 - 0.079), resulting in 0.959.

The combined analysis of those fashions affords the following findings in Figure 2.

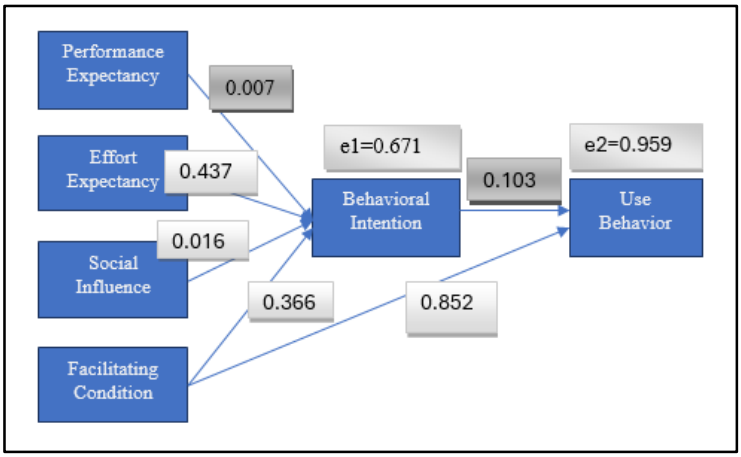

Figure 2. Analysis of Models

The results indicate that performance expectancy has a positive and significant correlation (p-value < 0.05) with behavioral intention. This may be due to the perceived benefits students gain from participating in blended learning using the ILDF model, particularly regarding cost and time efficiency. Similarly, social influence exhibits a positive and significant correlation (p-value < 0.05) with behavioral intention, suggesting that both internal effort expectancy and external social influence, such as peers or mentors, may drive students' intention to adopt blended learning.

However, these relationships do not extend to other variables. Effort expectancy and facilitating conditions do not show a positive and significant correlation (p-value > 0.05) with behavioral intention. This implies that students' effort expectancy and available facilitating conditions do not significantly impact their behavioral intention to engage in blended learning with the ILDF model. Furthermore, the model demonstrates that facilitating conditions do not significantly correlate (p-value > 0.05) with use behavior, which is consistent with the previous result showing that behavioral intention does not significantly correlate with use behavior (p-value > 0.05). This suggests that students' use behavior is not influenced by facilitating conditions or behavioral intention. A key implication of this finding is that blended learning can be implemented using the ILDF model regardless of limitations in facilitating conditions. This implies that even when students face resource constraints, learning can still proceed effectively.

The qualitative findings from the thematic analysis enrich the quantitative results by providing deeper context on students' experiences with blended learning. Below is an interpretation of the key themes:

1. Perceived Flexibility and Convenience
    - Students valued the ability to control their learning pace and schedule, aligning with the effort expectancy construct (ease of use) from the quantitative findings.
    - This flexibility suggests that blended learning accommodates diverse learning styles and responsibilities, making it an attractive option for modern learners.
2. Role of Instructor Support
    - Instructor involvement was crucial in shaping students' acceptance and reinforcing social influence (the impact of authority figures).
    - Clear communication, timely feedback, and guidance helped mitigate challenges, indicating that teacher presence is vital in blended environments to prevent disengagement.
3. Challenges with Technology
    - Technical issues (e.g., unreliable internet, platform accessibility) acted as barriers, negatively affecting effort expectancy and performance expectancy (perceived usefulness).
    - These challenges highlight the need for institutional support in providing reliable infrastructure and tech training to ensure equitable access.
4. Importance of Interactive Elements
    - Collaborative tools (e.g., forums, group activities) enhanced engagement, linking to social influence (peer interaction) and performance expectancy (improved learning outcomes).
    - This suggests that active learning components are essential for sustaining motivation and fostering a sense of community in blended settings.

DISCUSSION

The findings of this study offer valuable insights into the factors influencing student acceptance of blended learning, as assessed through the UTAUT Model and the Integrative Learning Design Framework. This discussion interprets the results in the context of existing literature, explores their implications for blended learning implementation, and addresses the study's limitations.

The quantitative analysis confirms that performance expectancy plays a critical role in predicting the acceptance of blended learning environments. In line with established technology acceptance frameworks, students' belief that blended learning will enhance their academic performance, a construct closely related to perceived usefulness, emerges as the strongest factor influencing adoption (Asunka, 2018; Y. Li et al., 2025). This finding reinforces earlier work suggesting that when students perceive a clear academic benefit from innovative teaching modalities, they are more inclined to adopt these

methods (Harney et al., 2021). Educators, therefore, have a responsibility not only to introduce blended learning but also to actively communicate its potential in terms of improved learning outcomes, a practice that is supported by systematic reviews in the field (Arifin & As'Ad, 2019).

Effort expectancy, representing the ease of use associated with blended learning platforms, is also found to be decisive in determining student engagement (De Bruijn-Smolders & Prinsen, 2024). Research in blended learning environments has consistently noted that intuitive design and user-friendly interfaces significantly reduce cognitive load, thus facilitating smoother integration of technology into everyday learning tasks (Tian & Song, 2024). This underscores the need for developers and institutions to invest in robust, accessible platforms, as the perceived ease of use directly translates into greater student acceptance and sustained engagement (Baragash & Al-Samarraie, 2018).

Social influence is another factor that emerged as a significant predictor of acceptance. The critical role of peer and instructor support, which helps to build a sense of community and shared purpose, has been documented in multiple studies (Salonen et al., 2021). When students observe their peers and educators actively endorsing blended learning, their positive attitudes toward this model are reinforced (Pu & Barnard, 2025). This social reinforcement creates a collaborative environment that nurtures both learning and support, which is essential for educational success in digital contexts. Moreover, qualitative data suggest that even when other predictors are not statistically significant, the endorsement from a supportive network remains a potent influence on student perceptions (Lee et al., 2023).

Although facilitating conditions such as infrastructure and technology reliability were not statistically significant predictors in the quantitative analysis, qualitative insights highlight that they are indispensable as foundational requirements (Herodotou et al., 2020). While the availability of robust infrastructure alone may not drive acceptance, its absence can hinder the successful implementation of blended learning strategies. This distinction between necessity and activation is critical: well-developed infrastructure ensures that other positive predictors (e.g., performance expectancy and effort expectancy) are effectively operational (Xu et al., 2023). Thus, while investments in infrastructure might not directly predict acceptance, they are essential for sustaining long-term engagement and maximizing the benefits of blended learning environments.

The interplay among performance expectancy, effort expectancy, and social influence collectively shapes the acceptance of blended learning. The research synthesis across recent studies (Bouilheres et al., 2020; Evenhouse et al., 2023) emphasizes that for blended learning to be effective, educational institutions must address both the perceived benefits and the ease of technology use while simultaneously nurturing a supportive learning community. Although facilitating conditions may not directly motivate adoption, they remain vital to the overall success and sustainability of blended learning initiatives.

Implications for Blended Learning Implementation

The take a look at's findings have numerous sensible implications for educators and establishments looking to beautify combined studying adoption:

1) Emphasize blessings: Educators have to certainly articulate the benefits of blended learning, specializing in how it is able to improve educational performance and provide flexibility.
2) Beautify usability: institutions need to prioritize the selection and layout of person-friendly platforms that minimize technical obstacles and facilitate seamless navigation.
3) Foster Supportive Environments: Encouraging peer collaboration and supplying strong teacher support can enhance college students' reports and reputation of blended studying.
4) Comprise interactive elements: Incorporating interactive and tasty sports can hold scholars hobbies and motivation, contributing to a more powerful mastering revel.

Limitations of the Study

At the same time as this observe provides treasured insights, it's far essential to acknowledge its boundaries. The research was conducted at a single institution, which may additionally restrict the generalizability of the findings to different educational contexts. Additionally, the cross-sectional layout captures reputation at a single point in time, which might not reflect modifications in attitudes over the

years. Future studies could deal with those barriers by carrying out longitudinal studies and exploring diverse instructional settings.

This look contributes to the knowledge of mixed learning dynamics by identifying key factors that affect a scholar's reputation. Via integrating insights from the UTAUT version and the Integrative mastering layout Framework, the research offers practical hints for enhancing mixed learning implementation. It gives a basis for destiny research in this place. For enhancing blended learning implementation and providing a foundation for future studies in this area.

CONCLUSION

This observation has explored the elements influencing pupil attractiveness of blended learning by using the Integrative Learning Design Framework and the Unified Theory of Acceptance and Use of Technology (UTAUT) model. Via a combined-strategies approach, the research has diagnosed key determinants of attractiveness and furnished treasured insights for educators and establishments seeking to improve the effectiveness of mixed learning environments.

The look at found that performance expectancy, effort expectancy, and social influence are vast predictors of blended learning attractiveness. College students are more likely to embody blended learning once they understand it as beneficial to their educational performance, locate the structures smoothly to apply, and experience support from peers and instructors. Whilst facilitating situations have no longer been a statistically sizable predictor, the qualitative insights highlighted the importance of reliable era get right of entry to and interactive factors in fostering an advantageous mastering experience. By integrating the UTAUT model with the Integrative Learning Design Framework, this study offers a singular method for comparing the combined knowledge of attractiveness. The take look contributes to the growing body of literature on academic generation and affords practical recommendations for reinforcing blended learning implementation. These insights are valuable for educators, administrators, and policymakers aiming to optimize blended learning techniques and improve pupil engagement.

Destiny studies ought to keep in mind carrying out longitudinal studies to evaluate changes in acceptance over the years and discover numerous educational settings to enhance the generalizability of the findings. Additionally, an investigation into the position of particular interactive factors and their impact on scholar engagement could offer deeper insights into effective blended learning design. This look underscores the importance of understanding the elements that power the student reputation of blended getting to know. By addressing those elements, educators and institutions can create more effective and tasty learning environments that help scholar fulfillment in an increasingly digital global.

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