



## FBE Ubaya students' use of ULS in the perspective of the UTAUT model

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**Abstract.** This study aims to analyze the factors influencing the intention and behavior of Business and Economics Faculty (FBE) students at Surabaya University in using the Ubaya Learning Space (ULS) based on the Unified Theory of Acceptance and Use of Technology (UTAUT) model. The UTAUT model, developed by Venkatesh et al., comprises four main variables: performance expectancy, effort expectancy, social influence, and facilitating conditions, as well as two dependent variables, behavioral intention and use behavior. Data was collected through questionnaires distributed to active 2021-2023 FBE UBAYA students who use ULS. Structural Equation Modeling (SEM) analysis using AMOS V23 was employed to analyze the data. The findings indicate that performance expectancy, effort expectancy, social influence, and facilitating conditions have a positive and significant impact on behavioral intention. Moreover, behavioral intention has a significant positive impact on use behavior. These findings are expected to provide insights for UBAYA in developing and improving the effectiveness of ULS as an adaptive online learning platform that meets the needs of students.

**Keywords:** UTAUT, behavioral intention, use behavior, e-learning

## Introduction

Currently, the number of internet users globally has increased very quickly. According to Internet World Stats (2020), more than 4.8 billion people use the internet worldwide, with 184 million people in the Middle East (Abbad, 2021). In the era of globalization filled with rapid advances in information technology, the traditional education paradigm has undergone a significant shift (Khairudin et al., 2019).

The paradigm shift in education towards digital has encouraged the use of learning management systems (LMS) such as Ubaya Learning Space (ULS). However, there are still challenges in adopting LMS, especially related to the platform's ability to fulfill user preferences. Therefore, this study adopts the Unified Theory of Acceptance and Use of Technology (UTAUT) to identify factors that influence the interest and habits of students of the Faculty of Business and Economics (FBE), University of Surabaya (UBAYA) in using ULS.

Research on technology acceptance in education shows mixed results. Abbad (2021) found that effort expectancy has a significant positive effect on behavioral intention in e-learning, but Zacharis and Nikolopoulou (2022) did not find this effect. The results regarding social influence are also conflicting: Abbad (2021) stated that it is not significant, while Zacharis and Nikolopoulou (2022) stated otherwise. In addition, Abbad (2021) found that behavioral intention affects use behavior, while Zacharis and Nikolopoulou (2022) did not. Meanwhile, Estuningrum and Dharma (2022) showed that social influence and facilitating conditions significantly influence students' use of technology. This study aims to enrich

our understanding of the factors that influence the acceptance and use of ULS among FBE UBAYA students. Taking into account the variation in the results of previous studies, especially related to the UTAUT model, this study is expected to make a significant contribution to the development of a more effective LMS utilization strategy at UBAYA.

In light of these varied findings, this study offers a novel contribution by examining LMS acceptance within the context of massive learning platforms. By focusing on a large and diverse student population from a prominent higher education institution, this research extends the UTAUT model to uncover the unique challenges and drivers associated with large-scale digital learning environments. The insights generated are expected to inform more effective strategies for LMS implementation and utilization, ultimately enhancing the digital learning experience in higher education.

## Literature Review

Performance expectancy influences behavioral intention because the higher the performance expectancy, the more likely someone will use the technology or system. This is because they believe that its use will provide significant benefits for the performance or results they expect. Several studies state that performance expectations have a positive and significant impact on students' behavioral intention in using e-learning (Abbad, 2021; Zacharis & Nikolopoulou, 2022; Estuningrum & Dharma, 2022). Referring to this, the proposed hypothesis is as follows:

H1: Performance expectancy significantly has a positive impact on behavioral intention.

Performance expectations have an influence on behavioral intention because when individuals believe that technology or systems are easy to use, they are more likely to intend to use them. Several studies state that expected effort has a positive and significant effect on behavioral intention (Abbad, 2021; Estuningrum & Dharma, 2022). Research by Zacharis and Nikolopoulou (2022), Tarhini et al. (2017), and Ayaz and Yanartaş (2020) highlights that when users perceive positive support from their social environment, their likelihood of adopting e-learning systems increases. Referring to this, the proposed hypothesis is as follows:

H2: Effort expectancy significantly has a positive impact on behavioral intention.

Social influence has an influence on behavioral intention because if someone feels that others support or encourage them in the use of a technology, they are more willing to adopt the technology. Conversely, if their social environment opposes or does not support them in using technology, they are less willing to adopt the technology. Some studies state that social influence has a positive and significant effect on students' behavioral intention to accept and use e-learning systems (Ayaz & Yanartaş, 2020; Tarhini et al., 2017; Zacharis & Nikolopoulou, 2022). Referring to this, the proposed hypothesis is as follows:

H3: Social influence significantly has a positive impact on behavioral intention.

Facilitating conditions have an influence on usage behavior, the existence of facilitating conditions, such as ease of access and intuitive interfaces, significantly contributes to increasing usage behavior. Several studies state that facilitating conditions have a positive and significant effect on student use behavior to accept and use e-learning systems (Abbad, 2021; Kim and Lee, 2020). Referring to this, the proposed hypothesis is as follows:

H4: Facilitating conditions significantly have a positive impact on use behavior.

Behavioral intention has an influence on use behavior because if someone has a strong desire to use a certain technology or system, it is likely that he will be motivated to do so. In other words, the greater the desire or intention to use a technology or system, the greater the likelihood of actively using it. research states that behavioral intention has a positive and significant effect on student usage behavior

to accept and use e-learning systems (Abbad, 2021; Al-Shehri, 2017). Referring to this, the hypothesis proposed is as follows:

H5: Behavioral intention significantly has a positive impact on use behavior.

## Research methodology

This research is classified as basic research or also known as pure research, because this research is testing, modifying, and developing theories from previous research. This research is also categorized as quantitative research, where the data obtained comes from respondents through surveys or questionnaires. The data is then processed and analyzed statistically to produce research findings. In addition, when viewed from the research objectives, this research is classified as causal research considering the nature of the variables in this study are interrelated and have an influence on each other. The population in this study were students of the Faculty of Business and Economics (FBE), University of Surabaya (UBAYA) who actively used Ubaya Learning Space (ULS). The research sample amounted to 150 respondents, selected using a stratified random sampling technique implemented to obtain a representative sample of the population (classified as probability sampling), with the criteria that active students in 2021-2023 who have experience using ULS for at least one year. Primary data was collected using a questionnaire consisting of structured statements based on a 7-point Likert scale, where a value of 1 indicates "strongly disagree" and a value of 7 indicates "strongly agree". The independent variables in this study include performance expectancy, effort expectancy, social influence, and facilitating conditions, while the dependent variables are behavioral intention and use behavior. Data analysis was conducted using the Structural Equation Modeling (SEM) method using AMOS V23 software. Before the main analysis, validity and reliability tests were carried out on 30 respondents to ensure the accuracy and consistency of the research instrument using IBM SPSS Statistics 27.0 software. Furthermore, measurement model testing was carried out using Confirmatory Factor Analysis (CFA) and structural models based on Goodness of Fit (GoF) criteria to assess the feasibility of the model.

## Findings

### Descriptive Statistics

This study involved 150 respondents from the classes of 2021, 2022, and 2023, each with a total of 50 people. Respondents consisted of 25 Management students, 15 Accounting students, and 10 Economics students per batch. The majority of respondents were female (91 people, 60.7%), while men totaled 59 people (39.3%). Most of them were 18-20 years old (109 people, 72.7%), while the rest were 21-23 years old (41 people, 27.3%). Most respondents came from Management majors (75 people, 50%), followed by Accounting (45 people, 30%) and Economics (30 people, 20%). The frequency of using ULS showed 79 respondents (52.7%) accessed every day, 69 respondents (46%) several times a week, and only 2 respondents (1.3%) rarely used ULS. This study focuses on respondents who access the LMS frequently, ensuring that the analysis reflects the experiences and behaviors of truly active users. This approach excludes infrequent users (those who rarely log in), thereby increasing the relevance and accuracy of insights regarding system usage and its impact on learning outcomes.

### Measurement Model Test

Testing the measurement model using Confirmatory Factor Analysis (CFA) by calculating AVE (Average Variance Extraction), which aims to test the validity of each statement item. AVE can be calculated by summing the square of the standard loading of each indicator and then dividing it by the number of indicators available. After that, reliability testing uses Construct Reliability (CR) by summing

the square of the standard loading of each indicator and then dividing it by the sum of the standard loading and plus the sum of 1 minus the standard loading squared.

Analysis of the measurement model test results shows a good level of fit with the data. The CMIN/DF value of 1.145 (below 3), RMSEA of 0.031 (below 0.08), CFI of 0.994 (above 0.9), and TLI of 0.993 (above 0.9) meet the good fit criteria. Meanwhile, the GFI value of 0.880 is in the marginal fit category, indicating adequate model fit.

**Table 1. Standardized Loading, AVE, and CR values**

| Variables               | Indicator | Standardized Loading | AVE<br>(> 0,5) | CR<br>(> 0,7) |
|-------------------------|-----------|----------------------|----------------|---------------|
| Behavioral Intention    | BI1       | 0,931                | 0,867          | 0,963         |
|                         | BI2       | 0,928                |                |               |
|                         | BI3       | 0,927                |                |               |
|                         | BI4       | 0,938                |                |               |
| Use Behavior            | UB1       | 0,915                | 0,849          | 0,957         |
|                         | UB2       | 0,924                |                |               |
|                         | UB3       | 0,920                |                |               |
|                         | UB4       | 0,927                |                |               |
| Performance Expectancy  | PE1       | 0,934                | 0,865          | 0,962         |
|                         | PE2       | 0,926                |                |               |
|                         | PE3       | 0,932                |                |               |
|                         | PE4       | 0,928                |                |               |
| Effort Expectancy       | EE1       | 0,917                | 0,826          | 0,949         |
|                         | EE2       | 0,905                |                |               |
|                         | EE3       | 0,907                |                |               |
|                         | EE4       | 0,906                |                |               |
| Social Influence        | SI1       | 0,920                | 0,831          | 0,952         |
|                         | SI2       | 0,906                |                |               |
|                         | SI3       | 0,901                |                |               |
|                         | SI4       | 0,920                |                |               |
| Facilitating Conditions | FC1       | 0,921                | 0,830          | 0,951         |
|                         | FC2       | 0,896                |                |               |
|                         | FC3       | 0,905                |                |               |
|                         | FC4       | 0,922                |                |               |

These research items are valid and reliable, so the measurement model built has met the criteria for use in further analysis.

**Structural Model Test**

The results of the structural model analysis show a good level of fit with the data. The CMIN/DF value of 1.177 (< 3) indicates good fit, while the RMSEA of 0.034 (< 0.08) also meets the criteria for good fit. The CFI and TLI values of 0.992 and 0.991 (>0.9), respectively, indicated good fit, while the GFI of 0.876 met the criteria of marginal fit.

Hypothesis Testing

Based on the Table 2, it can be seen that H1, H2, H3, H4, and H5 have a CR value of more than 1.96, which indicates that the five hypotheses are significant and supported, thereby affirming that the UTAUT constructs—performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioral intention—are all critical determinants in predicting user acceptance and actual use behavior in digital learning environments.

Table 2. Hypothesis Testing Results

|           | Influence                                    | Estimate | S.E   | C.R   | P-Value  | Description            |
|-----------|----------------------------------------------|----------|-------|-------|----------|------------------------|
| H1<br>(+) | Performance Expectancy→ Behavioral Intention | 0,344    | 0,161 | 2,137 | 0,033*   | Significant, supported |
| H2<br>(+) | Effort Expectancy→ Behavioral Intention      | 0,332    | 0,163 | 2,045 | 0,041*   | Significant, supported |
| H3<br>(+) | Social Influence→ Behavioral Intention       | 0,356    | 0,117 | 3,043 | 0,002**  | Significant, supported |
| H4<br>(+) | Facilitating Conditions→ Use Behavior        | 0,309    | 0,133 | 2,318 | 0,020*   | Significant, supported |
| H5<br>(+) | Behavioral Intention→ Use Behavior           | 0,625    | 0,131 | 4,782 | 0,000*** | Significant, supported |

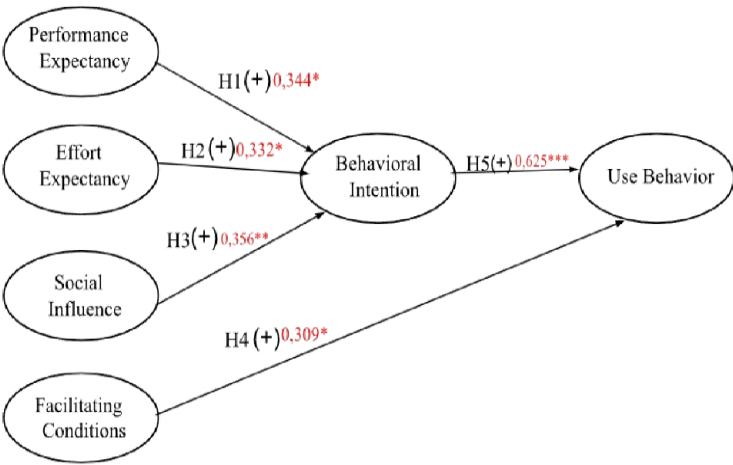


Figure 1. Hypothesis Test Research Model

Discussion

The first hypothesis states that performance expectancy has a positive and significant effect on behavioral intention, supported by a CR value of 2.137 (>1.96) and a p-value of 0.033 (<0.05). This finding is in line with the research of Abbad (2021), Zacharis and Nikolopoulou (2022), Al-Shehri (2017), and Estuningrum & Dharma (2022), which show that performance expectations have a significant positive impact on students' behavioral intention in using e-learning. FBE UBAYA students believe that ULS helps them achieve educational goals, complete assignments faster, and learn more productively through efficient features such as task collection.

The second hypothesis, which states that effort expectancy has a positive and significant impact on behavioral intention, is proven correct with a CR value of 2.045 ( $> 1.96$ ) and a p-value of 0.041 ( $< 0.05$ ). This finding is consistent with the research of Abbad (2021), Estuningrum and Dharma (2022), and Al-Shehri (2017), which indicate that the ease of use of technology encourages user intention. In addition, Tarhini et al. (2017) also support that performance expectations significantly influence behavioral intentions. UBAYA FBE students find ULS easy to understand, with a simple and attractive appearance, thus increasing their intention to use it.

The third hypothesis which states that social influence has a significant positive impact on behavioral intention is proven with a CR value of 2.367 ( $> 1.96$ ) and a p-value of 0.018 ( $< 0.05$ ). This finding is consistent with the research of Zacharis and Nikolopoulou (2022), Ayaz and Yanartaş (2020), Al-Shehri (2017), and Tarhini et al., (2017), which also showed significant social influence on student behavioral intention. However, these results differ from Abbad's (2021) study, which found that social influence was not significant. Thus, it can be concluded that support from close people, lecturers, and peers motivates FBE UBAYA students to use ULS.

The fourth hypothesis which states that facilitating conditions have a significant positive effect on use behavior is supported with a CR value of 2.318 ( $> 1.96$ ) and a p-value of 0.020 ( $< 0.05$ ). This finding is consistent with the research of Abbad (2021), Kim and Lee (2020), Zacharis and Nikolopoulou (2022), and Masa'deh et al. (2016), which both show that facilitating conditions facilitate the adoption of e-learning systems. FBE UBAYA has adequate WiFi internet access to support the use of ULS without obstacles, thus increasing student interest in utilizing it.

The fifth hypothesis, which states that behavioral intention has a positive and significant impact on use behavior, is supported with a CR value of 4.782 ( $> 1.96$ ) and a p-value of 0.126 ( $> 0.05$ ). This finding is in line with previous research by Abbad (2021), Al-Shehri (2017), and Masa'deh et al. (2016), which shows that behavioral intention has a significant effect on e-learning usage behavior. In the context of FBE UBAYA students, behavioral intention encourages them to use ULS, for example, to do and collect assignments efficiently.

These findings underscore the interplay between individual perceptions and external support mechanisms; while students' recognition of the system's benefits and ease of use drives their intention to use the LMS, the positive reinforcement from peers and the availability of robust support infrastructure further facilitate actual usage. This comprehensive validation of the UTAUT model highlights its utility in understanding technology adoption in academic settings and provides empirical support for implementing targeted strategies to enhance both system design and institutional support, ultimately promoting sustained engagement with digital learning platforms.

These insights are particularly relevant for FBE students who are actively using ULS in their learning process, as they emphasize that a well-designed system coupled with strong institutional support is vital for enhancing engagement and academic performance. The results suggest that targeted improvements in both system functionality and support services could further optimize the learning experience, thereby providing a framework for educational administrators and system developers to better tailor digital learning environments to the specific needs of FBE students.

## Conclusions

This study reveals that performance expectancy, effort expectancy, social influence, and facilitating conditions contribute significantly to students' intention and behavior in using Ubaya Learning Space (ULS). The main findings show that behavioral intention plays an important role in driving the actual use of ULS, while facilitating conditions support the adoption process through adequate infrastructure and learning environment. This research also confirms the relevance of the Unified Theory of

Acceptance and Use of Technology (UTAUT) model in the context of technology-based education, especially in higher education in Indonesia.

The strength of this study lies in the application of a proven theoretical model to explore technology acceptance factors among students, providing empirical insights that can assist educational institutions in improving LMS effectiveness. However, this study has limitations, especially in population coverage which is only limited to students of the Faculty of Business and Economics (FBE) UBAYA, so the results may not be fully generalizable to other faculties or different institutions.

As a development, future research can expand the population coverage to various study programs or universities to increase external validity. In addition, exploration of additional variables such as self-efficacy and perceived trust, especially if the study is conducted in a broader context or with different populations.

The findings of this research are expected to make a real contribution to the development of adaptive educational technology, support digital transformation in the learning process, and assist educational institutions in creating a more interactive and efficient learning experience for students.

### Managerial Implications

The managerial implications of these findings are significant for educational administrators and system developers. Given the strong positive effects of performance expectancy and effort expectancy, managers must prioritize continuous improvements in LMS functionalities. Ensuring that the system consistently meets students' performance expectations—by streamlining assignment submission processes and enhancing the efficiency of learning tools—can further boost user engagement. Additionally, investing in user-friendly interfaces and reducing complexity will help maintain high levels of behavioral intention. Training sessions and workshops that emphasize these benefits can also be used to reinforce positive perceptions among students.

Furthermore, the significance of social influence and facilitating conditions suggests that administrators should focus on building a robust support infrastructure around the LMS. This includes not only enhancing technical resources such as reliable internet access and responsive technical support but also fostering a community environment where peer and instructor endorsements actively promote the system's usage. By implementing targeted communication strategies and support services, educational institutions can better tailor digital learning environments to meet the specific needs of their students, thereby improving overall academic performance and ensuring sustained engagement with the LMS.

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