
The Role of UTAUT2 in Understanding Technology Adoption: A Study of the Merdeka Mengajar Platform Among Indonesian Teachers

Siti Aminah^{1*}, Addin Aditya², Yekti Asmoro Kanthi³

¹Department of Informatics, Sekolah Tinggi Informatika & Komputer Indonesia, Malang, East Java, Indonesia

²Department of Information System, Sekolah Tinggi Informatika & Komputer Indonesia, Malang, East Java, Indonesia

³Diploma of Information System, Sekolah Tinggi Informatika & Komputer Indonesia, Malang, East Java, Indonesia

Email: ^{1*}sitiaminah@stiki.ac.id, ²addin@stiki.ac.id, ³yektiasmoro@stiki.ac.id

(Received: 27 Sep 2024, revised: 10 Oct 2024, accepted: 11 Oct 2024)

Abstract

This research investigates the adoption of the Merdeka Mengajar application using the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) framework. The study aims to identify the factors influencing teachers' behavioral intentions and usage behavior regarding this educational technology platform. A total of 383 teachers from various levels in Malang were sampled from a broader population of 8,936. Statistical analysis uses SEM (Structural Equation Modelling) analysis techniques. The findings suggest that performance expectancy, effort expectancy, social influence, hedonic motivation, and price value significantly influence behavioral intention. However, facilitating conditions and habit do not show a direct significant impact on use behavior. These results indicate that while technological support such as infrastructure and internet access is necessary, it alone may not be enough to motivate consistent usage without internal factors like perceived usefulness or enjoyment of the app. Moreover, the habitual use of new technology may require additional support and time before it can significantly affect behavior. This study contributes valuable insights into the adoption of educational technologies, especially in the Indonesian context, where digital learning platforms are increasingly being integrated into teaching practices. Future research may explore how ongoing support and user experience improvements can further enhance the app's adoption.

Keywords: Behavioral Intention, Merdeka Mengajar Application, Technology Adoption, UTAUT 2 Model, Use Behavior

I. INTRODUCTION

The education system in Indonesia, including in Malang City, is currently undergoing a significant transformation. Experience during the pandemic has highlighted the importance of distance learning and technology in facilitating effective and inclusive learning processes [1], [2]. The use of information technology in education has had a significant impact, both in facilitating distance learning during the COVID-19 pandemic and improving the quality of learning by providing access to more extensive and interactive educational resources. [3], [4]. Currently, there are still challenges such as disparities between education in urban and rural areas, and between public and private schools. [5], [6]. The Indonesian government has made various efforts to improve the accessibility and quality of education. One of these efforts is

through the Merdeka Belajar programme, which tries to integrate information technology in the learning process.

This study is motivated by the important role of technology in improving the effectiveness of education, especially through digital applications such as Merdeka Mengajar App designed by the Indonesian government. Although the application has been introduced as a tool to support learning, no research has specifically examined the factors that influence the acceptance and use of this application by teachers and principals. Therefore, this study aims to utilise the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model to more accurately describe the factors that influence the acceptance and use of Merdeka Mengajar App in the context of education in Indonesia.

UTAUT 2 has been used in a variety of recent studies on technology acceptance in various contexts, including mobile applications and e-learning. This shows this model in

measuring technology acceptance in platforms such as Merdeka Mengajar [7]. UTAUT 2 is very suitable for use in contexts where individual users are the target of analysis, such as the Merdeka Mengajar application users who are mostly teachers. Users of this application are individuals who adopt technology based on their personal preferences, making UTAUT 2 relevant [8].

This research has an urgency in exploring the effectiveness of the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) Model in the context of accepting the Merdeka Mengajar Application. Merdeka Mengajar application aims to improve the quality of education in Indonesia through the integration of technology in learning. However, no research has specifically explored the extent to which the UTAUT2 model can describe the factors that influence the acceptance of this application by users. UTAUT2 is specifically designed to explain the behavior of technology acceptance and use, so it is very relevant for use in research on the acceptance of educational applications such as Merdeka Mengajar App. This model can assist in understanding the factors that influence the adoption of educational technology and provide valuable insights for the development of more effective educational applications. [9], [10], [11], [12], [13].

The UTAUT 2 model has become a significant theoretical basis for understanding technology acceptance. However, the novelty of this research lies in its specific application in the context of the ‘Merdeka Mengajar’ application, which is still relatively new. By combining proven theoretical concepts with local contexts, this research is expected to provide new and relevant insights for the development of educational technology in Indonesia, along with the government's efforts to realise inclusive, innovative, and Merdeka education.

UTAUT model (Figure 1), designed to explain the acceptance and use of technology by individual consumers [14]. Introduced by Venkatesh et al. in 2012, UTAUT 2 adds three new constructs to the original model: Hedonic Motivation (HM), Price Value (PV), and Habit (H). It builds on the original core constructs like Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) but adapts these factors to better capture the nuances of individual consumer behavior, rather than just workplace or organizational settings.

UTAUT 2 highlights how user motivations such as enjoyment (hedonic motivation) and perceived value for money (price value) play critical roles in technology adoption [13]. Additionally, habit—how frequently a technology is used over time—becomes a significant predictor of future technology use. UTAUT 2 is widely used in studies examining consumer adoption of mobile services, apps, and other technologies across various sectors, providing a comprehensive understanding of the factors that influence individual behavior in technology usage.

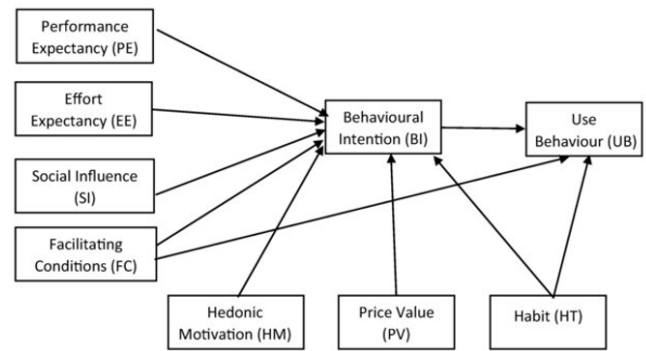


Figure 1. Model of UTAUT 2

Several previous studies have been reviewed to support this research theoretically. PE, SI and PV are proven to affect the BI of using Home Digital Service in Surabaya. This study investigates factors in the Modified UTAUT 2 model affecting prospective users' intentions to adopt PT Telkom's Home Digital Services in Surabaya. Key findings show that constructs like hedonic motivation, social influence, price value, and facilitating conditions positively influence behavioral intention, with moderating effects from age and gender [15]. SI, H, and PV affect BI on the use of shopee e-commerce [16]. Meanwhile, FC affects the UB of using shopee [16]. This paper investigates the factors influencing customer behavior towards e-commerce, specifically Shopee users in Palembang. Using the UTAUT 2 model, the research highlights that habit and social influence significantly affect the behavioral intention of Shopee users. The study also found that facilitating conditions positively influence use behavior, providing valuable insights into how customer experience and interaction with technology shape their adoption patterns in the e-commerce space. PE, EE, SI, HM, PV, and H are proven to affect the use of BI in the adoption of Telkomsel Cash electronic money services. Meanwhile, UB on Telkomsel Cash electronic money services is influenced by habit and BI [17]. The main research findings of this paper reveal that habit has the most significant positive impact on both behavioral intention and use behavior in the adoption of Telkomsel Cash electronic money services. The study, using the UTAUT 2 model, found that other factors such as performance expectancy, effort expectancy, social influence, hedonic motivation, and price value also have a positive and significant impact on behavioral intention. However, facilitating condition does not significantly influence behavioral intention or use behavior in this context. Seven dependent variables from UTAUT 2 affect behavioural intention on the use of the teacher's room application. [18]. This study highlights the importance of ease of use, social recommendations, and user enjoyment in shaping the behavioral intention to adopt the *Ruang Guru* app. The findings suggest that improving these variables can increase the app's adoption and sustained use among students. As for the variable behavioural intention effect on use behavioural can be seen in the analysis of the use of e-money technology in Denpasar city [19]. This paper focuses on identifying the factors that influence the intention and behavior of e-money usage in Denpasar. Using the

UTAUT2 model, the study found that facilitating conditions, hedonic motivation, and price value significantly influence the intention to use e-money. In contrast, performance expectancy, effort expectancy, and social influence did not have a significant impact on behavioral intention. Additionally, the research reveals that habit and behavioral intention are the main drivers of e-money usage behavior, while facilitating conditions did not have a direct effect on usage behavior. Meanwhile, to see the effect of facilitating conditions on behavioral intention and use behaviour, it can be seen in the analysis of the use of SIORTU technology [20]. This research reveals that performance expectancy and facilitating conditions have a significant positive influence on the behavioral intention to use SIORTU (Sistem Informasi Orang Tua). These factors also influence actual usage behavior through behavioral intention. Other factors like effort expectancy, social influence, and habit show positive but not significant impacts on behavioral intention and usage behavior. This suggests that users' perceptions of the system's performance and the availability of support facilities are key drivers for the adoption of SIORTU. The research also highlights that while users may find the system beneficial and well-supported, ease of use and social influences play a less critical role in their decision to use the system. Furthermore, the study confirms that behavioral intention positively and significantly impacts actual usage behavior, indicating that once users form a positive intention, they are more likely to use the system regularly.

II. RESEARCH METHODS

This research is a type of explanatory research, because it is in accordance with the objectives to be achieved in this study, namely analysing and explaining the relationship between several research variables and testing previously established hypotheses to analyse technology acceptance for users of the Merdeka Mengajar application. Figure 2 is a research flow.

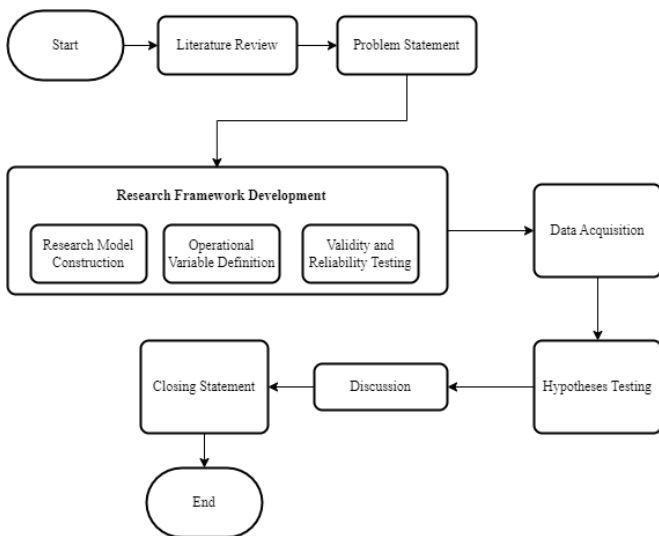


Figure 2. Research Flow

This study will use the UTAUT 2 conceptual framework which includes Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Hedonic Motivation (HM), Price Value (PV), Habit (H), Behavioral Intention (BI) and Use Behavior UB. PE can be identified as the extent to which users can how useful and profitable the Merdeka teaching application is. [21]. EE is the level of comfort and usability that users feel when using the Merdeka teaching platform. [22]. SI is peer encouragement to participate in the independent teaching platform. FC addresses the availability of infrastructure. HM is the enjoyment that results from the use of technology [23]. PV is the causal relationship between the costs used and the perceived benefits. H is the extent to which users access the application automatically. BI is the user's willingness or interest in using the independent teaching platform. All variables are used to measure UB, which means the behavior of users of the Merdeka Mengajar platform application. The following is a description of the research process:

1. Research Initiation

At this stage, the process of formulating research problems and searching for literature used for the process of formulating research problems is carried out. the researcher reviews a number of previous studies to find research gaps so as to define the problem.
2. Data Acquisition

There are two types of data used in this study, namely primary data and secondary data. Primary data is obtained directly from users of the Merdeka Mengajar application, while secondary data is taken from the literature on the Merdeka Mengajar application website. Primary data in this study is in the form of a questionnaire that must be filled out by research respondents and adjusted to the research model used. At this stage, the number of research samples used for the data processing process is also determined, where the number of research samples is 383 respondents. This number is determined from the population of vocational school, elementary, junior and senior high school teachers in Malang city, namely 8,936 people. [24], [25], [26], then calculated with the Slovin formula.
3. Research Framework Development

UTAUT integrates key constructs from earlier models like the Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), and Innovation Diffusion Theory (IDT), among others. This offers a comprehensive view of the factors that influence technology acceptance and use, encompassing not only individual attitudes but also social and organizational factors. UTAUT is often extended or modified to suit specific research contexts. UTAUT2, an extension of the original model, includes additional constructs like hedonic motivation, price value, and habit, making it more suitable for consumer contexts. This adaptability has made UTAUT a versatile tool for researchers exploring both organizational and consumer adoption of technology [27]. Based on the UTAUT 2 model used, there are several hypotheses formulated to answer the problems in this study, namely: (H1) PE has a

significant positive effect on BI; (H2) EE affects the BI of users of the Merdeka Mengajar platform application; (H3) SI has a significant influence on BI; (H4) FC has a significant influence on BI; (H5) HM has a significant influence on BI; (H6) PV has a significant influence on BI; (H7) Habit has a significant influence on behavioral intention; (H8) Behavioral Intention has a significant influence on use behavior; (H9) Facilitating Condition has a significant influence on use behavior; (H10) Habit has a significant influence on use behavior (Figure 3).

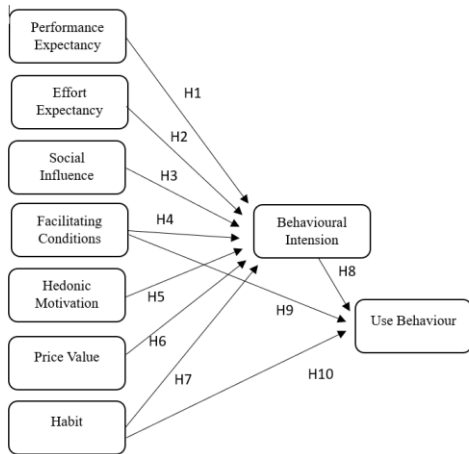


Figure 3. Conceptual Framework

In order to make it easier for researchers to equalise perceptions regarding the definition of each variable, it is necessary to define operational variables. The operational definition of variables is a determinant and way of assessing the variables in research [28], [29]. The following is an operational description of the variables carried out by researchers in Table 1.

Table 1. Operational Variable Definition

Var.	Definition	Indicator	Item
Performance Expectancy (X1)	Users feel that Merdeka Mengajar will increase their effectiveness and efficiency in carrying out teaching tasks [30]	Apps Effectivity	X1.1
		User's Productivity	X1.2
			X1.3
Effort Expectancy (X2)	The level of ease felt by users in using Merdeka Mengajar application [30], [31]		X2.1
		Ease of Use	X2.2
			X2.3
Social Influence (X3)	Users feel that the people around them support the use of Merdeka Mengajar application [30]	Support from work partner	X3.1
			X3.2
		Positive perception from supervisor	X3.3
			X3.4

Var.	Definition	Indicator	Item
Facilitating Conditions (X4)	Users feel that the infrastructure and resources needed to use Merdeka Mengajar application are available and adequate [30]	Availability of resources	X4.1
			X4.2
		Technical Support	X4.3
Hedonic Motivation (X5)	Users feel pleasure or satisfaction when using Merdeka Mengajar application [22]	User satisfaction	X5.1
			X5.2
		Enjoyment of interacting with apps	X5.3
Price Value (X6)	The expenses incurred to use Merdeka Mengajar application are comparable to the benefits obtained [30]	Price compatibility with benefits	X6.1
Habit (X.7)	Habit refers to the tendency of users to use Merdeka Mengajar application as part of their daily routine. [32]	Frequency of app usage	X7.1
			X7.2
		Integration of apps into routine	X7.3
Behavioral Intention (Y1)	Users intend to continue using Merdeka Mengajar application in the future [30]	Continuity	Y1.1
			Y1.2
		Recommendation of apps to others	Y1.3
Use Behavior (Z1)	User intensity in using information technology [33]	Frequency	Z1.1
		Facility	Z1.2

4. Discussions

After processing the data and testing the hypothesis, the results can be analyzed and concluded, some of the data analysis determined is descriptive statistical analysis and inferential statistical analysis. Descriptive statistical analysis is carried out by interpreting the results of data processing through a frequency distribution table of respondents' answers to reveal empirical data, namely the average value and percentage of each respondent's answer. While inferential statistical analysis uses SEM (Structural Equation Modelling) analysis techniques.

III. RESULT AND DISCUSSION

Data collection was carried out spread across 5 sub-districts in Malang City. The Figure 4 is the results of the distribution of respondents based on where the respondents live.

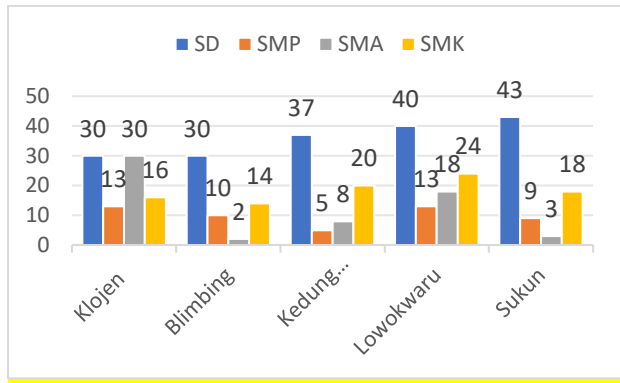


Figure 4. Distribution of Respondents

This research has carried out correlation calculations using SmartPLS software with a sample size of 383 people. There are two measurement models used in PLS (Partial Least Square), namely the outer model and the inner model. Outer model is a measurement to assess the validity and reliability of the model through the algorithm iteration process. There are two types of validity tests in PLS, namely convergent validity and discriminant validity. Meanwhile, there are also two reliability tests in PLS, namely Cronbach alpha assessment and composite reliability. The Table 2 will explain more about the outer model in the results of this study.

Table 2. The Result of Validity and Realibility Test

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
X1 (PE)	0.773	0.781	0.869	0.689
X2 (EE)	0.734	0.741	0.850	0.654
X3 (SI)	0.772	0.780	0.854	0.594
X4 (FC)	0.738	0.753	0.850	0.654
X5 (HM)	0.819	0.821	0.892	0.734
X6 (PV)	0.718	0.722	0.876	0.779
X7 (H)	0.830	0.837	0.899	0.748
Y1 (BI)	0.797	0.797	0.881	0.712
Z1 (UB)	0.731	0.731	0.881	0.788

The AVE value in Partial Least Square (PLS) is determined to be above 0.50 to state that the variables used in this study are valid. The results of obtaining the AVE value on each research variable shown in Table 3 are more than 0.50 in accordance with the provisions of Partial Least Square (PLS). So, it can be concluded that all variables in the study are valid.

The reliability of a construct or variable can be done by looking at the Cronbach alpha value and the composite reliability value between 0.60 and 0.70. Meanwhile, more than 0.70 is considered better. Based on the calculation results, each research variable has a Cronbach alpha value and a composite reliability value greater than 0.70. So, it can be concluded that all variables in the study have good reliability [34], [35].

The inner model is a structural model to predict the causal relationship between variables through the bootstrapping process, R-square parameters, t-count test parameters obtained

to predict the significance value of the research model. The structural model is evaluated using R-square for the dependent variable. Stone Geisser Q-Square test for predictive relevance [34], [35]. The results of the R-square value for the dependent variable obtained from data processing using PLS are presented in Table 3 below.

Table 3. R-Square Value

R Square	
Y1	0.951
Z1	0.089

The R-Square values of BI and UB are 0.951 and 0.089. This means that the variables PE, EE, SI, FC, HM, PV, and H have contributed to the BI variable by 95%. While the other 5% is influenced by other variables outside the model. Meanwhile, 89% of PE, EE, SI, FC, HM, PV, H and BI variables have contributed to the UB variable. And the other 11% is influenced by other variables outside the model.

Table 4. Goodness of Fit

Saturated Model	
SRMR	0.088
d_G	2.085
NFI	0.518

Based on Table 4, the SRMR value is used to evaluate the level of model fit. An SRMR value of 0.088 indicates a good model fit, as generally an SRMR value below 0.10 is considered an adequate fit [36], [37]. The d_G value of 2.085 is the geodesic distance between the observed model and the hypothesized model. If a smaller d_G value indicates a better fit [36], [37]. The NFI value of 0.518 indicates the level of fit of the model to the data. NFI values range between 0 and 1, where values closer to 1 indicate a better fit. The value of 0.518 indicates that the model has a moderate fit. From these results, it can be concluded that the model has a fairly good fit based on the SRMR, but the NFI suggests that the model may need to be refined to achieve a more optimal fit [38].

In the formation of the SEM model, there are 2 relationships, namely direct effect and indirect effect. The direct relationship can be seen in Table 5.

Table 5. Hypotheses Testing for Direct Effect

Path	Coef.	T-Value	P-value	Result
X1 (PE) -> Y1 (BI)	0.329	10.841	0.000	Significant
X2 (EE) -> Y1 (BI)	0.134	5.424	0.000	Significant
X3 (SI) -> Y1 (BI)	0.102	6.122	0.000	Significant
X4 (FC) -> Y1 (BI)	0.110	6.063	0.000	Significant
X4 (FC) -> Z1 (UB)	-0.107	1.877	0.061	Not Significant

Path	Coef.	T-Value	P-value	Result
X5 (HM)-> Y1 (BI)	0.153	6.243	0.000	Significant
X6 (PV)-> Y1 (BI)	0.340	9.442	0.000	Significant
X7 (H)-> Y1 (BI)	0.123	7.395	0.000	Significant
X7 (H) -> Z1 (UB)	0.020	0.377	0.707	Not Significant
Y1 (BI) -> Z1 (UB)	0.344	4.371	0.000	Significant

Path	Coef.	T-value	P-value	Result
X6 (PC)-> Y1 (BI) -> Z1(UB)	0.117	4.103	0.000	Significant
X7 (H) -> Y1 (BI) -> Z1 (UB)	0.042	3.474	0.001	Significant

In H1, the PE variable has a significant positive effect on BI. The positive effect is 0.329 with a T-value of 10.841 (p-value 0.000). In H2, the EE variable has a significant positive effect on BI. The positive effect is 0.134 with a T-value of 5.424 (p-value 0.000). In H3, SI variable has a significant positive effect on BI. The positive effect is 0.102 with a T-value of 6.122 (p-value 0.000), which shows a significant relationship. In H4, the FC variable has a significant positive effect on BI. The positive effect is 0.110 with a T-value of 6.063 (p-value 0.000), positively significant. In H5, the HM variable has a significant positive effect on BI. The positive effect is 0.153 with a T-value of 6.243 (p-value 0.000), positively significant. In H6, the PV variable has a significant positive effect on BI. The largest positive effect is 0.340 with a T-value of 9.442 (p-value 0.000), significant. In H7, variable H has a significant positive effect on BI. The positive effect of 0.123 with a T-value of 7.395 (p-value 0.000), also significant. In H8, the BI variable has a significant positive effect on UB. The positive effect of 0.344 with a T-value of 4.371 (p-value 0.000), is significant. In H9, the FC variable has no significant effect on UB. The negative effect is -0.107 with a T-value of 1.877 (p-value 0.061). This relationship is not significant (p-value > 0.05). In H10, variable H has no significant effect on UB. The small positive effect of 0.020 with a T-value of 0.377 (p-value 0.707), is not significant (p-value > 0.05). From this it can be concluded, most direct effects are significant (p-value < 0.05), except Facilitating Conditions (FC) and habit (H) on BI.

Table 6. Hypotheses Testing for Indirect Effect

Path	Coef.	T-value	P-value	Result
X1 (PE) -> Y1 (BI) -> Z1 (UB)	0.113	3.771	0.000	Significant
X2 (EE) -> Y1 (BI) -> Z1 (UB)	0.046	3.761	0.000	Significant
X3 (SI) -> Y1 (BI)-> Z1 (UB)	0.035	3.279	0.001	Significant
X4 (FC) -> Y1(BI) -> Z1 (UB)	0.038	3.502	0.001	Significant
X5 (HM)-> Y1(BI) -> Z1 (UB)	0.053	3.534	0.000	Significant

From Table 6, it can be seen that PE significantly affects UB through increasing BI. EE also has a significant indirect effect on UB through BI. SI significantly affects UB through BI, although with a smaller effect than other variables. FC also shows a significant indirect relationship through BI to UB. HM has a greater significant effect through BI on UB. PC showed the greatest indirect effect on UB through BI, indicating the importance of price value on users' behavioural intentions. H also showed a significant relationship through BI to UB. So it can be concluded, all indirect relationships between the independent variables and the dependent variable (UB) through the mediator (BI) show significant results (P-value <0.05). This means that variables such as Performance Expectancy (PE), Effort Expectancy (EE), and others influence usage behaviour (UB) significantly through behavioural intention (BI).

A. H1: PE has a significant positive effect on BI

The Merdeka Mengajar application shows that PE has a significant positive effect on BI. Similar things are also seen in research on other digital applications using UTAUT, including educational technology adoption studies. Other studies focusing on e-learning systems also emphasize that PE positively influences users' behavioral intentions, supporting the hypothesis that individuals are more likely to use technology when they believe it is useful for improving their job performance [39]. For Merdeka Mengajar application, PE is also important in improving teachers' perceptions of the usefulness of this technology in supporting the learning process. PE plays an important role because this application is designed to help teachers prepare learning materials more efficiently, provide resources that can be accessed at any time, and enable teachers to improve their teaching performance.

B. H2: EE has a significant positive effect on BI

Merdeka Mengajar is designed to provide easy access to materials, training, and learning tools that facilitate teachers' teaching tasks. If teachers find this application easy to understand and use, they tend to have a stronger intention to use it actively. This effect shows that if users feel that a technology is easy to use (high EE), they are more likely to have the intention to use it sustainably (BI).

In the context of m-commerce applications in Libya, it was found that EE has a significant effect on BI in application adoption, which strengthens the argument that perceived ease of use increases users' intention to adopt the technology. The study supports that EE has an indirect effect on Use Behaviour through BI, which is highly relevant in the context of Education technology adoption [40]. In the case of Merdeka Mengajar application, the ease of use of this platform may

contribute to an increase in teachers' intention to utilise the technology in learning.

C. H3: SI has a significant positive effect on BI

In the context of educational technology use, SI significantly influences BI. Previous research shows that factors such as support from the social environment, influence from respected groups or individuals, as well as perceptions about the technology used can increase a person's behavioural intention to use a particular technology. [41]. Merdeka Mengajar application implemented in the Indonesian education context also allows teachers and students to interact with new educational technologies. Support from colleagues, school administrators, and the wider education community can encourage teachers to adopt these technologies more quickly and efficiently. In the case of Merdeka Mengajar, SI plays an important role because the support provided by education authorities or peers who have mastered the technology can motivate other teachers to participate in using it in the learning process.

D. H4: FC has a significant positive effect on BI

FC has a significant influence on BI in using applications such as Merdeka Mengajar. FC in this context includes technical support, infrastructure, and accessibility that influence users' decisions to use technology. Research results show that FC has a significant influence on BI in the use of various digital technologies, including online and mobile learning applications. For example, one study found that facilitating conditions, such as technological support and resource availability, significantly influence BI in the use of online learning platforms in Indonesia [42]. Other studies have shown similar results in the context of mobile health apps, where FC has a significant influence on BI [39]. However, it is also important to note that FC may not always be sufficient in the absence of internal motivation or perceived usefulness from users.

For users of Merdeka Mengajar application, FC can play a major role in increasing BI because adequate technological support and resources will make it easier for teachers to use the application in the teaching and learning process. FC plays an important role because the availability of infrastructure and technological support will increase the teacher's intention to use the application, which then has an impact on the use of the application in daily learning. This suggests that teachers who perceive good technology support will be more likely to use the app in their teaching activities.

E. H5: HM has a significant positive effect on BI

In the context of Merdeka Mengajar application, HM or pleasure motivation plays an important role in BI. HM describes the extent to which the pleasure or satisfaction a person feels when using the application affects their intention to use it. Several studies have shown that HM has a significant effect on BI, which in turn affects UB. For example, in a study on the adoption of technology-based learning apps, it was found that HM increases the desire to use the app as users feel excited or interested in the features and content presented.

This then encourages them to actually use it in their daily activities. [43], [44], [45]. In Merdeka Mengajar application, if teachers find the application fun, interactive, and easy to use, they tend to have a greater intention to continue using it. This motivation can be a key factor in increasing widespread adoption and use of the application.

F. H6: PV has a significant positive effect on BI

In the context of Merdeka Mengajar application, price value can be a factor influencing BI. PV refers to users' perceptions of the benefits they get compared to the costs they incur to use the application. Previous research shows that PV has an effect on usage intention in various technologies, especially when users feel that the costs involved, such as time and effort invested, are commensurate with the benefits gained from the technology. For example, in the context of educational apps, if users feel that the app offers significant benefits for learning and teaching without excessive costs, then they are likely to have a higher intention to use it [43].

In the Merdeka Mengajar application, if teachers feel that this application provides easy and free access to relevant learning resources, and improves their performance, helps them manage teaching materials or interact with students more effectively, without requiring large additional costs for devices or internet connections, this positive perception of price value can increase usage intentions. This intention will then encourage them to actively use the application in the teaching-learning process, facilitating wider use. Studies on UTAUT2 also support that PV significantly influences BI, which in turn impacts usage behavior in various technology contexts, including educational technology-based learning [43], [45], [46].

G. H7: H has a significant positive effect on BI

In analysing users of Merdeka Mengajar application, research related to habits (H) shows that habits have a significant influence on BI. Users' habits in using learning technology repeatedly can form automatic usage patterns that lead to an increase in the intensity of application use. The results of this study are reinforced by other studies using the UTAUT2 model, which show that habits have a significant impact on BI and the use of educational technology, especially in the context of online learning. This factor is important because applications such as Merdeka Mengajar facilitate easy access to digital teaching tools, which help teachers prepare materials and manage classes more effectively [45], [47]. Thus, habit (H) plays a key role in directing the behaviour of educational technology users as repeated experiences create a sense of comfort and familiarity, which in turn strengthens user intentions.

H. H8: BI has a significant positive effect on UB

In using Merdeka Mengajar application, it shows that BI has a significant effect on UB. In the context of applying UTAUT2, several studies show that BI has a positive influence on UB, meaning that the stronger the user's intention to use a technology, the more likely they are to actually use it. For example, research applied to mobile banking technology

found that intention to use (BI) has a significant impact on usage behaviour (UB) in various situations [33], [48]. The UTAUT2 model applied in other technologies, such as educational applications, also shows a similar trend where user intentions contribute directly to usage behaviour. In the context of Merdeka Mengajar application, it can be assumed that teachers who have a strong intention to use the application due to perceived benefits, convenience, or social support, are more likely to actually use it in their learning activities.

I. H9: FC has not a Significant Effect on UB Directly

In this study, it was found that the condition of FC facilities can significantly affect BI or behavioural intentions, but its impact on direct use behaviour of UB was not always significant for users of Merdeka Mengajar application. This is because FC may not have a significant direct effect on UB due to other factors such as technical support or adequate device availability which may not be enough to encourage direct use behaviour in the absence of strong intentions. This statement is reinforced by research on factors affecting interactions between students on online learning platforms, which also shows that FC affects BI, but does not have a significant direct effect on UB. [49]. In addition, in the context of mobile learning, research shows that FC plays a role in supporting technology use intentions, but does not necessarily have a direct effect on the use of the technology itself if the user has not fully developed a habit or comfort with using the technology [50]. This result is relevant in Merdeka Mengajar applications where technological support such as internet access and hardware are important, but not necessarily enough to directly drive users without internal motivation such as perceived usefulness or interest in the technology.

J. H10: H has not a Significant Effect on UB Directly

However, in this study of Merdeka Mengajar users resulting in the use of technology, it shows that H has a significant effect on UB through BI, but shows that the effect of H on UB is not significant directly. As previous research has found that H has an effect on user behavioural intentions but does not always have a direct effect on use behaviour (UB) in situations where users are unfamiliar with certain technologies [51], [52], [53]. Previous studies indicate that habit has a significant influence on BI in various technology contexts, especially when users already have sufficient experience with the technology.

However, in the context of new technologies such as Merdeka Mengajar App, the influence of habit on BI or UB may not be significant, because users have not used the application long enough to form strong habits. Some studies also suggest that habit may not yet play an important role in the early adoption phase, but will be more relevant after the technology is more widely used [46], [54]. This takes time to develop, especially in educational settings, where technology adoption can be affected by various external factors, such as technical support or device availability.

IV. CONCLUSION AND FUTURE WORKS

From the results of this study, it can be concluded that performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit affect use behavior through behavioral intention. However, facilitating conditions and habit do not have a significant effect directly on use behavior. Judging from the facilitating conditions variable for users of the Merdeka Mengajar application, technological support such as internet access and hardware is important, but not necessarily enough to encourage users directly without internal motivation such as perceived usefulness or interest in the technology. Meanwhile, when viewed from the habit variable, according to users, the Merdeka Mengajar application is a new technology. Thus, users may need further adaptation and support before significantly influencing usage behavior.

For future research, other factors that affect facilitating conditions can be explored. Although facilitating conditions (such as internet access and hardware) are important in using Merdeka Mengajar, the results show that this factor does not have a significant effect directly on use behavior. Therefore, future research can explore other factors that might mediate the relationship between facilitating conditions and use behavior. For example, how user perceptions of application usability or technical support from the developer can strengthen the influence of facilitating conditions on use behavior. Second, considering that Merdeka Mengajar application is a new technology, the habit variable has not had a significant effect on use behavior. Future research can focus on the process of user adaptation to new technology. For example, longitudinal studies can be conducted to see how habits develop over time and how habits affect long-term use after users are more familiar with the application.

ACKNOWLEDGEMENT

This research was funded by the Indonesian Directorate of Research, Technology and Community Service Directorate General of Higher Education, Research and Technology, Ministry of Education, Culture, Research and Technology under the Beginner Lecturer Research (Penelitian Dosen Pemula Reguler) scheme with contract number: 108/SP2H/PT/LL7/2024.

REFERENCES

- [1] A. Kurniawati, "The Impact of Covid-19 Pandemic on Learning in Indonesia," *Jurnal Mekom*, vol. 8, no. 2, pp. 16–21, 2021.
- [2] M. Siahaan, "Dampak Pandemi Covid-19 Terhadap Dunia Pendidikan," *Jurnal Kajian Ilmiah*, vol. 1, no. 1, pp. 73–80, Jul. 2020, doi: 10.31599/jki.v1i1.265.
- [3] I. Y. Alyoussef, "Acceptance of e-learning in higher education: The role of task-technology fit with the information systems success model," *Heliyon*, vol. 9,

- no. 3, p. e13751, Mar. 2023, doi: 10.1016/j.heliyon.2023.e13751.
- [4] R. Naluwoza, F. Ayeni, K. Langmia, and V. Mbarika, "Fostering learning outcomes in a non-reading culture at foundational level of education: the role of information technology and pupil engagement," *International Journal of Educational Management*, vol. 37, no. 3, pp. 558–574, May 2023, doi: 10.1108/IJEM-03-2022-0111.
- [5] B. Vito and H. Krisnani, "Kesenjangan Pendidikan Desa dan Kota," *Prosiding Penelitian dan Pengabdian kepada Masyarakat*, vol. 2, no. 2, Oct. 2015, doi: 10.24198/jppm.v2i2.13533.
- [6] S. Hujaimah et al., "Faktor, Penyebab, dan Solusi Kesenjangan Sosial Dalam Pendidikan," *Jurnal Pendidikan Transformatif*, vol. 2, no. 6, pp. 142–148, 2023.
- [7] K. Tamilmani, N. P. Rana, and Y. K. Dwivedi, "Consumer Acceptance and Use of Information Technology: A Meta-Analytic Evaluation of UTAUT2," *Information Systems Frontiers*, vol. 23, no. 4, pp. 987–1005, 2021, doi: 10.1007/s10796-020-10007-6.
- [8] Y. K. Dwivedi, N. P. Rana, A. Jeyaraj, M. Clement, and M. D. Williams, "Re-examining the Unified Theory of Acceptance and Use of Technology (UTAUT): Towards a Revised Theoretical Model," *Information Systems Frontiers*, vol. 21, no. 3, pp. 719–734, 2019, doi: 10.1007/s10796-017-9774-y.
- [9] K. Tamilmani, N. P. Rana, S. F. Wamba, and R. Dwivedi, "The extended Unified Theory of Acceptance and Use of Technology (UTAUT2): A systematic literature review and theory evaluation," *Int J Inf Manage*, vol. 57, p. 102269, Apr. 2021, doi: 10.1016/j.ijinfomgt.2020.102269.
- [10] A. Aditya, Y. A. Kanthi, and S. Aminah, *Metodologi Penelitian dalam Disiplin Ilmu Sistem Informasi*. Yogyakarta: Penerbit Andi, 2022.
- [11] G. J. Sahertian, A. Aditya, and S. Aminah, "Analisis Penerimaan dan Penggunaan Transportasi Online di Kalangan Pelajar (Studi Kasus: SMA di Kecamatan Blimbing, Kota Malang)," *Jurnal Tekno Kompak*, vol. 15, no. 2, p. 1, Aug. 2021, doi: 10.33365/jtk.v15i2.1153.
- [12] Y. A. Kanthi and S. Aminah, "Evaluasi Faktor Keberhasilan dan Kepuasan Pengguna Sistem Informasi Pengaduan Online Kota Malang," *Jurnal Teknologi dan Manajemen Informatika*, vol. 9, no. 2, pp. 129–140, Dec. 2023, doi: 10.26905/jtmi.v9i2.11036.
- [13] V. Venkatesh, J. Y. L. Thong, and X. Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology," *MIS Quarterly*, vol. 36, no. 1, pp. 157–178, 2012.
- [14] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "User Acceptance of Information Technology: Toward a Unified View," *MIS Q*, vol. 27, no. 3, pp. 425–478, 2003, doi: 10.2307/30036540.
- [15] G. Putra and M. Ariyanti, "Pengaruh Faktor-Faktor Dalam Modified Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2) Terhadap Niat Prospective Users Untuk Mengadopsi Home Digital Services Pt. Telkom Di Surabaya," *Jurnal Manajemen Indonesia*, vol. 14, no. 1, p. 59, 2017, doi: 10.25124/jmi.v14i1.352.
- [16] A. N. S. Fatihanisya and S. D. Purnamasari, "Penerapan Model Unified Theory Of Acceptance And Use Of Technology (UTAUT 2) Terhadap Perilaku Pelanggan E-Commerce Shopee Indonesia Di Kota Palembang," *Journal of Information Systems and Informatics*, vol. 3, no. 2, pp. 392–417, 2021, doi: 10.33557/journalisi.v3i2.143.
- [17] A. B. Ramdhani, I. Rachmawati, and F. S. A. Prabowo, "Pengaruh Adopsi Teknologi Layanan Uang Elektronik Telkomsel Cash Menggunakan Pendekatan UTAUT 2," *eProceedings of Management*, vol. 4, no. 1, pp. 53–61, 2017.
- [18] C. A. Haris, B. S. WA, and A. Nasiri, "Penerapan Model Utaut2 Untuk Mengevaluasi Aplikasi Ruang Guru," *Jurnal Teknologi Informasi*, vol. 3, no. 2, p. 192, 2019, doi: 10.36294/jurti.v3i2.1085.
- [19] N. K. R. D. Putri and I. M. S. Suardikha, "Penerapan Model UTAUT 2 Untuk Menjelaskan Niat Dan Perilaku Penggunaan E-Money di Kota Denpasar," *e-Jurnal Akuntansi*, vol. 30, no. 2, pp. 540–555, 2020.
- [20] N. A. Ainul Bashir, "Penerapan Model UTAUT 2 Untuk Mengetahui Faktor-Faktor Yang Memengaruhi Penggunaan SIORTU," *Elinvo (Electronics, Informatics, and Vocational Education)*, vol. 5, no. 1, pp. 42–51, 2020, doi: 10.21831/elinvo.v5i1.30636.
- [21] R. E. Sewandono, A. Thoyib, D. Hadiwidjojo, and A. Rofiq, "Performance expectancy of E-learning on higher institutions of education under uncertain conditions: Indonesia context," *Educ Inf Technol (Dordr)*, vol. 28, no. 4, pp. 4041–4068, Apr. 2023, doi: 10.1007/s10639-022-11074-9.
- [22] K. Ghalandari, "The Effect of Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions on Acceptance of E-Banking Services in Iran: the Moderating Role of Age and Gender," *Middle-East Journal of Scientific Research*, vol. 12, no. 6, pp. 801–807, 2012, doi: 10.5829/idosi.mejsr.2012.12.6.2536.
- [23] S. Widianoro and Marfuah, "Hedonic-Motivation System: Pengukuran Intensi Mahasiswa Dalam Penggunaan Learning Management System," *JURSIMA*, vol. 7, no. 2, pp. 23–31, 2019, [Online]. Available: <https://ejournal.stmikgici.ac.id/>
- [24] B. P. Statistik, "Jumlah Sekolah, Murid, dan Guru Sekolah Menengah Atas (SMA) 2020-2022," 2022. [Online]. Available: <https://malangkota.bps.go.id/indicator/28/251/1/jumlah-sekolah-murid-dan-guru-sekolah-menengah-atas-sma-.html>

- [25] B. P. Statistik, "Jumlah Sekolah, Murid, dan Guru Sekolah Menengah Pertama (SMP) di Kota Malang, 2011-2019." [Online]. Available: <https://malangkota.bps.go.id/dynamictable/2020/01/10/153/jumlah-sekolah-murid-dan-guru-sekolah-menengah-pertama-smp-di-kota-malang-2011-2019>
- [26] B. P. Statistik, "Jumlah Sekolah, Murid, dan Guru Sekolah Dasar (SD) di Kota Malang, 2011-2019," 2020. [Online]. Available: <https://malangkota.bps.go.id/dynamictable/2020/01/10/148/jumlah-sekolah-murid-dan-guru-sekolah-dasar-sd-di-kota-malang-2011-2019>
- [27] V. Venkatesh and F. D. Davis, "Theoretical extension of the Technology Acceptance Model: Four longitudinal field studies," *Manage Sci*, vol. 46, no. 2, pp. 186–204, 2000, doi: 10.1287/mnsc.46.2.186.11926.
- [28] R. Ulfa, "Variabel penelitian dalam penelitian pendidikan," *Al-Fathonah: Jurnal Pendidikan dan Keislaman*, vol. 1, no. 1, pp. 342–351, 2021.
- [29] Y. A. Kanthi, K. Gumilang, and S. Aminah, "Evaluasi Kepuasan Pengguna BRImo Menggunakan EUCS," *Teknika*, vol. 13, no. 1, pp. 155–163, 2024, doi: 10.34148/teknika.v13i1.772.
- [30] E. L. Anggraini and I. Rachmawati, "Analysis Factors Influencing the Adoption of Mobile Payment Using the UTAUT2 Model (A Case Study of OVO in Indonesia)," *International Journal of Scientific Research and Engineering Development*, vol. 2, no. 3, pp. 168–175, 2019, [Online]. Available: www.ijred.com
- [31] S. Nordhoff *et al.*, "Using the UTAUT2 model to explain public acceptance of conditionally automated (L3) cars: A questionnaire study among 9,118 car drivers from eight European countries," *Transp Res Part F Traffic Psychol Behav*, vol. 74, pp. 280–297, 2020, doi: 10.1016/j.trf.2020.07.015.
- [32] M. Alhwaiti, "Acceptance of Artificial Intelligence Application in the Post-Covid Era and Its Impact on Faculty Members' Occupational Well-being and Teaching Self Efficacy: A Path Analysis Using the UTAUT 2 Model," *Applied Artificial Intelligence*, vol. 37, no. 1, 2023, doi: 10.1080/08839514.2023.2175110.
- [33] M. Farzin, M. Sadeghi, F. Yahyayi Kharkeshi, H. Ruholahpur, and M. Fattahi, "Extending UTAUT2 in M-banking adoption and actual use behavior: Does WOM communication matter?," *Asian Journal of Economics and Banking*, vol. 5, no. 2, pp. 136–157, 2021, doi: 10.1108/ajeb-10-2020-0085.
- [34] Y. A. Kanthi and S. Aminah, "Evaluasi Faktor Keberhasilan dan Kepuasan Pengguna Sistem Informasi Pengaduan Online Kota Malang," *Jurnal Teknologi dan Manajemen Informatika*, vol. 9, no. 2, pp. 129–140, 2023, doi: 10.26905/jtmi.v9i2.11036.
- [35] J. F. Hair, G. T. M. Hult, C. M. Ringle, M. Sarstedt, N. P. Danks, and S. Ray, *Evaluation of Formative Measurement Models*. 2021. doi: 10.1007/978-3-030-80519-7_5.
- [36] F. Schuberth, M. E. Rademaker, and J. Henseler, "Assessing the overall fit of composite models estimated by partial least squares path modeling," *Eur J Mark*, vol. 57, no. 6, pp. 1678–1702, 2023, doi: 10.1108/EJM-08-2020-0586.
- [37] F. U. Rehman, B. M. Al-Ghazali, A. G. Haddad, E. A. Qahwash, and M. S. Sohail, "Exploring the Reverse Relationship between Circular Economy Innovation and Digital Sustainability—The Dual Mediation of Government Incentives," *Sustainability (Switzerland)*, vol. 15, no. 6, 2023, doi: 10.3390/su15065181.
- [38] C. M. Ringle, S. Wende, and J.-Michael. Becker, "SmartPLS 4. Bönningstedt: SmartPLS." [Online]. Available: <https://www.smartpls.com/documentation/algorithms-and-techniques/model-fit>
- [39] P. Utomo, F. Kurniasari, and P. Purnamaningsih, "The Effects of Performance Expectancy, Effort Expectancy, Facilitating Condition, and Habit on Behavior Intention in Using Mobile Healthcare Application," *International Journal of Community Service & Engagement*, vol. 2, no. 4, pp. 183–197, 2021, doi: 10.47747/ijcse.v2i4.529.
- [40] S. M. M. Dagnoush and G. S. A. Khalifa, "the Effect of Users' Effort Expectancy on Users' Behavioral Intention To Use M-Commerce Applications: Case Study in Libya," *International Journal on Recent Trends in Business and Tourism*, vol. 5, no. 4, pp. 1–7, 2021, doi: 10.31674/ijrtbt.2021.v05i04.001.
- [41] C. M. Chao, "Factors determining the behavioral intention to use mobile learning: An application and extension of the UTAUT model," *Front Psychol*, vol. 10, no. JULY, pp. 1–14, 2019, doi: 10.3389/fpsyg.2019.01652.
- [42] R. Ambarwati, Y. D. Harja, And S. Thamrin, "The Role of Facilitating Conditions and User Habits: A Case of Indonesian Online Learning Platform," *Journal of Asian Finance, Economics and Business*, vol. 7, no. 10, pp. 481–489, 2020, doi: 10.13106/jafeb.2020.vol7.no10.481.
- [43] S. Fitrianie, C. Horsch, R. J. Beun, F. Griffioen-Both, and W.-P. Brinkman, "Factors Affecting User's Behavioral Intention and Use of a Mobile-Phone-Delivered Cognitive Behavioral Therapy for Insomnia: A Small-Scale UTAUT Analysis," *J Med Syst*, vol. 45, no. 12, p. 110, 2021, doi: 10.1007/s10916-021-01785-w.
- [44] X. Deng and Z. Yu, "An extended hedonic motivation adoption model of TikTok in higher education," *Educ Inf Technol (Dordr)*, vol. 28, no. 10, pp. 13595–13617, 2023, doi: 10.1007/s10639-023-11749-x.
- [45] M. G. de B. Sebastián, J. R. S. Guede, and A. Antonovica, "Application and extension of the UTAUT2 model for determining behavioral intention factors in use of the artificial intelligence virtual assistants," *Front. Psychol.*, pp. 1–18, 2022, doi: 10.3389/fpsyg.2022.993935.
- [46] K. Tamilmani, N. P. Rana, Y. K. Dwivedi, G. P. Sahu, and S. Roderick, "Exploring the role of 'price value' for understanding consumer adoption of technology: A review and meta-analysis of UTAUT2 based empirical

- studies,” *Proceedings of the 22nd Pacific Asia Conference on Information Systems - Opportunities and Challenges for the Digitized Society: Are We Ready?*, PACIS 2018, 2018.
- [47] W. Xu, Z. Y. Shen, S. J. Lin, and J. C. Chen, “Improving the Behavioral Intention of Continuous Online Learning Among Learners in Higher Education During COVID-19,” *Front Psychol*, vol. 13, no. April, pp. 1–10, 2022, doi: 10.3389/fpsyg.2022.857709.
- [48] K. Anugrah, J. Partogi, P. Pasaribu, and C. D. Astuti, “Implementation of the UTAUT2 Model with Gamification and Its Influence on Behavioral Intentions and Behavior of Use of M-Banking,” *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, vol. 5, no. 3, pp. 25551–25562, 2022, [Online]. Available: <https://doi.org/10.33258/birci.v5i3.6602>
- [49] T. M. Wut, S. W. Lee, and J. Xu, “How do Facilitating Conditions Influence Student-to-Student Interaction within an Online Learning Platform? A New Typology of the Serial Mediation Model,” *Educ Sci (Basel)*, vol. 12, no. 5, 2022, doi: 10.3390/educsci12050337.
- [50] M. A. Camilleri and A. C. Camilleri, “Learning from anywhere, anytime: Utilitarian motivations and facilitating conditions for mobile learning,” *Technology, Knowledge and Learning*, vol. 28, no. 4, pp. 1687–1705, 2023, doi: 10.1007/s10758-022-09608-8.
- [51] G. Zacharis and K. Nikolopoulou, “Factors predicting University students’ behavioral intention to use eLearning platforms in the post-pandemic normal: an UTAUT2 approach with ‘Learning Value,’” *Educ Inf Technol (Dordr)*, vol. 27, no. 9, pp. 12065–12082, 2022, doi: 10.1007/s10639-022-11116-2.
- [52] L. Chang, Y. Wang, J. Liu, Y. Feng, and X. Zhang, “Study on factors influencing college students’ digital academic reading behavior,” *Front Psychol*, vol. 13, no. January, pp. 1–13, 2023, doi: 10.3389/fpsyg.2022.1007247.
- [53] L. H. Wong, C.-K. Looi, and B. H. Zhang, “Habit and its impact on behavioral intention and technology adoption in education,” *International Journal of Educational Technology*, vol. 45, no. 3, pp. 456–470, 2019, doi: 10.1016/j.ijinfomgt.2022.102553.
- [54] F. Zahra *et al.*, “User Behaviour Intention Using Utaut2 Model: a Systematic Literature Review,” *Russ J Agric Socioecon Sci*, vol. 92, no. 8, pp. 265–273, 2019, doi: 10.18551/rjoas.2019-08.29.