

CHAPTER II

LITERATURE REVIEW

2.1 Literature Review

The purpose of this section is to lay the groundwork for a study on the factors that impact the embrace of mobile Learning Management Systems (m-LMS) among Senior High School students in the context of the implementation of *Kurikulum Merdeka*. The Unified Theory of Acceptance and Use of Technology (UTAUT) model established by Venkatesh et al. (2003) was used as the core architecture of this research. Therefore, this chapter provides the literature reviews needed to support the research.

2.1.1 *Kurikulum Merdeka*

As stated by Galen Saylor and William Alexander (1974) in Gulzar (2023), a curriculum refers to a systematic approach aimed at providing diverse learning opportunities to achieve broad educational goals and specific objectives for a particular population served by a single school center. Indonesia has changed its curriculum many times to better it. The first curriculum was *Rentjana Pelajaran 1947* then changed into *Rentjana Pelajaran Terurai 1952* to *Kurikulum 1964* to *Kurikulum 1968* to *Kurikulum 1975* to *Kurikulum 1984* to *Kurikulum 1994* with the supplement of *Kurikulum 1999* to *Kurikulum Berbasis Kompetensi 2004* to *Kurikulum Tingkat Satuan Pendidikan (KTSP) 2006* to *Kurikulum 2013* until the latest is *Kurikulum Merdeka* (kompas.com, 2022). *Kurikulum Merdeka* was

introduced by the Indonesian Minister of Education as an alternate curriculum to address the state of education in Indonesia in early 2022, in response to the COVID-19 pandemic that necessitated the shift to online learning for all activities. (Rizaldia & Fatimah, 2022). This condition has forced both teachers and students to adapt to using technology (Nurhayati, et al., 2020)

Kurikulum Merdeka is an educational framework that refers to the development of a Pancasila student profile (namely faith, fear of God Almighty, noble character, global diversity, mutual cooperation, independence, reasoning critically, and creatively) with the goal of developing students' character and varied skills as a key element in learning implementation (Rizaldia & Fatimah, 2022). The essential skills in the 21st century encompass literacy, numeracy, and digital proficiency (Rohmah et al., 2023). *Kurikulum Merdeka* is created as a more flexible curricular framework that focuses on essential topics while also building students' character and abilities. *Direktorat Jenderal Guru dan Tenaga Kependidikan (Ditjen GTK)* in its Instagram account (@ditjen.gtk.kemdikbud) said that *Kurikulum Merdeka* is a curriculum featuring a wide range of learning experiences, where the information will be very effective, allowing students ample opportunity to delve into subjects and enhance their proficiency. With higher flexibility, teachers may select a range of instructional resources and platforms and therefore the educational process is able to be adjusted to the learning needs and fascination of students. This simplified curriculum is applied and addressed to create fun learning for teachers and students, to grow students' potencies and competencies (PPG Kemdikbud, 2022), to mitigate learning loss during the

pandemic (Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi, 2023), and to create an even distribution of qualified education for all students in Indonesia (Wulandari, 2023).

Compared to the previous curricula, *Kurikulum Merdeka* emphasizes four changes as stated in ditsmp.kemdikbud.go.id in 2022:

- The curriculum structure is more flexible. The teaching and learning period is targeted to be fulfilled in one year.
- Its focus is more on essential materials. The learning achievements are set per phase, not per year.
- It gives freedom to teachers to use variative teaching instruments and tools according to students' needs and characteristics.
- It applies digital technology for the teaching-learning process. The curriculum provides applications such as the platform of *Merdeka Mengajar* that can be used as teacher references to keep updating the teaching skill independently and to share the skill with other fellow teachers, or *Rumah Belajar* that provides various learning sources, video content, AR, and VR contents to support online teaching-learning process. If schools are better equipped, they can utilize the available teaching tools to execute *Kurikulum Merdeka*, or they can even develop their own teaching tools according to their needs (Pusat Standar Kebijakan dan Pendidikan Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi, 2022). Learning Management System (LMS) also can be used to ease the material delivery, the tasks submission, students collaboration, and discussion.

As a flexible and adaptive curriculum, *Kurikulum Merdeka* meets the

demands of Generation Z students who are comfortable with the technology, have needs for adapted learning experiences, and prefer collaborative learning. *Kurikulum Merdeka* can support the 21st century competencies needed by the Gen Z students (Rohmah et al., 2023).

2.1.2 Technology in the Educational Process

Technology in the setting of education encompasses the utilization of electronic resources and tools to enhance educational activities. It leads to electronic learning (e-learning), where electronic equipment such as computers and the internet are used to promote learning and education (Behera, 2013). The utilization of technology in educational settings has experienced a surge in popularity in recent years. Teachers can use technology as a tool to make the educational process easier and enjoyable, such as by using podcasting, gamification, interactive whiteboards, learning management systems, VR, AR and others (Heick, 2021).

In the publication "Mozaik Teknologi Pendidikan" (2004), Sudarno Sudirdjo and Eveline Siregar outlined eight functions of learning technology, which encompassed digital aspects. These functions included imparting knowledge on learning objectives, fostering enthusiasm among students, delivering information, promoting dialogue, guiding the activities of students, facilitating assignments and tests, enhancing the teaching-learning process, and offering simulation experiences. Aligned with that, according to the UNESCO 2023 GEM Report, digital technology provides two sorts of educational potential.

For starters, it may improve instruction by addressing quality gaps, expanding practice opportunities, and offering access to learning resources. Second, it may enhance education system administration by boosting efficiency, lowering expenses, and enhancing data collecting and analysis. Technology in education may help students to stay focused and motivated by making learning more dynamic and interesting, may create adapted learning experiences that respond to each student's unique requirements and interests, and may help students and teachers collaborate more effectively, enabling better interaction and feedback (Haleem et al., 2022).

2.1.3 Mobile Learning

The digital revolution in the educational domain has facilitated the teaching and learning process, formerly reliant on face-to-face interaction between educators and learners in a physical classroom, to now be conducted remotely and at any given moment, utilizing mobile devices (Ishtaiwa, n.d.). Mobile learning represents the utilization of portable handheld technologies for the process of educational activities, such as by using laptops, tablets, or smartphones (Alsaadat, 2017; Cheon et al. 2012; Mohamed et al. 2012). Mobile learning (m-learning) is a part of e-learning (Behera, 2013). According to Yousafzai et al. (2016), mobile learning is a learning method that enables students to access educational resources using mobile devices, without being limited to certain locations. According to Crompton (2013), mobile learning takes place in many contexts and allows social and content exchanges with personal electronic devices.

Mobile learning offers many advantages since it provides access and availability to educational materials and knowledge whenever and wherever via mobile tools. It offers convenient access and adaptability, customization, cost efficiency, captivating and interactive material, live cooperation, and ongoing education (Kumar, 2023). It allows the teachers to deliver the learning topics and update the information quickly to the students (Almaiah et. al, 2019). The mobile learning system at Aoyama Gakuin University in Japan was effective to increase student performance due to its interesting teaching-learning approach. It offers convenient and flexible access to educational materials, enabling students to learn at their own speed and in several formats, such as audio, visual, or text-based, based on their personal preferences (Anzai, 2013).

Despite the benefits, there are several obstacles associated with the utilization of mobile learning, including technical issues, distractions, and content quality (Kumar, 2023), infrastructures, safety concerns, university administration's support, and student motivation (Chang, 2017), the cost of the internet, mobile device features, and the effort to find suitable mobile applications (Yousafzai et al., 2016; Kaliisa, et al., 2017). That is why it is critical for making the most of its potential contribution.

2.1.4 Mobile Learning Management Systems (m-LMS)

One of the tools for mobile learning is the mobile Learning Management System (m-LMS), other than social media, synchronous meeting tools, synchronous voice-over-IP-tools, and smart-phones voice and text messaging (Handbook of Mobile Learning, 2013). An LMS is a multi user software program that is typically accessible via a web browser. It assists organisations in managing training events, self-paced courses, and blended learning programs. It delivers automation that substitutes arduous and costly human labor, saves time, and allows us to manage our content, data, and learners (Foreman, n.d.). According to Abazibexheti et al. in Kumar (2019), the most popular educational technology tool in higher education is LMS software.

As in today's fast-paced environment, students are increasingly insisting on the ability to access educational materials regardless of time and location and with mobile device usage on the rise, schools must integrate mobile learning into their LMS (Davis & Davis, 2023). The m-LMS are platforms for LMS that are mobile-friendly or provide particular mobile applications, allowing learners to access course content, participate in conversations, and complete activities from any device, resulting in a flexible learning journey. An LMS product for education is Academic m-LMS, which is an online extension for the classroom. In Academic m-LMS, teachers are able to upload teaching materials, videos and assignments and students can access those materials anywhere and anytime. Students and teachers can also chat one to another to discuss things in a forum or privately.

Davis & Davis (2023) stated that an LMS makes mobile learning possible by giving students easy access to mobile apps on smartphones or tablets, delivering interactive learning modules like games and quizzes, letting students connect with other students to discuss and work together on assignments or projects, and letting students track their progress in order to determine how proficient a student is at finishing a course module. Therefore, m-LMS is able to improve time and location flexibility, make courses more accessible, boost participation, and provide a customized user experience. Once mobile learning is combined with an appropriate LMS, more rapid mastery of skills is achieved without compromising overall quality. In general, LMS allows teachers and students to have virtual class, to share and access learning material in various formats such as pdf, ppt, doc, and video, to have assignments in many forms such as multiple choices, essay, or project, to analyze the learning performance and progress, and to open discussion that lead to higher efficiency, effectiveness, and flexibility. Though as a system, LMS also has some weaknesses such as high dependency on internet service and devices to support the systems (computer, laptops, smartphones, et cetera), limited interaction between teachers and students and still need guidance from parents or guardians on its usage (D, 2023).

There are generally two categories of LMS: open-source LMS and closed-source LMS. Open-source LMS provides free initial source code, is modifiable, and may be used without restriction. Certain open-source learning management system (LMS) systems demand an additional charge for extra features and updates. Some examples of this LMS are Edmodo, Moodle, or Google Classroom. While the

closed-source LMS is a commercial LMS platform that demands a license in order to operate. They provide greater assistance and feature sets to meet user's particular needs than open-source LMS. The commercial LMS is developed by a profit company and only can be used once the license is being bought, for example MyCampus, Jelajah Ilmu, and Blackboard (Totara LMS, 2023).

2.1.5 Mobile Learning Acceptance

In an Information System, the effectiveness of any system relies upon the user's embrace of that system. In the acceptance models introduced by Venkatesh et al. (2003), when someone accepts technology, they have the initial intention to use it before actually utilizing it. Since attitudes exert a substantial influence on how technology is used in the future, attitudes have a major role in the acceptance of new technology. Affective and cognitive components make up attitude. The primary focus of the affective component is on emotions (good, bad, or neutral) that are associated with managing technology. The cognitive component connects a person's understanding of technology and cost-benefit analysis. These components will build the willingness to act toward technology adoption (Seibert, 2021). However, according to Pürer (2003) in Seibert (2021) the basic willingness to act is not always translated to actual use.

Almaiah et al. (2019) believed that getting students to accept mobile learning is essential for its adoption to be successful. Hence, it is crucial to understand the determinants that impact the acceptance of mobile learning among Senior High School students.

2.1.6 Unified Theory of Acceptance and Use of Technology (UTAUT) Model

Venkatesh et al. (2003) proposed UTAUT as a basis for quantifying the extent to which an organization embraces and implements technology. The model was created as a result of synthesizing the technology adoption components in other explanatory frameworks such as Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivation Model (MM), Theory of Planned Behavior (TPB), combined TAM and TPB, Model of PC Utilization (MPTU), Innovation Diffusion Theory (IDT) dan Social Cognitive Theory (SCT) (Chao, 2019; Hoi, 2019). The UTAUT model found four key variables that affect information technology intention and usage, which are:

(1) Performance Expectancy (PE)

It denotes the degree to which a person holds the belief that the system will positively impact their performance. Performance Expectancy represents perceived usefulness in TAM, external motivation in MM, work correlation in MPTU, relative advantage in IDT, and expectancy to the achievement in SCT.

(2) Effort Expectancy (EE)

It is characterized as how easy the system is to be used. Effort Expectancy represents perceived ease to use in TAM, systematic complexity in MPTU and operating simplicity in IDT.

(3) Social Influence (SI)

It implies the degree to which an individual perceives support from others regarding the utilization of the system. Social Influence represents subjective

norm in TRA, TAM, and TPB, public image in IDT and social factor in MPTU.

(4) Facilitating Conditions (FC)

It links to how much the hardware and software resources and infrastructures support the system's usage. Facilitating Conditions represents control of conscious behavior in TAM and TPB, promoting condition in MPTU and compatibility in IDT.

In the UTAUT model, performance expectancy, effort expectancy, and social influence are the direct determinants toward the behavioral intention, while facilitating condition and behavioral intention are the direct determinants toward the actual use (Venkatesh et al., 2003). These conceptions were moderated by the criteria of age, gender, experience, and voluntariness.

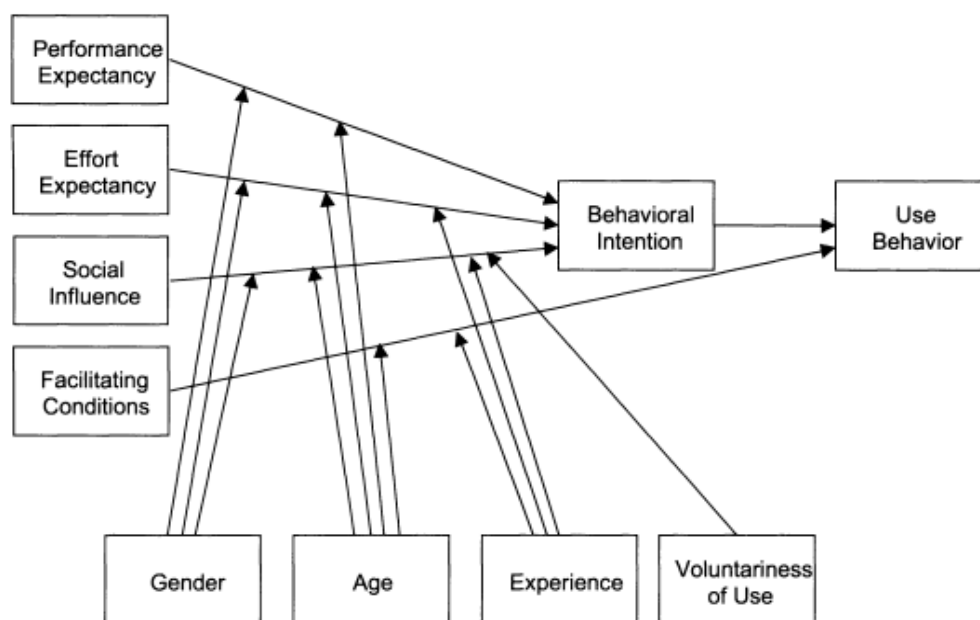


Figure 2.1. UTAUT models by Venkatesh et al. (2003)

The UTAUT model has undergone empirical validation and has been shown to account for approximately 70% of the variability in technology embrace (Kaliisa et al., 2017; Venkatesh et al., 2003). As a result, it can be effectively utilized to forecast the factors that influence IT usage. When contrasted with other similar models and theories in the IS/IT adoption setting, UTAUT has the highest explanatory power (Almaiah et al., 2019). Likewise, according to Oshlyansky et al. in Hoi (2019) the paradigm of UTAUT may be applied both globally and across cultural boundaries. The UTAUT model has become the most successful framework for assessing technological acceptance (Chao, 2019).

2.1.7 Perceived Enjoyment

Self-Determination Theory (SDT), a theory that examines one's motivation, states that motivation can originate from both external and internal sources, known as intrinsic and extrinsic motivation. When an action is taken in response to an external purpose, such as enhancing job performance, this is referred to as extrinsic motivation. Conversely, intrinsic motivation pertains to the act of participating in a task merely due to its natural appeal or pleasure value. According to the Self-Determination Theory as stated in Hwang (2010), the primary behavioral mechanism behind general social behavior is an individual's intrinsic desire, or perceived enjoyment.

Extrinsic motivators—perceived benefits and performance expectations—were incorporated as central elements in the TAM and UTAUT models, which were created to study technological acceptance. However, the frameworks and

interactions that target the intrinsic motivation to adopt and utilize technology are absent from the UTAUT (Fagan, 2019). One of the intrinsic motives in human behavior is perceived enjoyment, which is operationalized as hedonic motivation in Kumar (2019) and Fagan (2019). According to Sitar-Taut (2021), a significant degree of enjoyment is considered to be a fundamental attribute of mobile technology.

Regardless of any negative effects on performance, the term "perceived enjoyment" refers to how much fun technology use is thought to be (Fagan, 2019; Kumar, 2019; Sitar-Taut, 2021). Sitar-Taut (2021) believed that users will not embrace and use m-learning until they are able to successfully complete the intended learning objectives in an enjoyable setting (hedonic motivation).

2.2 Previous Research

Numerous research has contributed to an understanding of the complex relationships between various variables that influence students' attitudes and conduct in adopting technology in educational settings. The table below showed the prior research that is applicable to the research inquiries addressed in this study.

Table 2.1. Previous Research

No.	Authors	Article Title	Journal	Variables and Research Methodology	Research Findings
1.	Cheng Min Chao (2019)	Factors determining the behavioral intention to use mobile learning: An	Front Psychol., 16 July 2019 Sec. Educational Psychology	Research method: <ul style="list-style-type: none"> Quantitative research. The data were analyzed by using PLS-SEM. Variables:	<ul style="list-style-type: none"> Satisfaction, Trust, Perceived Enjoyment, Performance Expectancy, and Effort Expectancy positively influence

		application and extension of the UTAUT Model		<ul style="list-style-type: none"> • Mobile self-efficacy • Perceived enjoyment • Trust • Effort expectancy • Performance expectancy • Satisfaction • Behavioral intention • Perceived risk (as the control variable) on the interrelationships between effort expectancy and performance expectancy to behavioral intention. <p>Research subjects:</p> <ul style="list-style-type: none"> • 1,562 respondents of Higher Education students from ten universities in Central Taiwan who had experience of using m-learning. 	<p>Behavioral Intention.</p> <ul style="list-style-type: none"> • Mobile Self-Efficacy positively influences Perceived Enjoyment • Perceived enjoyment significantly influence effort expectancy and performance expectancy. • Perceived enjoyment, performance expectancy, and effort expectancy positively give influence on satisfaction • Perceived Risk negatively influences Performance Expectancy and Behavioral Intention and do not significantly influence Effort Expectancy and Behavioral Intention.
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Finding out what influence college students' motivation to use mobile learning was the main goal of this study. The UTAUT model served as the study's conceptual basis. The study's conclusions showed that effort expectancy, performance expectancy, enjoyment, and trust were the main factors influencing behavioral intention. Moreover, satisfaction was enhanced by determinants like performance expectancy, effort expectancy, and perceived enjoyment. The intention to apply m-learning was adversely affected by both one's perception of

risks and the expectations of performance. Understanding the determinants that drive the utilization of new technologies helped enhance pedagogical and instructional applications of those technologies as well as the quality of learning.

No.	Authors	Article Title	Journal	Variables and Research Methodology	Research Findings
2.	Mohammed Amin Almaiah, Mahdi M. Alamri, and Waleed Al-Rahmi (2019)	Applying the UTAUT model to explain the students' acceptance of mobile learning systems in higher education	IEEE Journals and Magazine IEEE Xplore, 2019	<p>Research Method:</p> <ul style="list-style-type: none"> • Quantitative research. • The data were analyzed by using the PLS-SEM. <p>Variables:</p> <ul style="list-style-type: none"> • Perceived Compatibility • Self-Efficacy • Perceived Information Quality • Availability of Resources • Perceived Awareness • Perceived Trust • Perceived Security • Performance Expectancy • Effort Expectancy • Social Influence • Facilitating Conditions • Behavioral Intention to Use • Actual Use of Mobile Learning 	<ul style="list-style-type: none"> • Performance expectancy, effort expectancy, and facilitating condition significantly influence the intention to use. • Perceived information quality, perceived compatibility, perceived trust, perceived awareness, availability of resources, self-efficacy, and perceived security significantly influence the intention to accept the mobile learning systems, and consequently lead to the actual use of mobile learning. • Social influence does not show a significant effect on the intention to use.

				Research subjects: <ul style="list-style-type: none"> 697 students from five universities in Jordan 	
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This study aimed to explore the main components that determine the acceptance of mobile learning systems in higher education, with the goal of ensuring their effective deployment. Perceived compatibility, self-efficacy, perceived information quality, resource availability, perceived awareness, perceived trust, and perceived security were the seven external factors that this study introduced to the UTAUT conceptual frameworks. It was found that several additional factors had a substantial influence on the acceptance of mobile learning. These factors included perceived compatibility, perceived awareness, perceived information quality, perceived trust, availability of resources, perceived ease of use, self-efficacy, perceived security, performance expectancy, effort expectancy, and facilitating conditions.

No.	Authors	Article Title	Journal	Variables and Research Methodology	Research Findings
3.	Jeya Amantha Kumar and Brandford Bervell (2019)	Google Classroom for mobile learning in higher education: Modelling the initial perceptions of students	Education and Information Technologies, 2019	Research Method: <ul style="list-style-type: none"> Quantitative research. The data were analyzed by using the PLS-SEM method. Variables: <ul style="list-style-type: none"> Performance expectancy 	<ul style="list-style-type: none"> Habit, hedonic motivation and performance expectancy influence the students' acceptance on Google Classroom. Habit and hedonic motivation positively influence performance expectancy, effort expectancy and social influence towards Google Classroom usage intention.

				<ul style="list-style-type: none"> • Effort expectancy • Social influence • Facilitating condition • Habit • Hedonic motivation • Behavioral intention • Actual use <p>Research subjects:</p> <ul style="list-style-type: none"> • 163 students using Google Classroom 	<ul style="list-style-type: none"> • Facilitating conditions, effort expectancy and social influence were not significantly influence Google classroom use intention.
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Learners' first experiences with the mobile learning platform Google Classroom were examined in this study using a customized version of the UTAUT model that included Habit and Hedonic Motivation. Many of the students in the class were from different subjects departments. At the start of the semester, students were told to download Google Classroom, and the instructor gave them the class code and instructions on how to use it. It was required to participate in Google classes. Students who used Google Classroom were given surveys upon the conclusion of the academic term. The result indicated that the usage intention for Google Classroom were significantly shaped by performance anticipation, hedonic motivation, and habit. Nevertheless, There was no discernible link found between the intents to use Google Classroom and the facilitating environment, effort expectancy, and social influence.

No.	Authors	Article Title	Journal	Variables and Research Methodology	Research Findings
4.	Mary Helen Fagan (2019)	Factors Influencing Student Acceptance of Mobile Learning in Higher Education	Computers in the Schools (2019)	<p>Research Method:</p> <ul style="list-style-type: none"> Quantitative research. The data was analyzed by using PLS-SEM. <p>Variables:</p> <ul style="list-style-type: none"> Performance Expectancy Effort Expectancy Hedonic Motivation Social influence Behavioral Intention to use mobile learning <p>Research subject:</p> <ul style="list-style-type: none"> 171 college students in the United States. 	<ul style="list-style-type: none"> Performance expectancy significantly influences the intention to use iPads for m-learning. Hedonic motivation positively influences performance expectancy and effort expectancy but not directly to intention. Social influence influences performance expectancy but not directly to intention. Effort expectancy does not significantly influence intention.

By combining hedonic motivation as an internal motivation variable and utilizing the extrinsic motivation variable from UTAUT, this study seek to ascertain students' acceptability of mobile learning in university. An iPad-based mobile learning survey was conducted. A Texas public university's undergraduate students participated in a class where teachers included the usage of iPads into their lesson plans and students received iPads as part of a trial mobile learning effort. After then, an online survey regarding the acceptance of iPads in mobile learning was emailed to the students. The study showed that hedonic motivation, effort expectancy, and social influence did not significantly influence intention to use iPad for mobile learning. Only performance expectancy did. However, hedonic expectancy

influences effort expectancy and performance expectancy while social influence influenced performance expectancy.

No.	Authors	Article Title	Journal	Variables and Research Methodology	Research Findings
5.	S C Wibawa, E Sulistiyo, N G A G E Martiningsih, E Handoyo and A Joha (2020)	Moodle mobile development in enjoyable learning in computer system subjects	IOP Conference Series: Materials Science and Engineering, vol. 830, no. 3, IOP Publishing, Apr. 2020, p. 032017.	<p>Research Method:</p> <ul style="list-style-type: none"> Quantitative research through online survey The data was analyzed by using PLS-SEM. <p>Variables:</p> <ul style="list-style-type: none"> Ergonomics of applications Perceived usefulness Perceived ease of use Perceived enjoyment Intention to use <p>Research subject:</p> <ul style="list-style-type: none"> 130 students in Indonesia. 	<ul style="list-style-type: none"> The learning outcomes of students using Moodle Mobile learning resources and traditional learning resources differ.

The aim of this study was to furnish educational resources that may be used for online learning using social media networks, specifically utilizing the Moodle mobile platform. This research employed the Waterfall technique, which involved the following steps: feasibility study, requirements analysis, system design, coding, system testing, and acceptance testing. This study examined five dimensions, namely the applications' ergonomics, perceived ease of use, perceived usefulness, perceived enjoyment, and intention to use, which were applied to two classes: the

control class and the experimental class. The analysis showed that the learning outcomes from those two classes were different.

No.	Authors	Article Title	Journal	Variables and Research Methodology	Research Findings
6.	Dan-Andrei Sitar-Taut (2021)	Mobile learning acceptance in social distancing during the COVID - 19 outbreak: The mediation effect of hedonic motivation	Human Behavior and Emerging Technologies, 3(3), 366–378, 2021	<p>Research Method:</p> <ul style="list-style-type: none"> Quantitative research. The data was analyzed by using PLS-SEM. <p>Variables:</p> <ul style="list-style-type: none"> Performance expectancy Effort expectancy Social influence Facilitating conditions Hedonic motivation Behavioral intention to use mobile learning Age, gender, and experience, and GPA (as control variables) <p>Research subject:</p> <ul style="list-style-type: none"> 311 higher education learners in Romania 	<ul style="list-style-type: none"> Performance expectancy, effort expectancy, social influence, facilitating condition, and hedonic motivation significantly influence behavioral intention to use mobile learning. Performance expectancy, social influence, and facilitating conditions influence the hedonic motivation.

The objective of this study was to assess the utilization of mobile learning technologies by students during the COVID-19 pandemic. The survey data was

gathered throughout the early 2020s, along with Romania's enforcement of social isolation and lockout regulations. The study revealed that the willingness to use m-learning in socially distancing situations was influenced by performance expectancy, effort expectancy, hedonic incentive, social influence, and facilitating conditions. Only age, gender, and experience showed somewhat distinct behaviors in some interactions out of the four control variables that were examined.

No.	Authors	Article Title	Journal	Variables and Research Methodology	Research Findings
7.	Ali Alowayr and Ahmed Al-Azawei (2021)	Predicting mobile learning acceptance: An integrated model and empirical study based on higher education students' perceptions	Australasian Journal of Educational Technology, 37(3), 38–55, 2021	<p>Research Method:</p> <ul style="list-style-type: none"> Quantitative research. The data was analyzed by using PLS-SEM. <p>Variables:</p> <ul style="list-style-type: none"> Performance expectancy Effort expectancy Social influence Facilitating conditions Confirmation Perceived competence Perceived Autonomy Behavioral intention <p>Research subject:</p> <ul style="list-style-type: none"> 246 undergraduate students in the Kingdom of Saudi Arabia. 	<ul style="list-style-type: none"> Performance expectancy and effort expectancy significantly influence the intention. Social influence has a weak influence on intention Facilitating condition does not significantly influence the intention. However it influences effort expectancy. Effort expectancy and perceived confirmation influence performance expectancy. Perceived autonomy influences intention to use but perceived competence does not influence the intention to use.

This study endeavored to determine the manner in which students feel regarding mobile learning in higher education. It expanded on the expectation-confirmation theory and self-determination-based UTAUT model. This study employed the following variables: perceived competence and perceived autonomy (as in self-determination theory); effort and expectations, social influence, and facilitating factors (as in the UTAUT model); and perceived confirmation (as in expectation-confirmation theory). This study confirmed the notion that users' ultimate decision to adopt a technology was influenced by their fundamental psychological necessities.

No.	Authors	Article Title	Journal	Variables and Research Methodology	Research Findings
8.	Yaser Hasan Salem Al-Mamary (2022)	Why do students adopt and use Learning Management Systems?: Insights from Saudi Arabia	International Journal of Information Management Data Insights, vol. 2, no. 2, Elsevier BV, Nov. 2022, p. 100088.	<p>Research Method:</p> <ul style="list-style-type: none"> Quantitative research. The data was analyzed by using AMOS-SEM. <p>Variables:</p> <ul style="list-style-type: none"> Perceived usefulness Perceived ease of use Attitude toward using LMS Behavioral intention to use <p>Research subject:</p> <ul style="list-style-type: none"> 228 students from University of Hail in Saudi Arabia. 	<ul style="list-style-type: none"> Perceived ease of use influences perceived usefulness and attitude to use. Perceived usefulness influences attitude to use and intention to use. Attitude to use influences the behavioral intention to use LMS.

The aim of this study was to assess students' perspectives on LMS use, particularly the Blackboard, applying the TAM model to identify the key elements affecting successful LMS acceptance in Saudi Arabia. Perceived ease of use and perceived usefulness are good drivers of attitude toward utilizing LMS. Additionally, perceived usefulness and attitude had a strong impact on the desire to use LMS.

No.	Authors	Article Title	Journal	Variables and Research Methodology	Research Findings
9.	Gesselle B. Batucan, Gamaliel G. Gonzales, Merly G. Balbuena, Kyla Rose B. Pasaol, Darlyn N. Seno and Roselyn R. Gonzales (2022)	An Extended UTAUT Model to Explain Factors Affecting Online Learning System Amidst COVID-19 Pandemic: The Case of a Developing Economy	Frontiers in Artificial Intelligence	<p>Research Method:</p> <ul style="list-style-type: none"> Quantitative research through online survey The data was analyzed by using PLS-SEM. <p>Variables:</p> <ul style="list-style-type: none"> Performance expectancy Effort expectancy Social influence Facilitating conditions System enjoyment System Interactivity System flexibility System Quality Behavioral intention Use behavior Gender (as control variable) 	<ul style="list-style-type: none"> System interactivity influences performance expectancy but not effort expectancy. System enjoyment influences effort expectancy and performance expectancy and shows negative effect towards intention to use. Facilitating condition influences intention to use and use behavior. System flexibility and quality influence the intention to use but social influence, effort expectancy, and performance expectancy do not influence intention to use. Intention to use positively related to use behavior. gender had no control effect on social influence, performance expectancy, or effort expectancy.

				Research subject: <ul style="list-style-type: none"> • 880 college students in Philippines. 	
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This study employed the UTAUT model to explain the factors that impacted students' intention and behavior when using online learning during COVID-19. The UTAUT model was extended to incorporate the antecedent factors of enjoyment, interaction, flexibility, and quality of online learning systems. The findings demonstrated that gender had no control effect on social influence, performance expectancy, or effort expectancy with regard to behavioral intention. Gender, however, considerably moderated the system's ability to interact with effort expectancy.

No.	Authors	Article Title	Journal	Variables and Research Methodology	Research Findings
10.	Adel Abdulmohsen Alfalah (2023)	Factors influencing students' adoption and use of mobile learning management systems (m-LMSs): A quantitative study of Saudi Arabia	International Journal of Information Management Data Insights, vol. 3, no. 1, Elsevier BV, Apr. 2023	Research Method: <ul style="list-style-type: none"> • Quantitative research. • The data was analyzed by using PLS-SEM. Variables: <ul style="list-style-type: none"> • Performance expectancy • Effort expectancy • Lecturers' influence • Facilitating conditions • Perceived mobile value 	<ul style="list-style-type: none"> • Performance expectancy is significantly influenced by perceived mobile value and academic relevance but not by university management support. • University management support significantly influences effort expectancy. • Performance expectancy, effort expectancy, lecturers' influence significantly influence the behavioral intention. • Facilitating conditions does not significantly

				<ul style="list-style-type: none"> • Academic relevance • University management support • Behavioral intention <p>Research subject:</p> <ul style="list-style-type: none"> • 258 students from three universities in Saudi Arabia. 	influence the behavioral intention.
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This study expanded UTAUT model to empirically evaluate the intention of university-level students in Saudi Arabia to utilize m-LMS. In summary, every element in UTAUT model—aside from the facilitating condition—significantly influenced the behavioral intention. Expectations of performance were supported by perceived mobile value and academic relevance. While effort expectation was supported by the university management system.

2.3 Conceptual Framework

Technology integration is becoming more and more significant in the dynamic field of education. It is crucial to consistently research the variables affecting technology adoption (Seibert, 2021). This subchapter provides the conceptual framework for analyzing the factors that affect the acceptance of the m-LMS among Senior High School students as an implementation of the *Kurikulum Merdeka*. Previous research has examined many factors such as performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivation, habit, perceived competence, perceived autonomy, perceived

confirmation, trust, et cetera, referring to TAM model and UTAUT model.

This study applied extended UTAUT model as its conceptual basis with seven research variables, namely Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Perceived Enjoyment (PJ), Behavioral Intention (BI) and Actual Use (AU). PE, EE, SI, and FC are the main drivers adopted from UTAUT model by Venkatesh (2003) while PJ is the determinant adopted from Chao (2019), Fagan (2019), and Kumar (2019). Moreover, PE, EE, and SI are mediating PJ toward BI. BI and FC are independent variables toward AU. For the control variables, this study proposed the variable of gender and type of schools. The conceptual frameworks are built using each of these variables as follows:

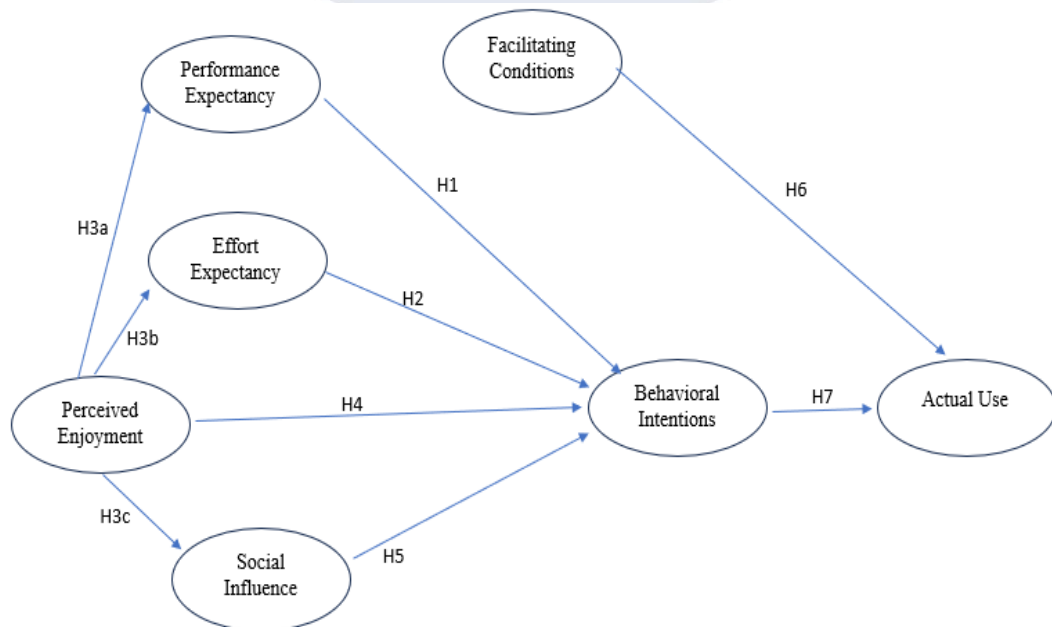


Figure 2.2 : Conceptual Framework
Source: Author, 2023

2.4 Hypothesis

The hypotheses were developed to systematically analyze the correlations among variables and evaluate the determinants factors of the embrace of m-LMS among the Senior High School students within the *Kurikulum Merdeka* framework. The purpose of this section is to explain these hypotheses, which were developed after giving thoughtful consideration to conceptual frameworks, sum of prior literatures, and the particular setting in which the research was conducted. This research used the following hypotheses to explain the correlation between variables.

2.4.1. Effect of Performance Expectancy to Behavioral Intention to Use m-LMS

Performance expectancy is the correlation between an one's belief in the potential benefits of mobile learning systems and their own performance. In this research, performance expectancy pertains to the utility of the m-LMS. Venkatesh et al. (2003) found out that performance expectancy was the the most powerful element that determines one's willingness to use a technology. Chao's (2019) investigation on the use of mobile learning by Taiwanese university students by using UTAUT revealed that performance expectancy is linked to behavioral intention. Sidik (2020) figured out the same correlation between performance expectancy and intention to use mobile learning when he studied the higher education students' acceptance of mobile learning in Indonesia. The UTAUT model has been used by other researchers, and the results were consistent with the

notion that behavioral intention to use and performance expectancy are related.

Thus, the subsequent hypothesis is put forward:

H1: Performance Expectancy has a significant effect on the Behavioral Intention to Use m-LMS.

2.4.2. Effect of Effort Expectancy to Behavioral Intention to Use m-LMS

Effort expectancy is correlated with the usability of a mobile learning system. The present study defined effort expectation as the level of simplicity in utilizing m-LMS. Sitar-Taut (2021) found that there was a positive relationship between effort expectancy and behavioral intention to use mobile learning for higher education students in Romania. Numerous other studies that employed the UTAUT in a similar way displayed a close relationship between effort expectancy and behavioral intention, such as Fagan (2019) when investigated the acceptance of iPad; Batucan (2022) when investigated the online learning, and Kaliisa (2017) when investigated the technology adoption in Uganda and Australia. Thus, the subsequent hypothesis is put forward:

H2: Effort Expectancy has a significant effect on the Behavioral Intention of using m-LMS.

2.4.3. Effect of Perceived Enjoyment to Performance Expectancy, Effort Expectancy, and Social Influence

Perceived enjoyment, within the TAM framework, is an external component that greatly affects people's perceived usefulness and perceived ease of

use (Ching, 2017; Teo & Noyes, 2011). In the UTAUT model, perceived usefulness was identical to performance expectancy and perceived ease of use was identical to effort expectancy (Venkatesh et al., 2003). Chao (2019) found out that the enjoyment of online learning influenced the performance expectancy and effort expectancy. The finding of Batucan (2022) corresponded as well with Chao's finding.

A study by Heggart et al. (2018) said higher education students valued the opportunities provided by Google Classroom and Google Suite because they thought the platforms were simple to use, easy to load up, and allowed for digital idea expression, all of which promoted engagement and a sense of togetherness among students. Thus, the pleasure derived from utilizing Google Classroom was closely linked to evaluating the system's usability, goal, and ultimately its impact on social norms. Kumar (2019) also revealed that there was a positive relationship between perceived enjoyment, which was operationalized as hedonic motivation, and social influence. Thus, the subsequent hypothesis is put forward:

H3a: Perceived Enjoyment has a significant effect on Performance Expectancy.

H3b: Perceived Enjoyment has a significant effect on Effort Expectancy.

H3c: Perceived Enjoyment has a significant effect on Social Influence.

2.4.4. Effect of Perceived Enjoyment to Behavioral Intention to Use m-LMS

Perceived Enjoyment is linked to the pleasure and joy in using the mobile learning system. In this research, perceived enjoyment refers to how fun and enjoyable is the experience in using m-LMS. In the study of Davis, Bagozzi, and

Warshaw (1992), intrinsic motivation—which embodied function as enjoyment—made up 75% of the variance in intention. They came to the conclusion that enjoyment creates a straightforward but effective justification of what affects usage intention. Kumar (2019) figured out that hedonic motivation which was operationalized by perceived enjoyment significantly affected the use intention of Google Classroom. Students' interest in Google Classroom had a tendency to lead to their intention to use mobile applications. They were enthusiastic about using Google Classroom and were determined to keep using this tool. Fagan (2019), and Al-Basyareh (2022) also concluded the same things in their research showing effect between perceived enjoyment and intention to use. Thus, the subsequent hypothesis is put forward:

H4: Perceived Enjoyment has a significant effect on the Behavioral Intention to Use m-LMS.

2.4.5. Effect of Social Influence to Behavioral Intention to Use m-LMS

Social Influence is linked to how much an individual feels that others encourage him or her using the mobile learning systems. In this research, social influence refers to the degree of how others influence someone to use m-LMS. Kaliisa et al. (2017) in their research believed that social influence did matter for mobile learning acceptance. Sidik (2020), as well, found that the influence from friends, parents, and teachers affected the intention to use a system. Some other research also revealed the same findings, such as Almaiah (2019), Fagan (2019), and Alowayr (2021). Thus, the subsequent hypothesis is put forward:

H5: Social Influence has a significant effect on the Behavioral Intention to Use m-LMS.

2.4.6. Effect of Facilitating Conditions and Actual Use of m-LMS

Facilitating Conditions is linked to how much the hardware and software resources and infrastructures support the systems' usage. In this study, the facilitating condition refers to the degree of how supportive the infrastructure is to use m-LMS. Venkatesh (2000) as cited in Venkatesh et al. (2003) discovered evidence that the impact of facilitating conditions on intention is completely mediated by effort expectancy. Given that the model includes effort expectancy, facilitating conditions are employed to predict actual usage, rather than intention. This finding was conformed by Ghalandari (2012) and Venkatesh (2003) who found out facilitating conditions gave significant direct impact to actual use but not to behavioral intention. Thus, the subsequent hypothesis is put forward:

H6: Facilitating Conditions has a significant effect on the Actual Use of m-LMS.

2.4.7. Effect of Behavioral Intention to the Actual Use of m-LMS.

Behavioral intention pertains to the level to which one has consciously determined whether or not to partake in a certain behavior in the future. In some social psychology models of conduct, the intention serves as a crucial indicator of an individual's mental preparedness for action. Hamidi (2019) in his study to university students in Tehran found out that the intention to use mobile learning led to the use of its mobile learning that in the end will influence students'

satisfaction in the learning process. This result was according to what Al-emran (2020), Alshurideh (2020), Batucan (2022), and Kumar (2019), found. Thus, the subsequent hypothesis is put forward:

H7: Behavioral Intention has a significant effect on the Actual Use of m-LMS.

2.4.8. Effect of Gender as the Control variable

A study carried out by Venkatesh et al. (2003) showed the influence of gender on an one's inclination to embrace technology that led to the actual use. Nysveen and Pederson (2014) investigated that men have a stronger impact on performance expectancy, effort expectancy, and social influence toward behavioral intention to use technology. Hwang (2010) found that the male group was more impacted by perceived enjoyment than the female group in e-commerce system adoption. Thus, the subsequent hypothesis is put forward:

H8 : Different gender has a different significant effect on the actual of of m-LMS.

2.4.9. Effect of Types of School as the Control variable

National and international schools make up the two main categories of Indonesian formal education pathways. Schools that adhere to the national curriculum and meet the national education standards are referred to as national schools. In the meanwhile, schools with global curricula are referred to as international schools. However, the term "international school" has been replaced with Satuan Pendidikan Kerjasama (SPK) as of 2014, in compliance with the Regulation of the Minister of Education and Culture of the Republic of Indonesia

Number 31 of 2014 concerning Cooperation in the Implementation and Management of Education by Foreign Education Institutions with Education Institutions in Indonesia. Since then, Indonesian schools that work with foreign educational institutions have been granted the designation of SPK by the government (Perkumpulan Sekolah SPK Indonesia, 2023).

Kurikulum Merdeka policy was released on the curriculum page of the Ministry of Education, Culture, Research and Technology (*Kemendikbudristek*) in an effort to revive education in the years 2022–2024, or following the COVID-19 epidemic. *Kurikulum Merdeka* can be modified to fit the demands of schools because it is intended to be more flexible. In line with the Pancasila student profile, learning is also done through projects that focus on character and soft skill development. All schools are free to choose not to implement the Independent Curriculum, yet. As a matter of fact, SPK Indonesia wholeheartedly endorses the government's initiative to adopt the Pancasila student profile and *Kurikulum Merdeka*.

One of the key points in *Kurikulum Merdeka* is the digital transformation in the teaching-learning process. Fahlevi (2020) claimed that because SPK Schools have been using technology for online learning since the Covid-19 era, they are used to it and have access to it. On the other hand, national schools, particularly those situated in isolated regions, continue to face challenges when attempting to utilize technology for educational purposes since they might lack in facilities (Riana, 2021). It's possible that schools with greater assets and support rate technology adoption as being easier. This is according to the finding of Alowayr

(2021) that facilitating conditions gave a substantial impact to effort expectancy and later on to performance expectancy. At the end, effort expectancy and performance expectancy influence the intention to use a system that leads to the actual use (Al-maiah, 2019; Al-shurideh, 2020; Batucan, 2022, and Kumar, 2019). Moreover, Ibanez et al. (2020) proved that the utilisation of augmented reality technology generates favourable effects on the academic achievements of middle-school students in Mexico. Nevertheless, the influence differs based on whether students were registered in public or private educational institutions.

Thus, the subsequent hypothesis is put forward:

H9 : Different types of school has a different significant effect on the actual of of m-LMS.

