PERCEIVED USEFULNESS ANALYSIS AND USER SATISFACTION IN THE DEVELOPMENT OF LEARNING MANAGEMENT SYSTEM DESIGN

by Adrianus Hernowo

Submission date: 06-Apr-2022 12:33PM (UTC+0700)
Submission ID: 1803143875
File name: LAM_PENGEMBANGAN_DESAIN_UI_UX_LEARNING_MANAGEMENT_SYSTEM_2.docx (2.6M)
Word count: 4113
Character count: 23134

JURNAL EKONOMI MANAJEMEN (JEM17) Volume ?, Nomor ?, Maret 202?, Halaman 1 – 12

PERCEIVED USEFULNESS ANALYSIS AND USER SATISFACTION IN THE DEVELOPMENT OF LEARNING MANAGEMENT SYSTEM DESIGN

Adrianus Hernowo W.P
Fakultas Teknologi dan Informatika, Universitas Dinamika
Jl. Kedung Baruk No. 98, Kedung Baruk
Kec. Rungkut, Kota SBY, JawaTimur, Indonesia
18410100009@dinamika.ac.id

Candraningrat, Candraningrat *
Fakultas Ekonomi dan Bisnis, Universitas Dinamika
Jl. Kedung Baruk No. 98, Kedung Baruk
Kec. Rungkut, Kota SBY, Jawa Timur, Indonesia
candraningrat@dinamika.ac.id

Ayouvi Poerna Wardhanie
Fakultas Teknologi dan Informatika, Universitas Dinamika
Jl. Kedung Baruk No. 98, Kedung Baruk
Kec. Rungkut, Kota SBY, Jawa Timur, Indonesia
ayouvi@dinamika.ac.id

ABSTRACT

This study aims to determine the effect of website display, navigation, content, learning management system, perceived usefulness, and user satisfaction on the needs of students who use LMS with the MyBrilian case study belonging to Dinamika University. From the preliminary data as many as 30 respondents, it is known that 24 people (72.7%) of respondents use MyBrilian for formality activities such as collecting assignments, doing quizzes, and chatting with lecturers. Students should be able to feel the use of LMS as a medium for learning activities that are not limited by space and time without having to meet face to face on campus, become a wider learning resource with the help of the internet according to their study program and make it easier to organize learning activities. This study uses the PLS-SEM method as an analytical method with the Warp PLS 7.0 application. There are 160 experimental respondents in this study using the random sampling collection method. The process of designing prototype recommendations uses the crazy 8 design method, and usability testing to test prototype recommendations. At the end of the conclusion, this study obtained results regarding the significant influence between the appearance of the website with perceived usefulness, navigation with perceived usefulness, content with perceived usefulness, LMS with perceived usefulness, and perceived usefulness with user satisfaction. The results of the prototype test obtained an average score of "agree" in the value of use.

Keywords*: Learning Management System, User satisfaction, Perceived Usefullness, User Interface/User Experience.*

INTRODUCTION

The development of technology and information has a major influence on various fields of life, especially education [1]. Currently, students can attend lectures in any place and in any situation because increasing quality human resources has an important role in achieving a goal [2]. The learning process is defined as a Distance Learning (PJJ) method or commonly referred to as Electronic Learning (E-learning), which is to shorten learning time and make study costs more economical [3]. Although later learning can be done with PTM, the E-learning learning method can still be used because the E-learning method is a flexible learning method and can be adapted to circumstances. Learning Management System (LMS) which is part of E-learning is expected to help improve student learning success [4].

An organization or educational institution must continuously add new ways or breakthroughs in terms of interacting with its users [5]. The technology university in Surabaya that has implemented the LMS is the Dinamika University, which was named MyBrilian. From the survey results collected as many as 33 respondents with a minimum of 30 respondents to conduct pre-eleminary research [6] which consisted of 12 female students and 21 students from 2018 to 2019 at Dinamika University, it is known that 72.7% (24 people) used MyBrilian as a formality for lectures, such as collecting assignments or downloading materials, is followed by second place, quizzes given by the lecturer, and at the last level, which is sending messages to lecturers, this is deemed not to be in accordance with the purpose of the LMS, which is to be used as a learning platform. MyBrilian which has various features such as my courses, messages, calendar, and others that can provide perceived usefulness in PBM but have not been used. [7] E-learning can open up knowledge pathways that instill a culture of curiosity and inquiry in students and graduates that is essential for lifelong learning.

The biggest challenge in an organization is to be able to design something new and innovative [8]. From the survey results, this study aims to determine the success of MyBrilian as an LMS belonging to Dinamika University in terms of perceived usefulness which creates user satisfaction for users, namely Dinamika University students so that it can be a reference when educational institutions will make LMS in the future. The variables tested in this study are website display, navigation, content presentation based on research [9], and there are also LMS variables, perceived usefulness, and user satisfaction [7]. *User satisfaction felt by users, can have an impact on frequent access to the website*. *Perceived usefulness* [10] is a variable that defines the extent to which a technology user believes that using a certain technology will improve his work performance. This study focused on students as MyBrilian users [7].

LITERATURE REVIEW

Website View

When a user views a website, the first thing that can be seen is the visual appearance. In order to look attractive, the website must be well designed and need to pay attention to things like consistency,

empty space, colors, typography, layout. From the journal [11], [12] the appearance of the website has several indicators such as attractive images, relevant graphics, easy-to-understand icons, and appropriate color assignments.

Navigation

Navigasi [13] is the flow used in the application that is created. With navigation, of course, users will find it easier to find what they want. From the journal, explained that navigation has a certain structure that can be adapted to needs. It is known that navigation can be directly related to perceived usefulness [9], [14] with several indicators of clear website usage flow, functioning buttons, SEO, and easy-to-find pages.

Content

The message to be conveyed to the user is called content. The process of delivering messages must also have criteria and conditions [15] namely the delivery of information through content must be clearly conveyed and meet the needs of visitors regarding the information sought while having an impact. Content is one of the variables that affect the perceived usefulness [9], [16] with several indicators of actual information, factual information, interesting information, easy-to-understand image explanations.

Learning Management System

As part of E-learning, [4] Learning Management System is a system that allows an institution to develop electronic learning materials for its students. Several indicators from journals [7], [17], [4] that can lead to perceived usefulness are website interactions, features as needed, integration with other platforms, job reports.

Perceived Usefulness

Confidence in a technology so as to provide good usability is the definition of perceived usefulness. Perceived usefulness is a variable to measure a person's level of belief that the use of information technology will improve performance and work. Perceived usefulness as a moderating variable, of course, can moderate the independent variable on the dependent variable from the journal that has been studied [10]. [7] produced several indicators, namely increasing the productivity of E-learning learning, controlling E-learning learning better, increasing the effectiveness of E-learning learning, being more concentrated in E-learning learning.

User Satisfaction

Perceived usefulness is the main determinant of user satisfaction, which in turn predicts intention to continue use [9]. In several research journals [7], [18], [19], user satisfaction has several indicators, namely

being satisfied with the effectiveness of E-learning learning, satisfied with the performance of E-learning learning, having a sense of pride in using the E-learning platform, having motivation to use the E-learning platform, satisfied with the services of the E-learning platform.

RESEARCH METHODS

Figure 1 below will explain how the stages will be carried out from the beginning to the end of the research.

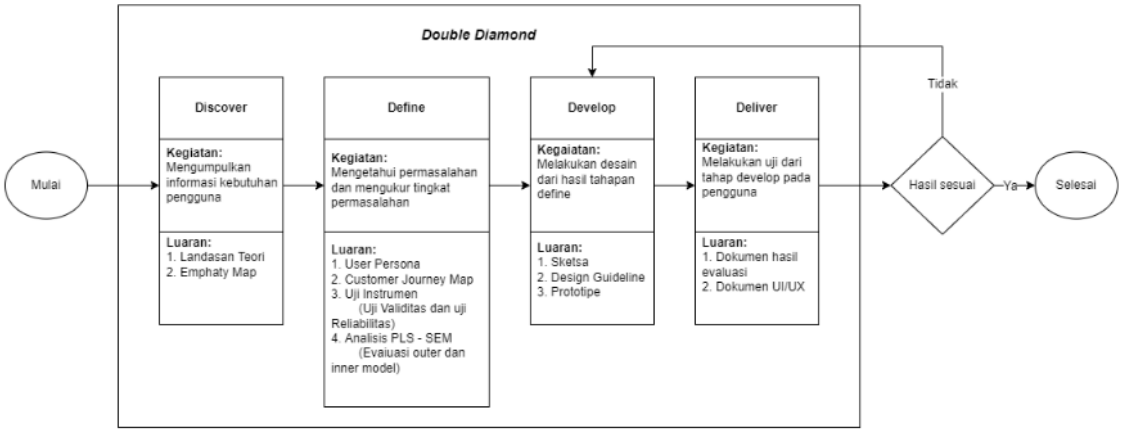

Figure 1 Research Stages

Hypothesis

In this study, an analysis of the perceived usefulness of the MyBrilian application will be carried out so that it affects student user satisfaction. In order to find out the benefits of the application, this study refers to journals [7] [9] which provide detailed information about aspects that can be felt by users so as to produce satisfaction in the LMS. The following are the details of this research hypothesis:

Hypothesis 1. Display (X_1) has a direct effect on perceived usefulness (Y)

Hypothesis 2. Navigation (X2) has a direct effect on perceived usefulness (Y)

Hypothesis 3. Content (X3) has a direct effect on perceived usefulness (Y)

Hypothesis 4. LMS (X4) has a direct effect on perceived usefulness (Y)

Hypothesis 5. Perceived usefulness (Y) has a direct effect on user satisfaction (Z)

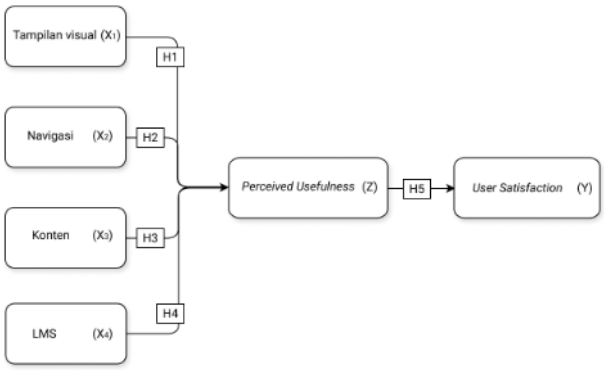

Figure 2 Research Conceptual Framework

Sample Counting

The random sampling model was chosen in this study because [20] andom sampling is considered a fair way to select samples from a larger population because each member of the population has an equal chance of being selected. In sampling, [21] is considered valid if there are 160 respondents. From this statement, this study will use 160 respondents.

The number of active student population in odd semesters is 21.1 as many as 1,439 people consisting of 619 S1 Information Systems students, 141 S1 Computer Systems students, 80 DIII Information Systems students, 284 S1 Visual Communication Design students, 60 S1 Product Design students, 96 DIV Film Production students and Television, 119 Management S1 students, 30 Accounting S1 students, 8 Office Administration DIII students.

$$\text{study program percentage} = \left(\frac{\text{population study program}}{\text{population total}}\right) * 100$$

The formula for calculating the percentage of the population

$$\text{sampel each study program} = n * \text{percentage each study program}$$

The formula for calculating the sample for each study program

From the two formulas, it is known that the samples needed in this study are 69 S1 Information Systems students, 16 S1 Computer Systems students, 8 DIII Information Systems students, 32 Visual Communication Design S1 students, 7 S1 Product Design students, 11 DIV Production students. Film and Television, 13 students of S1 Management, 3 students of S1 Accounting, and 1 student of DIII Office Administration.

Data Collection

The preparation of this questionnaire also uses a Likert scale with several long-answer questions in order to find out what the user's pain and gain are. The score 1 means strongly disagree, score 2 means

disagree, score 3 means disagree, score 4 means agree, and score 5 means agree.

Data Analysis

Several things will be analyzed, namely the instrument test containing the validity test which contains the test used to show the extent to which the measuring instrument used in a measurement is valid [22] nd the reliability test which serves to prove that the answers from respondents on each variable can be trusted because they are appropriate. with the existing reality (reliable) [23], then the outer model test used to assess the validity and reliability of the model [24], s well as the inner model test which describes the relationship between the independent latent variable (exogenous) and the dependent latent variable (endogenous) [25].

RESEARCH RESULTS & DISCUSSION

In table 1 are the characteristics of respondents who have been collected as many as 160 respondents,

Table 1 Respondent Character

Karakter	Total	Persentase
Gender	**160**	**100%**
Laki-laki	112	70%
Perempuan	48	30%
Prodi	**160**	**100%**
S1 Sistem Informasi	69	43,02%
S1 Teknik Komputer	16	9,80%
D3 Sistem Informasi	8	5,56%
S1 Desain Komunikasi Visual	32	19,74%
S1 Desain Produk	7	4,17%
D4 Produksi Film dan Televisi	11	6,67%
S1 Akuntansi	3	8,27%
S1 Manajemen	13	2,08%
D3 Administrasi Perkantoran	1	0,56%
Tahun Angkatan	**160**	**100%**
2017	1	0,60%
2018	65	40,60%
2019	70	43,80%
2020	19	11,90%
2021	5	3,10%

OUTER MODEL

a) Convergent Validity

In table 2 it can be seen that all indicators reflect each factor loading value in conditions above the value of 0.4 to 0.7 [26] so that it can be categorized as a significant value.

Table 2 Factor Loading

	X1	X2	X3	X4	Z	Y	Kondisi	Deskripsi
X1.1	0.671						0.40 - 0.70	Fulfilled
X1.2	0.715							Fulfilled
X1.3	0.775							Fulfilled
X1.4	0.723							Fulfilled
X2.1		0.727						Fulfilled
X2.2		0.744						Fulfilled
X2.3		0.716						Fulfilled
X2.4		0.706						Fulfilled
X3.1			0.654					Fulfilled
X3.2			0.724					Fulfilled
X3.3			0.796					Fulfilled
X3.4			0.690					Fulfilled
X4.1				0.650				Fulfilled
X4.2				0.753				Fulfilled
X4.3				0.734				Fulfilled
X4.4				0.712				Fulfilled
Z1.1					0.790			Fulfilled
Z1.2					0.685			Fulfilled
Z1.3					0.664			Fulfilled
Z1.4					0.736			Fulfilled
Y1.1						0.743		Fulfilled
Y1.2						0.731		Fulfilled
Y1.3						0.782		Fulfilled
Y1.4						0.780		Fulfilled
Y1.5						0.764		Fulfilled

Table 3 shows that the AVE value is above the minimum condition so that it can be accepted.

Table 3 Ave Test

Variabel	Value	Kondisi	Deskripsi
X1	0.521	Minimum 0.5	Fulfilled
X2	0.524		Fulfilled
X3	0.515		Fulfilled
X4	0.509		Fulfilled
Z	0.519		Fulfilled
Y	0.578		Fulfilled

Table 4 shows that the standard error is below the maximum condition value.

Table 4 Standard Error Test

	X1	X2	X3	X4	Z	Kondisi	Deskripsi
Z	0.075	0.076	0.076	0.077		Berada <0.5 atau <0.04 dan tidak bernilai negatif	Fulfilled
Y					0.074		Fulfilled

b) Discriminant Validity

The discriminant validity test in table 5 states that it is valid if it has the highest loading factor value for the value in question compared to other load factor values.

Table 5 Discriminant Validity Test

	X1	X2	X3	X4	Z	Y	Kondisi	Deskripsi
X1.1	0.671	-0.046	-0.229	-0.101	0.230	-0.112	Lebih besar dari nilai lainnya	Fulfilled
X1.2	0.715	-0.038	0.120	-0.044	-0.209	0.167		Fulfilled
X1.3	0.775	0.171	0.043	-0.107	-0.019	-0.035		Fulfilled
X1.4	0.723	-0.103	0.047	0.251	0.013	-0.023		Fulfilled
X2.1	0.250	0.727	-0.123	0.012	0.059	-0.051		Fulfilled
X2.2	0.146	0.744	-0.146	0.026	-0.057	-0.042		Fulfilled
X2.3	-0.425	0.716	0.714	-0.002	-0.023	0.021		Fulfilled
X2.4	0.020	0.706	0.103	0.038	0.023	0.075		Fulfilled
X3.1	-0.148	0.220	0.654	-0.199	0.062	0.191		Fulfilled
X3.2	-0.020	-0.035	0.724	0.192	-0.117	-0.093		Fulfilled
X3.3	0.098	-0.211	0.796	-0.015	0.076	0.022		Fulfilled
X3.4	0.048	0.071	0.690	0.005	-0.023	-0.109		Fulfilled
X4.1	-0.005	-0.137	-0.093	0.650	-0.345	-0.134		Fulfilled
X4.2	-0.118	0.175	-0.015	0.753	-0.088	-0.080		Fulfilled
X4.3	0.154	-0.044	0.160	0.734	-0.031	0.145		Fulfilled
X4.4	-0.030	-0.015	-0.064	0.712	-0.191	0.057		Fulfilled
Z1.1	0.163	-0.177	-0.070	-0.135	0.790	0.018		Fulfilled
Z1.2	-0.002	-0.022	-0.261	0.064	0.685	0.048		Fulfilled
Z1.3	-0.250	0.354	0.152	0.093	0.664	-0.106		Fulfilled
Z1.4	0.052	0.108	0.181	0.001	0.736	0.032		Fulfilled
Y1.1	0.064	-0.055	-0.146	0.242	-0.158	0.743		Fulfilled
Y1.2	-0.052	0.235	-0.080	-0.102	-0.125	0.731		Fulfilled
Y1.3	-0.001	0.026	0.085	-0.180	-0.018	0.782		Fulfilled
Y1.4	0.149	-0.319	0.027	-0.021	0.280	0.780		Fulfilled
Y1.5	-0.163	0.128	0.104	0.068	0.005	0.764		Fulfilled

c) Composite Reliability and Cronbach's Alpha

The composite reliability test in table 6 shows that the composite reliability value is above the minimum condition, namely 0.7 [27] and in table 7 the Croanbach's Alpha value is above the minimum condition, namely 0.6 so it can be accepted.

Table 6 Composite Reliability Test

Variabel	Value	Kondisi	Deskripsi
X1	0.813	Minimum 0.7	Accepted
X2	0.815		Accepted
X3	0.809		Accepted
X4	0.805		Accepted
Z	0.811		Accepted
Y	0.873		Accepted

Table 7 Cronbach's Alpha Test

Variabel	Value	Kondisi	Deskripsi
X1	0.692	Minimum 0.6	Accepted
X2	0.696		Accepted
X3	0.684		Accepted
X4	0.677		Accepted
Z	0.689		Accepted
Y	0.817		Accepted

INNER MODEL

a) Model Fit and Path Coefficient Test

It is known from table 8 that the model fit test can be accepted because it has conditions that meet the minimum and maximum requirements.

Table 8 Model Fit and Path Coefficient Test

Indeks	Nilai	p-value	Kondisi	Deskripsi
APC	0.219	<0.001	p<0.05	Fulfilled
ARS	0.271	<0.001	p<0.05	Fulfilled
AARS	0.261	<0.001	p<0.05	Fulfilled
AVIF	2.171		AVIF<=0.05	Fulfilled
AFVIF	1.863		AFVIF <=0.05	Fulfilled
GOF	0.378		Small >= 0.1, Medium >= 0.25, Large >= 0.36	Large
SPR	1.000		SPR > 0.7	Fulfilled
RSCR	1.000		RSCR > 0.9	Fulfilled
SSR	1.000		SSR > 0.7	Fulfilled
NLCBDR	1.000		NLCBDR > 0.7	Fulfilled

b) R^2 Test

In table 9 it is known that the perceived usefulness variable can be influenced by the appearance of the website, navigation, content and platform learning management system by 43.8% while 56.2% is influenced by other factors. While the user satisfaction variable can be influenced by the perceived usefulness

of 10.4% and 89.6% is influenced by other factors.

Table 9 R2 *Test*

Variabel	Nilai
Perceived Usefulness (Z)	0.438
User Satisfaction (Y)	0.104

HYPOTHESIS TEST

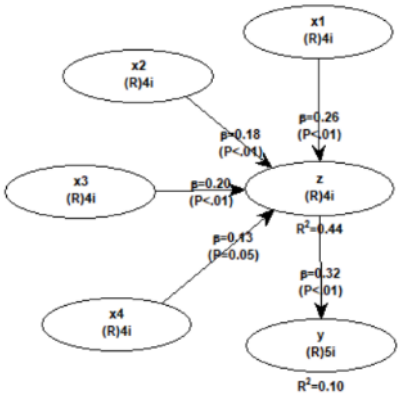

Figure 3 Effect Size

Table 10 Direct Effects

Criteria	Variabel	X1	X2	X3	X4	Z	Y
Path Coefficient	X1	-	-	-	-	-	-
	X2	-	-	-	-	-	-
	X3	-	-	-	-	-	-
	X4	-	-	-	-	-	-
	Z	0.260	0.184	0.198	0.131	-	-
	Y	-	-	-	-	0.323	-
p-values	X1	-	-	-	-	-	-
	X2	-	-	-	-	-	-
	X3	-	-	-	-	-	-
	X4	-	-	-	-	-	-
	Z	<0.001	0.008	0.005	0.046	-	-
	Y	-	-	-	-	<0.001	-

H1: The appearance of the website has a significant effect on the user's perceived usefulness on the MyBrilian website

The appearance of the website has a significant effect on perceived usefulness because the path coefficient and p-values are in accordance with the provisions. From the results of the analysis, it was found that the most decisive indicator of the display variable is **the easy to understand icon** (X1.3) of 0.775 while the indicator that needs to be improved is the **attractive image** (X1.1) of 0.671. It can be concluded that the appearance of a good MyBrilian website is most influenced by icons that are easy to understand, while the attractive image indicators on MyBrilian have less influence.

This hypothesis was strengthened by various responses from respondents who said that the appearance of each course was made simpler and the theme of the picture was uniformed to make it more attractive. Students prefer images that are simple and consistent. Inconsistent images cause perceived usefulness not to be perceived well by users. It would be nice if the MyBrilian image currently has a preview that is similar to the background when in class and the image can be identical to the subject being taught.

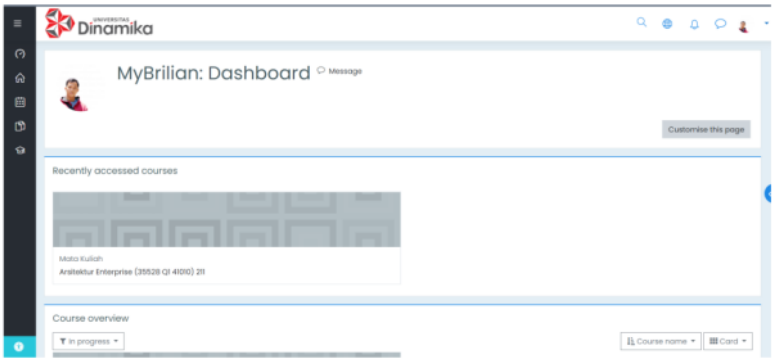

Figure 4 Classroom Pre-View

Figure 5 Class Background Images

H2: Website navigation has a significant effect on users' perceived usefulness on the MyBrilian website

Website navigation has a significant effect on perceived usefulness because it has the appropriate path coefficient and p-values. From the results of the analysis, the most decisive indicator of the navigation variable is **a button that works well** (X2.2) of 0.744 while the indicator that needs to be improved is that **the page you are looking for is easy to find** (X2.4) of 0.706. It can be concluded that a good MyBrilian navigation depends on the buttons that can be used, while the search page indicators that are easy to find on MyBrilian are less influential. So, in the navigation variable, the pages available on MyBrilian need to be fixed again so that they are easy to find.

This hypothesis was strengthened by various responses from respondents who said that there was a lack of search features in MyBrilian to make it easier for students. What students feel is the lack of perceived usefulness that MyBrilian has, namely the MyBrilian search feature which does not add hints so that students can access certain pages faster. In addition to the need for the search feature, respondents also gave suggestions so that some pages that are not needed can be removed such as the grades, competencies, and badge pages because they feel they are not used in lecture activities and so that switching between pages on MyBrilian is faster.

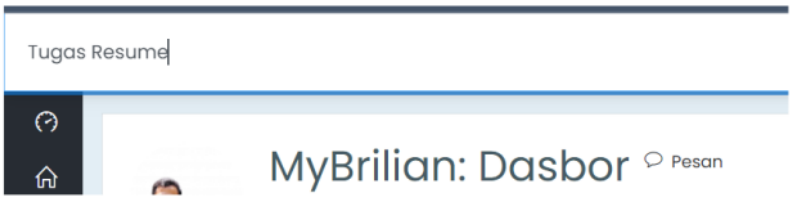

Figure 6 MyBrilian Finder Features

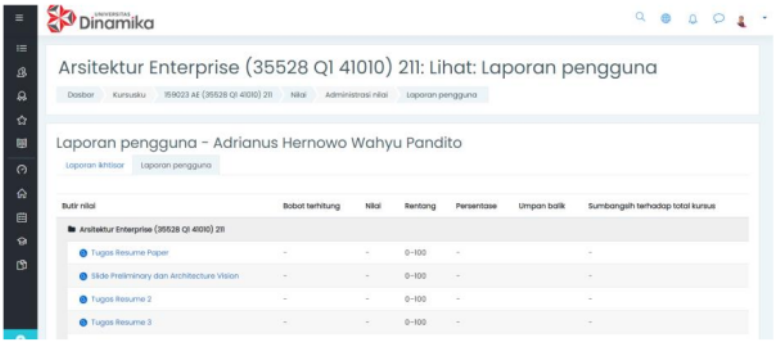

Figure 7 MyBrilliant Value Report Page

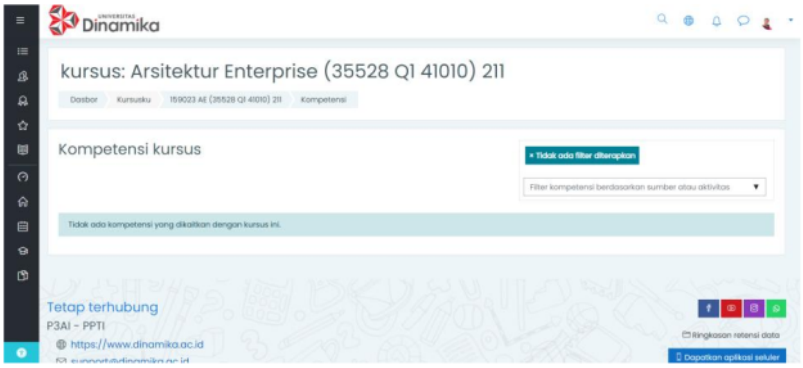

Figure 8 MyBrilian Competency Page

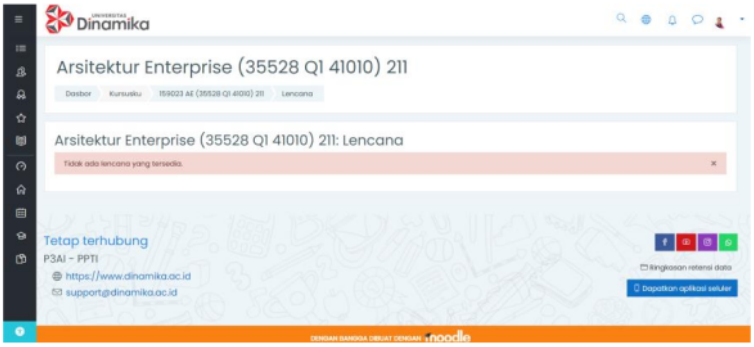

Figure 9 MyBrilian Badge Page

H3: Website content has a significant effect on users' perceived usefulness on the MyBrilian website

Website content has a significant effect on perceived usefulness because it has the appropriate path coefficient and p-values. From the results of the analysis, the most decisive indicator of the content variable is **interesting information** (X3.3) of 0.796 while the indicator that needs to be improved is **actual information** (X3.1) of 0.654. It can be concluded that the content of a good MyBrilian website depends on interesting information, while the actual information indicators on MyBrilian have less influence. So, in the content variable, the actual information on MyBrilian needs to be corrected again.

This hypothesis was strengthened by various responses from respondents who said that MyBrilian notifications were a bit late. This happened to the notification perceived by the respondent, where a notification has appeared in the email but the MyBrilian notification has not provided information. Another opinion expressed by respondents is that it would be nice if there was information that was easy to find out quickly, especially if there were off-campus events/events so that students could stay up-to-date with the development of information to increase students' perceived usefulness.

H4: The website LMS system has a significant effect on the perceived usefulness of users on the MyBrilian website.

LMS website has a significant effect on perceived usefulness because it has path coefficient p-values that are in accordance with the provisions. From the results of the analysis, the most decisive indicator of the LMS variable is **features that meet the needs** (X4.2) of 0.796 while the indicator that needs to be improved is **website interaction** (X4.1) of 0.650. It can be concluded that a good MyBrilian website LMS depends on the features needed by students, while the website interaction indicators on MyBrilian have less influence. So, the LMS variable regarding website interaction on MyBrilian needs to be fixed again

This hypothesis was strengthened by various responses from respondents who said that if MyBrilian has a good level of website interaction, students can feel using MyBrilian as an option to communicate between students or lecturers. With good interactions, students have the confidence to use MyBrilian as a means of studying. Apart from communication, another thing expressed by respondents was that there was a reminder feature or a kind of alert to remind students of their upcoming assignments and increase notification interaction if there is a need in the future.

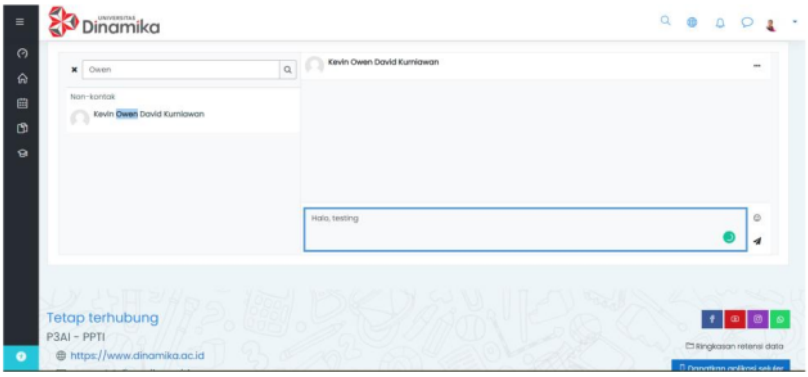

Figure 10 MyBrilian Chat Page

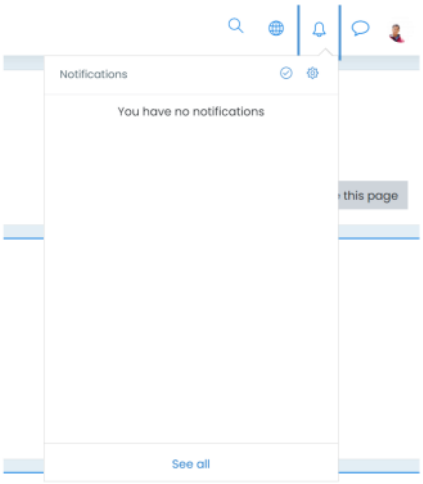

Figure 11 Notification Pop Up

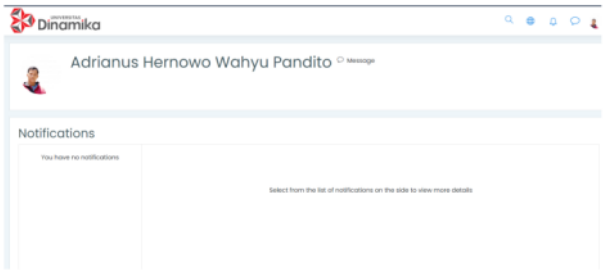

Figure 12 Notification Details

H5: The usability functionality of the website has a significant effect on user satisfaction on the MyBrilian website.

The perceived usefulness of the website has a significant and positive effect on user satisfaction because it has the appropriate path coefficient and p-values. From the results of the analysis, the most decisive

indicator of the perceived usefulness variable is that **it can increase productivity** (Z1) by 0.790 while the indicator that needs to be improved is **increasing the effectiveness of E-learning** (Z3) by 0.664. It can be concluded that the perceived usefulness of a good MyBrilian website depends on student productivity in the MyBrilian application, while the indicators of the effectiveness of E-learning using MyBrilian have less influence. So, the perceived usefulness variable with indicators of the effectiveness of E-learning learning using MyBrilian needs to be improved again.

This hypothesis is reinforced by various responses from respondents who say that in order for MyBrilian to have the effectiveness of E-learning learning, a discussion forum can be made that allows interaction between students while using MyBrilian so that it can increase perceived usefulness in learning. With good learning effectiveness, students feel satisfied and proud of using MyBrilian.

CONCLUSION

Based on the results of the analysis of perceived usefulness and user satisfaction in the development of the UI/UX learning management system design at MyBrilian Dinamika University, it was concluded that, to produce good perceived usefulness, MyBrilian requires (1) an icon that is easy to understand, which is a familiar icon. used daily by users when surfing on social media, (2) website display especially in images to make it more attractive (class preview, class banner, etc.), (3) navigation supported by buttons to function properly so that easy to find the information needed, (4) the presence of interesting content, and (5) LMS supported by features as needed, especially in the interaction of the website with users. Meanwhile, for user satisfaction, in order for MyBrilian to increase user satisfaction, improvements are needed to the indicators that exist in the perceived usefulness.

REFERENCES

[1] A. P. Wardhanie, "Implementasi Integrated Marketing Communication Pada perpustakaan Institut Bisnis Dan Informatika Stikom Surabaya," pp. 11-15, 2016.

[2] S. Mujanah, S. N. Aini and C. Candraningrat, "Transformational Leadership,Kondisi Kerja,dan Budaya Organisasi Pengaruhnya terhadap Kinerja Karyawan," *Business and Finance Journal,* pp. 155-164, 2020.

[3] Widayanto, "Pengaruh Lms Schoology Terhadap Peningkatan Hasil Belajar Peserta Diklat PKP Angkatan VI BDK Surabaya," *Jurnal Pendidikan dan Pelatihan,* pp. 53-63, 2020.

[4] Z. Alfan, E. S. Astuti and R. Riyadi, "Model Keberhasilan Belajar Mahasiswa Menggunakan Learning Management System," *Jurnal Administrasi Bisnis,* pp. 1-10, 2012.

[5] V. R. Hananto, A. D. Churniawan and A. P. Wardhanie, "Perancangan Analytical CRM untuk Mendukung Segmentasi Pelanggan di Institusi Pendidikan," *Jurnal Ilmiah Teknologi dan Informasi ASIA,* pp. 79-87, 2017.

[6] F. Anggoro, "Statistika Inferensi: Parametrik vs Non Parametrik," 09 Juli 2020. [Online]. Available: https://www.indonesiare.co.id/id/article/statistika-inferensi-parametrik-vs-non-parametrik.

[7] E. T. Lwoga, "Critical success factors for adoption of web-based learning management systems in Tanzania," *Journal of Education and Development using Information and Communication*

Technology, pp. 4-21, 2014.

[8] A. P. Wardhanie and D. Kumalawati, "Analisis business model canvas pada perpustakaan Institut Bisnis dan Informatika Stikom Surabaya dalam meningkatkan kualitas perguruan tinggi," *Berkala Ilmu Perpustakaan dan Informasi,* pp. 124-132, 2018.

[9] C. Flavian, C. Orús and R. Gurrea, "Web design: A key factor for the website success," *Journal of Systems and Information Technology,* pp. 168-184, 2009.

[10] A. S. Sandi, B. Soedijono and A. Nasiri, "Pengaruh Kegunaan dan Kemudahan Terhadap Sikap Penggunaan Dengan Metode TAM Pada Sistem Informasi Magang," *Journal Research and Development,* pp. 109 - 117, 2021.

[11] A. A. Hamzah, A. Syarief and I. S. Mustikadara, "Pengaruh Tampilan Visual Terhadap Motivasi Belajar Berdasarkan Kategori Website E-Learning," 2012.

[12] A. Wibowo, "DIGITALISASI DAKWAH DI MEDIA SOSIAL BERBASIS DESAIN KOMUNIKASI VISUAL," *Jurnal Bimbingan Penyuluhan Islam,* pp. 179-198, 2020.

[13] P. Setiawati, "Analisa dan Perancangan Sistem Informasi Penyedia Lowongan Pekerjaan yang Direkomendasi Berdasarkan Standar Kompetensi kerja Nasional Indonesia (SKKNI)," *Jurnal Ilmu Komputer ,* 2018.

[14] E. Ramadhanty, H. Tolle and K. C. Brata, "Pengembangan Aplikasi Navigasi menggunakan Teknologi Augmented Reality pada Perangkat Smartphone berbasis Android (Studi Kasus: Jawa Timur Park 1 Malang)," *Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer,* pp. 7594-7602, 2019.

[15] Ricko and A. Junaidi, "Analisis Strategi Konten Dalam Meraih Engagement pada Media Sosial Youtube (Studi Kasus Froyonion)," 2019.

[16] S. M. Mahmudah and M. Rahayu, "Pengelolaan Konten Media Sosial Korporat Pada Instagram Sebuah Pusat Perbelanjaan," *Jurnal Komunikasi Nusantara,* pp. 1-9, 2020.

[17] H. Sriwindono and F. Tumiwa, "ANALISA KESUKSESAN LEARNING MANAGEMENT SYSTEM (Studi Kasus: USD Yogyakarta)," *Media Teknika Jurnal Teknologi,* pp. 77-82, 2016.

[18] R. S. Kabanga, H. A. Nugroho and W. W. Winarno, "Pengukuran Kualitas Website Pemerintah Terhadap Kepuasan Pengguna dan," *Jurnal Pekommas,* pp. 45-56, 2016.

[19] Mardiana, "Implementasi User Satisfaction Model Dalam Mengukur Kualitas Website," *JURNAL MANAJEMEN,* pp. 266-272, 2020.

[20] A. S. Oktriwina, "Kapan Simple Random Sampling Baik Digunakan dalam Riset Pasar?," 25 januari 2021. [Online]. Available: https://glints.com/id/lowongan/simple-random-sampling-adalah/#.YTorSJ0zZZU.

[21] M. A. Memon, H. Ting, C. J. Hwa, T. Ramayah, F. Chuah and T. H. Cham, "Sample Size for Survey Research: Review and Recommendations," *Journal of Applied Structural Equation Modeling ,* 2020.

[22] R. Santoso, C. Candraningrat and L. Binawati, "Elemen Kecerdasan Wirausaha Untuk Meningkatkan Kinerja Industri Kecil dan Menengah (IKM) di Surabaya," *Bisnis dan Manajemen,* pp. 73-89, 2017.

[23] Candraningrat, O. Oktaviani and S. Suhandiah, "Analisis Faktor-Faktor Kesuksesan Suksesi UMKM di kota Surabaya: Principal Component Analysis," *Sosial Humaniora,* 2018.

[24] K. S. W. Adi, "Pengaruh Work Family Conflict Dan Job Autonomy Terhadap Organizational Commitment" (Studi Kasus Di Dinas Pekerjaan Umum Dan Penataan Ruang Kota Denpasar)," 2018.

[25] E. U. N. Sholiha and M. Mutiah, "Structural Equation Modeling-Partial Least Square untuk Pemodelan Derajat Kesehatan Kabupaten/Kota di Jawa Timur (Studi Kasus Data Indeks Pembangunan Kesehatan Masyarakat Jawa Timur 2013)," *Jurusan Statistika,* pp. 169-174, 2015.

[26] R. Ridyah, "Pengaruh Pendidikan Kewirausahaan Dan Dukungan Keluarga Terhadap Minat Berwirausaha Melalui Mediasi Self Awareness Pada Mahasiswa Universitas Dinamika Surabaya," 2020.

[27] A. J. Prasetya, Y. T. Laksono and C. Candraningrat, "City Branding di Jember: Analisis Perspektif

dari Pengunjung," *Business and Finance Journal,* pp. 13-19, 2021.

[28] N. A. Alias and A. M. Zainuddin, "Innovation for Better Teaching and Learning: Adopting the Learning Management System," *Journal of Instructional Technology,* pp. 27-40, 2005.

[29] R. Sastra, "Metode Pengembangan Perangkat Lunak Waterfall Dalam Perancangan Sistem Informasi E-Learning," *Indonesian Journal on Software Engineering,* pp. 27-33, 2017.

[30] N. Muttaqiin, R. A. Rasyid and C. Candraningrat, "Pengaruh Citra (Images), Kepuasan Konsumen (Customer Satisfaction), Kepercayaan Konsumen (Customer Trust) Dan Loyalitas Konsumen (Customer Loyalty) Pada Perusahaan Agen Asuransi Di Surabaya," pp. 173-181, 2021.

[31] M. Sholihin and D. Ratmono, Analisis Sem-Pls Dengan WarpPLS 7.0 Untuk Hubungan Nonlinear Dalam Penelitian Sosial Dan Bisnis, Peneribit Andi, 2020.

[32] W. Delone and E. McLean, "The DeLone and McLean Model of Information Systems Success," *Journal of Management Information Systems,* pp. 9-30, 2003.

PERCEIVED USEFULNESS ANALYSIS AND USER SATISFACTION IN THE DEVELOPMENT OF LEARNING MANAGEMENT SYSTEM DESIGN

ORIGINALITY REPORT

10%	9%	5%	3%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Universitas 17 Agustus 1945 Surabaya Student Paper	2%
2	ejournal.unitomo.ac.id Internet Source	2%
3	eudl.eu Internet Source	1%
4	stars.library.ucf.edu Internet Source	1%
5	Submitted to University of Southampton Student Paper	1%
6	Sensor Review, Volume 33, Issue 1 (2013-01-29) Publication	1%
7	icracos.lppm.unesa.ac.id Internet Source	1%
8	Submitted to City University of Hong Kong Student Paper	1%

9	Sunardi, J H Mulyo, Irham, Jamhari. "Behaviour of brand switching of milk product for young children aged 1-3 years in consumers of middle to lower socioeconomic class in urban communities in malang", IOP Conference Series: Earth and Environmental Science, 2021 Publication	1 %
10	e-journals.dinamika.ac.id Internet Source	1 %
11	"Recent Trends in Information and Communication Technology", Springer Science and Business Media LLC, 2018 Publication	1 %

Exclude quotes	On	Exclude matches	< 1%
Exclude bibliography	On		