International Journal of Informatics and Information Systems ISSN 2579-7069
Vol. 5, No. 1, January 2022, pp. 16-24

Quality Analysis of Vaberaya.Banyumaskab.Go.Id Website on User Satisfaction on Vaccination Activities in Banyumas District Using Delone and Mclean Success Model

Risa Fitriana [1,*]

Universitas Amikom Purwokerto, Indonesia
[1] risafitriana2812@gmail.com*
* corresponding author

(Received: August 4, 2021 Revised: October 21, 2021 Accepted: December 11, 2021, Available online: January 29, 2022)

Abstract

The development of technology today has become the most important thing in society. This causes the wider information that can be accessed by the public in Indonesia, especially on vaccination activities in the Banyumas area, the people of Banyumas can access the website to carry out vaccination activities. Processes that use technology anywhere and anytime. This study analyzes the quality of the website vaberaya.banyumaskab.go.id using the Delone and McLean Success Model with reference to 6 variables including information quality, system quality, service quality, user satisfaction, usage, and net benefits. This sampling uses questionnaire data with 100 users as respondents who have used the vaberaya.banyumaskab.go.id website. The method in data processing uses a structural equation model or Structure Equation Modeling (SEM), with the help of SmartPLS.

Keywords: Quality analysis; User satisfaction; Delone and Mclean Success Model; Structural Equation Model

1. Introduction

The development of information and communication technology at the end has become the most important thing in society. Its use has become very common in society, not only in urban communities but also in rural areas. The use of information and communication technology has also spread through interpersonal communication relationships to become inter-institutional, between regions and even between countries. This has led to a wider range of information that can be accessed by the public [1]. Unfortunately, the wider the information accessed by the public in Indonesia, the more knowledge the public must have, especially in understanding current information [2]. The results of a survey conducted by the For International Student Assessment Program which was released in 2019, understanding information itself is knowledge. someone to a subject of science [3]. Social media users can easily access health-related information that is widely circulated in various forms of existing social media platforms. Several studies have shown that popular social media websites are very effective and powerful for disseminating health information [4].

The pandemic period in which social distancing is limited and activities that gather large numbers of people are also limited, resulting in the dissemination of information about vaccine policies by the government through several platforms [5]. With the enthusiasm of the public in accessing social media, it is hoped that vaccine policy information can be accessed as widely as possible by the public. Utilization of the website in the context of administering vaccines in Banyumas is the right step taken by the local government to regulate the course of vaccination in Banyumas. The Delone-McLean model was originally developed in 1992 [6]. This model identifies that success in information systems can be measured by technical success, namely system quality, semantic success, information

quality and system use, while the success of effectiveness can be measured by user satisfaction, individual impact and organizational impact [7-11, 4]. This model was later updated in 2003, the quality of information systems has three main dimensions, namely system quality, information quality, and service quality [12].

2. Literature Review

Website is a collection of web pages, which are usually summarized in a domain (address) or sub-domain [13]. This Domain or Subdomain is located on the World Wide Web (WWW) on the internet, Website (WWW) is a journey on the internet, such as email, instant messaging (IM), and voice over internet protocol (VolP) [14]. The web is a system that uses generally accepted protocols to store, retrieve, format, and display information through a client or server architecture [15].

It can be briefly explained that the relationship between system quality and information quality simultaneously affects the elements of use and user satisfaction [16]. In 2003 DeLone and McLean re-developed and improved upon the success model they had presented in 1992 [17].

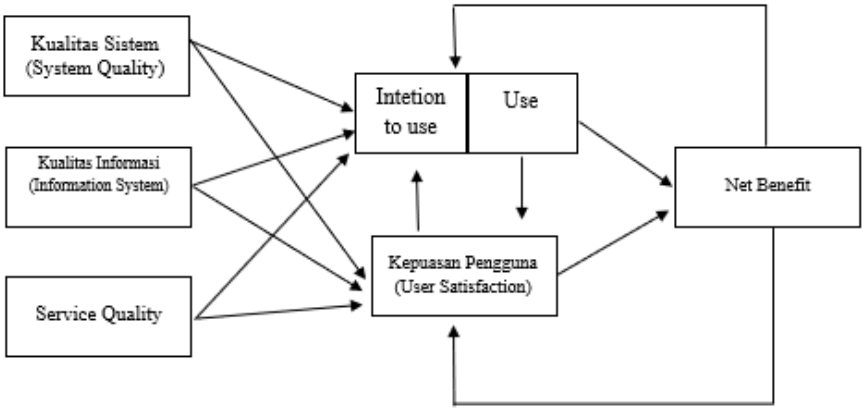

Figure. 1. The Delone and Mclean Success Model

From the Delone and Mclean models, the following hypotheses can be explained:

H1 : Information Quality has a positive effect on User Satisfaction

H2 : Information Quality has a positive effect on Use

H3 : System Quality has a positive effect on Use

H4 : System Quality has a positive effect on User Satisfaction (Use Satisfaction)

H5: Service Quality has a positive effect on Use

H6 : Service Quality has a positive effect on User Satisfaction (Use Satisfaction)

H7 : Use has a positive effect on user satisfaction

H8 : Use has a positive effect on Net Benefits

H9 : User Satisfaction has a positive effect on Net Benefits (net benefit)

3. Result and Discussion

Variable and Indicators

There are several variables used, in accordance with the proposed hypothesis and also those in the DeLone and McLean model, then several variables that can be used for indicators that have an influence There are 6 variables in the preparation of the questionnaire, these 6 items have been implemented by several researchers [18-21] :

1) System Quality (KS) with the following indicators obtains useful information, saves time to obtain information, is relatively easy to use, and responds quickly.
2) Information Quality (KI) uses the following indicators to obtain complete information, the information sought is as needed, obtains accurate information, it is easy to understand the information that has been presented, the information obtained is always up to date.
3) Quality of service (KL) uses the following indicators: Takes a short time to get information, Information is reliable, provides useful and adequate information for needs.
4) The use of (P) with the following indicators can complete the task,
5) User satisfaction (KP) and Net Benefit (NB) with the following indicators Satisfaction with users, information according to what is expected by users, increasing support for these activities, easy to find information, can create a memorable experience.

4. Result

The SEM approach (PLS-SEM) uses the model value in measuring the hypothesis of this study using SMAtPLS 3.0.

Table. 1. Classification of demographic data analysis

Characteristics	Frequency	(%)
Gender		
Woman	58	58%
Man	42	42%
Amount	100	100%
Age		
< 20 Years	2	2%
20-40 Years	98	98%
Amount	100	100%
Jobs		
Student	52	52%
Teacher/Lecturer	2	2%
Civil servant	2	4%
Employee/Entrepreneur	41	41%
Housewife	3	3%

Amount	100	100%

Based on the table 1 above, it explains the results of the demographic analysis that has been collected by the researchers through the data on the questionnaires that have been distributed and have also been filled in by the respondents. For content or model variables at a high level, the comparison between SEM based on covariant PLS-SEM is designed to deal with low-order and observable components while high-order unobservables are due to reduce the complexity of the model, and make it theoretically narrower. Results of Model Measurement Analysis. Table 2 analyzes the measurement model (measurement model), in which the analysis of the measurement model consists of several main stages at the testing stage which include validity, average variance extracted, and discriminant validity. This test is carried out using the help of data processing software, namely SmartPLS version 3.0.

Items on convergent validity can be assessed based on outer landing and average variance extracted (AVE), all values above 0.6 are threshold values at the minimum limit, therefore external loading provides support for convergent validation. The AVE value obtained in this study ranged from 0.901 to 0.951 far at the minimum limit of 0.50, which was explained by Fornell and Larker (1981). This study shows the results of convergent validity for all constructs, the composite reliability measurements in table 2 all get a higher value than 0.7. The measure of reliability in this study was at an acceptable level of satisfaction. Based on the results of the cross loading examination between indicators and Fornell-Larker's cross loading, it has been shown that the value of the cross loading indicator with the construct is higher than the correlation with other blocks.

Table. 2. Cross Loading

	Information Quality	Service Quality	User Satisfaction	System Quality	Net Benefits	Use
KI1	**0.973**	0. 948	0.921	0.954	0.950	0.901
KI2	**0.966**	0.973	0.895	0.950	0.952	0.904
KI3	**0.974**	0.934	0.879	0.934	0.929	0.905
KL1	0.945	**0.966**	0.936	0.966	0.941	0.937
KL2	0.956	**0.973**	0.945	0.974	0.947	0.921
KL3	0.950	**0.970**	0.869	0.934	0.937	0.883
KL4	0.957	**0.975**	0.888	0.943	0.949	0.885
KP1	0.874	0.884	**0.974**	0.929	0.915	0.929
KP2	0.931	0.944	**0.976**	0.966	0.948	0.917
KS1	0.953	0.960	0.956	**0.974**	0.953	0.911
KS2	0.905	0.917	0.901	**0.949**	0.892	0.917
KS3	0.905	0.921	0.960	**0.953**	0.925	0.956
KS4	0.960	0.958	0.892	**0.943**	0.955	0.876

NB1	0.910	0.924	0.969	0.952	**0.948**	0.934
NB2	0.961	0.964	0.915	0.951	**0.967**	0.890
NB3	0.897	0.878	0.828	0.870	**0.932**	0.856
	0.912	0.927	0.959	0.952	0.931	**0.966**
	0.880	0.872	0.861	0.893	0.883	**0.961**

Tabel. 3. Fornell-Larcker

	User Satisfaction	*Information Quality*	*Service Quality*	*System Quality*	*Net Benefits*	*Use*
KP	0.975					
KI	0.926	0.971				
KL	0.937	0.938	0.975			
KS	0.971	0.983	0.972	0.955		
MB/NB	0.954	0.972	0.955	0.975	0.949	
P	0.946	0.930	0.946	0.959	0.942	0.963

The correlation matrix value is obtained from the squared AVE value, to analyze the measurement of the discriminant validity model (outer model), indicating that the research model proposed by the researcher has good characteristics, so it can be said that this research model has met the criteria.

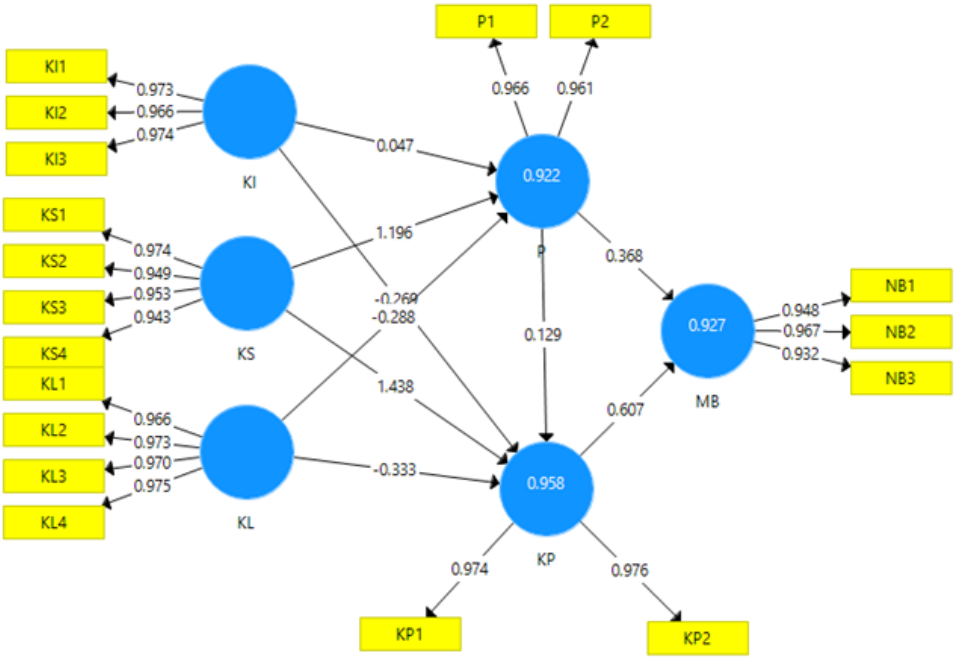

Figure. 2. Outer Model Analysis Results with SmartPLs 3.0

Hypothesis	Track	Standard path coefficient	t-value	p-values
H1	KI-KP	0.132	2.034	0.000
H2	KI-P	0.059	0.295	0.768
H3	KS-P	1.391	5.570	0.000
H4	KS-KP	1.226	5.663	0.000
H5	KL-P	-0.330	1.045	0.297
H6	KL-KP	-0.295	1.376	0.169
H7	P-KP	0.133	1.684	0.093
H8	KP-MB	0.610	7.779	0.000
H9	P-MB	0.364	4.720	0.000

After validating the measurement model, the next step is to assess the structural model, which involves hypothesis testing, from 9 hypotheses, there are 4 that are not significant:

H1: The relationship between KI and KP has a significant effect on website quality

H2: The relationship between KI and P has no effect and gets a regression coefficient value of 0.059 p-value of 0.768 (>0.05), thus the quality of information has no effect on use, although it is hypothesized that KI affects P directly, but on this hypothesis not proven.

H3 : The relationship between KS and P has a significant effect on website quality

H4 : The relationship between KS and KP has a significant effect on website quality

H5: The relationship between KL and P has no effect and gets a regression coefficient value of -0.330 with a p-value of 1.045 (>0.05), thus service quality has no effect on usage, although it is hypothesized that KL affects P directly, but on the hypothesis this is not proven.

H6: The relationship between KL and KP has no effect and gets a regression coefficient value of -0.295 with a p-value of 1.376 (>0.05), thus service quality has no effect on user satisfaction, although it is hypothesized that KL affects KP directly, but on this hypothesis is not proven.

H7: The relationship between P and KP is not significant because it has a regression coefficient value of 0.133 with a p-value of 0.093 (> 0.05), thus the use is not significant or has no effect on the quality of website users,

H8: The relationship between P and MB has a significant effect on website quality.

H9: The relationship between KP and MB has a significant effect on website quality.

Based on some of the results above, the results of each hypothesis can be concluded as follows:

a) The influence of information quality on the use of the website vaberaya.banyumas.go.id

The quality of information on the vaberaya.banyumas.go.id website has not had much effect on the use of the user's desire to use the vaberaya.banyumas.co.id website, this can be seen with a significant value of the quality of information that exceeds 0.05. When viewed from the website, users have not received complete, accurate information on the website.

b) The influence of information quality on user satisfaction from the website vaberaya.banyumas.go.id

The quality of information on user satisfaction on the website vaberaya.banyumas.go.id has a significant effect on user satisfaction. The higher the quality of the information, the higher the user satisfaction with the use of the website. It can be seen that users feel satisfied when they get information that is always up to date and easily searchable by users around Banyumas.

c) Effect of system quality on the use of the website vaberaya.banyumas.go.id

The quality of the system on the use of the website vaberaya.banyumas.go.id is very significant because users get very useful information, the use of which is relatively easy to use by users.

d) Effect of system quality on user satisfaction from the website vaberaya.banyumas.go.id

The quality of the system on user satisfaction on the website vaberaya.banyumas.go.id has a significant effect on user satisfaction. The higher the quality of the system, the higher the user satisfaction with the use of the website. It can be seen that users feel satisfied when they get a system that is relatively easy to use and responds quickly when used.

e) The influence of service quality on the use of the website vaberaya.banyumas.go.id

The quality of service on the vaberaya.banyumas.go.id website has not so much effect on the use of user desires in using the vaberaya.banyumas.co.id website, this can be seen with a significant value of the quality of information that exceeds 0.05. When viewed from the website, users still doubt the existence of useful and adequate information for user needs.

f) The influence of service quality on user satisfaction from the website vaberaya.banyumas.go.id

The quality of service on the vaberaya.banyumas.go.id website has not had much effect on user satisfaction in using the vaberaya.banyumas.co.id website, this can be seen with a significant value of information quality that exceeds 0.05. When viewed from the website, users still doubt that there is useful and adequate information for user needs and users are still doubtful about services that are not in accordance with what users expect.

g) The effect of usage on user satisfaction from the website vaberaya.banyumas.go.id

The use of the vaberaya.banyumas.go.id website has not had much effect on user satisfaction in using the vaberaya.banyumas.co.id website, this can be seen with a significant value of information quality that exceeds 0.05. When viewed from the website, users still need guidance on how to use the website, some users are still not too familiar with the sub menus on the vaberaya.banyumas.go.id website.

h) The effect of usage on the net benefits of the website vaberaya.banyumas.go.id

Use has a very significant effect on net benefits or net benefits. Because the higher the value of the use of the user, the higher the net benefit obtained. The use contained in the frequency of use or use as well as the nature of the use affects the net benefit or net benefit.

i) The effect of user satisfaction on the net benefits of the website vaberaya.banyumas.go.id

User satisfaction has a significant effect on net benefits or net benefits. Because the higher the value of user satisfaction, the higher the net benefit or net benefits obtained. User satisfaction which includes information satisfaction and overall satisfaction that has been given has an influence on net benefits or net benefits.

5. Conclusion

Of the nine hypotheses made based on the Delone and Mclean success model, there are four hypotheses in the study which include information quality has no effect on users, service quality has no effect on user satisfaction, service quality has no effect on users, users have no effect on user satisfaction, rejected the four hypotheses. This does not affect the quality of the website. Meanwhile, there are five hypotheses that have a significant influence including the relationship between information quality and user satisfaction which has a significant effect on the quality of the website, the relationship between user satisfaction and net benefits, the relationship between system quality and users is significant or affects the quality of the website, the relationship between user satisfaction and the quality of the system affects the quality of the website, and the relationship between users and net benefits has a significant effect on the quality of the website, with that we can know that most of the hypotheses have a significant influence between one variable and another.

In this section, the researcher will explain suggestions for further research based on the previously explained limitations regarding data delivery techniques and tools, sampling techniques, research approach methods, data analysis techniques and techniques used by the authors as well as the researchers' understanding and knowledge.

References

[1] Q. Liu, Z. Shao, J. Tang, and W. Fan, “Examining the influential factors for continued social media use,” Ind. Manag. Data Syst., vol. 119, no. 5, pp. 1104–1127, Jan. 2019, doi: 10.1108/IMDS-05-2018-0221.

[2] J.-F. Chen, J.-F. Chang, C.-W. Kao, and Y.-M. Huang, “Integrating ISSM into TAM to enhance digital library services,” Electron. Libr., vol. 34, no. 1, pp. 58–73, Jan. 2016, doi: 10.1108/EL-01-2014-0016.

[3] O. Isaac, Z. Abdullah, T. Ramayah, and A. M. Mutahar, “Internet usage, user satisfaction, task-technology fit, and performance impact among public sector employees in Yemen,” Int. J. Inf. Learn. Technol., vol. 34, no. 3, pp. 210–241, Jan. 2017, doi: 10.1108/IJILT-11-2016-0051.

[4] T. K. H. Chan, C. M. K. Cheung, N. Shi, and M. K. O. Lee, “Gender differences in satisfaction with Facebook users,” Ind. Manag. Data Syst., vol. 115, no. 1, pp. 182–206, Jan. 2015, doi: 10.1108/IMDS-08-2014-0234.

[5] G. Seshadhri and V. K. Paul, “User requirement related performance attributes for government residential buildings,” J. Facil. Manag., vol. 15, no. 4, pp. 409–422, Jan. 2017, doi: 10.1108/JFM-11-2016-0047.

[6] S. Ma, S. Zhang, G. Li, and Y. Wu, “Exploring information security education on social media use,” Aslib J. Inf. Manag., vol. 71, no. 5, pp. 618–636, Jan. 2019, doi: 10.1108/AJIM-09-2018-0213.

[7] K. Pikkarainen, T. Pikkarainen, H. Karjaluoto, and S. Pahnila, “The measurement of end‐user computing satisfaction of online banking services: empirical evidence from Finland,” Int. J. Bank Mark., vol. 24, no. 3, pp. 158–172, Jan. 2006, doi: 10.1108/02652320610659012.

[8] B. Senturk, “The concept of user satisfaction in archival institutions,” Libr. Manag., vol. 33, no. 1/2, pp. 66–72, Jan. 2012, doi: 10.1108/01435121211203329.

[9] A. Rushinek and S. Rushinek, “The Effects of Computer Location on End‐user Satisfaction,” Ind. Manag. Data Syst., vol. 86, no. 11/12, pp. 3–7, Jan. 1986, doi: 10.1108/eb057457.

[10] W. Liu and H.-P. Shih, “How do search-based and experience-based information matter in the evaluation of user satisfaction? The case of TripAdvisor,” Aslib J. Inf. Manag., vol. 73, no. 5, pp. 659–678, Jan. 2021, doi: 10.1108/AJIM-03-2021-0093.

[11] R. W. Attar, M. Shanmugam, and N. Hajli, “Investigating the antecedents of e-commerce satisfaction in social commerce context,” Br. Food J., vol. 123, no. 3, pp. 849–868, Jan. 2021, doi: 10.1108/BFJ-08-2020-0755.

[12] C.-C. Hsiao, “Understanding content sharing on the internet: test of a cognitive-affective-conative model,” Online Inf. Rev., vol. 44, no. 7, pp. 1289–1306, Jan. 2020, doi: 10.1108/OIR-11-2019-0350.

[13] H. Liu, J. Song, and G. Wang, “Development of a tool for measuring building information modeling (BIM) user satisfaction – method selection, scale development and case study,” Eng. Constr. Archit. Manag., vol. 27, no. 9, pp. 2409–2427, Jan. 2020, doi: 10.1108/ECAM-08-2019-0448.

[14] I. M. Al-Jabri, “Antecedents of user satisfaction with ERP systems: mediation analyses,” Kybernetes, vol. 44, no. 1, pp. 107–123, Jan. 2015, doi: 10.1108/K-05-2014-0101.

[15] H.-J. Chen, “What drives consumers’ mobile shopping? 4Ps or shopping preferences?,” Asia Pacific J. Mark. Logist., vol. 30, no. 4, pp. 797–815, Jan. 2018, doi: 10.1108/APJML-08-2017-0167.

[16] O. Oktal, O. Alpu, and B. Yazici, “Measurement of internal user satisfaction and acceptance of the e-justice system in Turkey,” Aslib J. Inf. Manag., vol. 68, no. 6, pp. 716–735, Jan. 2016, doi: 10.1108/AJIM-04-2016-0048.

[17] M. Amin, S. Rezaei, and M. Abolghasemi, “User satisfaction with mobile websites: the impact of perceived usefulness (PU), perceived ease of use (PEOU) and trust,” Nankai Bus. Rev. Int., vol. 5, no. 3, pp. 258–274, Jan. 2014, doi: 10.1108/NBRI-01-2014-0005.

[18] Al. A. A. AL Athmay, K. Fantazy, and V. Kumar, “E-government adoption and user’s satisfaction: an empirical investigation,” EuroMed J. Bus., vol. 11, no. 1, pp. 57–83, Jan. 2016, doi: 10.1108/EMJB-05-2014-0016.

[19] T. Abu Salim, M. El Barachi, O. P. Onyia, and S. S. Mathew, “Effects of smart city service channel- and user-characteristics on user satisfaction and continuance intention,” Inf. Technol. People, vol. 34, no. 1, pp. 147–177, Jan. 2021, doi: 10.1108/ITP-06-2019-0300.

[20] T. Abu Salim, M. El Barachi, O. P. Onyia, and S. S. Mathew, “Effects of smart city service channel- and user-characteristics on user satisfaction and continuance intention,” Inf. Technol. People, vol. 34, no. 1, pp. 147–177, Jan. 2021, doi: 10.1108/ITP-06-2019-0300.

[21] M. Kwon, H. Remøy, and A. Van Den Dobbelsteen, “User-focused office renovation: a review into user satisfaction and the potential for improvement,” Prop. Manag., vol. 37, no. 4, pp. 470–489, Jan. 2019, doi: 10.1108/PM-04-2018-0026.