Optimizing the Use of MyHR Portal with the DeLone and McLean Model at ABC Company

Dara Phonna[1], Maryani Septiana[2]

Politeknik Negeri Batam, Management and Business Department, Batam City, Indonesia[1,2]
daraphonnaa16@gmail.com, maryaniseptiana@polibatam.ac.id

Abstract: This study aims to enhance the utilization of the MyHR Portal information system using the DeLone and McLean model. Given the absence of prior evaluations of the MyHR Portal, this assessment holds significance in achieving the system's objectives. The research adapts the DeLone and McLean model with specific modifications, notably replacing the usage variable with user engagement. Questionnaire responses from 232 employees of DVC PV and DVC NPV who have used the MyHR Portal were analyzed using the PLS method. The findings demonstrate that system quality, information quality, user engagement, user satisfaction, and net benefits significantly contribute to optimizing the MyHR Portal's usage. Future studies are encouraged to consider alternative analytical methods such as the Technology Acceptance Model (TAM) for similar research endeavors.

Keywords: MyHR Portal, DeLone and McLean Model, System Usage Evaluation

1 Introduction

The advancement of information systems has penetrated quickly into various lives, including the industrial sector. The development of information systems looks so significant that information used to be provided only through the walls of the cave now penetrates on a technological basis [1]. Information systems accompanied by information technology are able to provide support for an industry that makes it effective and efficient. In the context of the industrial revolution 4.0 [2], information technology plays a critical role in businesses. The advancement of human resources in industrial organizations is impacted by the fourth industrial revolution. Generating human resources using information and communication technology as the foundation in the information age, Human Resources (HR) develops information system methods that are in line with the times of the Industrial Revolution 4.0 era [3].

In Indonesia, there are companies that have implemented industry 4.0, one of which is ABC company which focuses on the production of technology-based electronic equipment. ABC company, especially the Human Resources (HR), created a new innovation called MyHR Portal in July 2023. MyHR Portal is a website that is only intended for DVC PV and DVC NPV employees with the aim of providing information. The utilization of MyHR Portal as the

F. Arif Rahman et al. (eds.), *Proceedings of the Sixth International Conference on Applied Economics and Social Science (ICAESS 2024)*, Advances in Economics, Business and Management Research 312,
https://doi.org/10.2991/978-94-6463-640-6_34

Human Resources (HR) operational information system for DVC PV and DVC NPV employees is one of the digital transformations carried out by ABC company. With the MyHR Portal, the employee administration process is more efficient and easier. Employees can access this portal via mobile and fill out forms electronically. This process speeds up document processing, reduces administrative complexity and paper usage and provides convenience for employees in taking care of their needs. To create an optimized portal, it is important to conduct an evaluation.

Information system evaluations are often conducted to assess efficiency and effectiveness through the quality of the information systems used. There are various research models, one of which uses the DeLone and McLean model. In studies [4] and [5], it is explained that the DeLone and McLean model is capable of evaluating information systems from the user's perspective regarding information success. Research on the optimization of the use of MyHR Portal needs to be done because this is the first research to measure the success of information systems. This study aims to analyze the optimization of the MyHR Portal. This background then makes researchers want to conduct research entitled "Optimizing the Use of MyHR Portal with the DeLone and McLean Model at the ABC Company".

2 Theory and Literature Review, Hypothesis Development

Evaluation is a cycle that provides useful data as a rationale for surveying the value and relevance of achieved goals and providing recommendations for decision making. Evaluation also helps to account for results and improve understanding of the phenomenon being evaluated. The results of the evaluation can provide information that can be used as motivation when facing certain problems [4]. According to reference [6], six commonly employed criteria evaluate information systems: system quality, information quality, service quality, usage, user satisfaction, and net benefits. Nevertheless, this study adapts this model by focusing specifically on system quality, information quality, user engagement, user satisfaction, and net benefits, as evidenced in reference [7].

A portal website is a web-based information system that provides access to various features and information [8]. MyHR Portal is a website with the aim of providing information for DVC PV and DVC NPV employees of ABC company. The utilization of MyHR portal as an Human Resources (HR) operational information system for DVC PV and DVC NPV employees is one of the digital transformations carried out by ABC company. MyHR portal aims to gain system user effectiveness and efficiency. DVC PV and DVC NPV employees have the opportunity to get information flexibly and keep abreast of information from HR only by accessing from a browser with the link dvc.se.com provided that the employee's device has installed the PingID application that has been connected to ABC company. Some previous studies such as research from [4], and [9] show that information systems can be evaluated using the DeLone and McLean model partially and simultaneously. This research is the first research in evaluating the MyHR Portal so it is important to do. The following is the research framework:

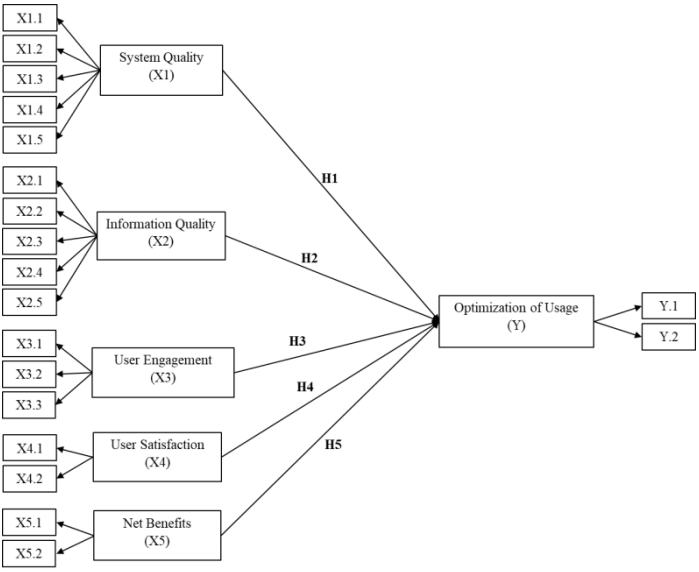

Figure 1. Research Framework

This framework (refer to Figure 1) proposes the following research hypotheses: (H1) system quality significantly impacts the optimization of MyHR Portal usage; (H2) information quality significantly impacts the optimization of MyHR Portal usage; (H3) user engagement significantly impacts the optimization of MyHR Portal usage; (H4) user satisfaction significantly impacts the optimization of MyHR Portal usage; and (H5) net benefits significantly impact the optimization of MyHR Portal usage.

3 Research Method

The research methodology involves quantitative descriptive analysis, By using a quantitative descriptive research approach, data is processed and analyzed using statistical procedures, and measurements are made with numbers. Information or responses from the sample are then used to characterize the data that has been processed. The research utilizes a Google Form questionnaire as a tool to collect responses. Respondents are asked to provide their identity and respond to statements related to the research focus: system quality (X1), information quality (X2), user engagement (X3), user satisfaction (X4), net benefits (X5), and usage optimization (Y). Below are the operational definitions of the variables for this study:

Table 1. Variable Operational

Variable	Variable Definition	Variable Dimension	Indicator
Information System	Evaluate the MyHR portal from the user's perception, namely DVC PV and DVC NPV employees of ABC company.	System Quality	Flexibility of the MyHR Portal system, its reliability, ease of use, access speed, and system security
		Information Quality	Relevant, Accurate, Timeliness, Completeness and Format of information presentation of My HR Portal.
		User Engagement	Nature of use, Frequency of use and User needs in using MyHR Portal.
		User Satisfaction	Information satisfaction and System satisfaction of employees on MyHR Portal.
		Net Benefits	Improve knowledge sharing and Benefits of MyHR Portal implementation.
		Optimization of Usage	Information system efficiency and information system effectiveness of MyHR Portal.

The samples in this study were several employees of DVC PV and NPV who were selected using purposive sampling technique. There are sampling criteria: (1) DVC PV and DVC NPV employees who have used MyHR Portal at least 2 times; (2) employees with ≥ 1 year of service. In this study, the population amounted to 550 samples and obtained a sample of 232 respondents according to the Slovin formula. The data in this study were processed using the PLS method and SmartPLS 3.0 software. Analyzing structural relationships The PLS method can be carried out in two steps, namely conducting a measurement model (outer model) and structural testing (inner model) [10].

4 Results and Descriptions

4.1 Measurement Model (Outer model)

Convergent Validity

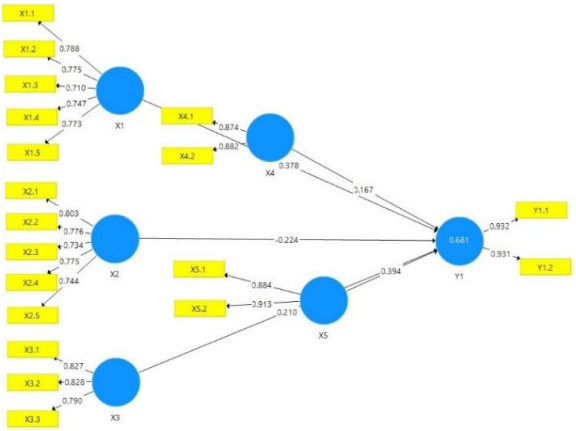

Figure 2. Loading Factor Testing

Figure 2 shows that each indicator loading factor >0,70, therefore it can be said to fulfill convergent validity.

Table 2. Loading Factor

Item	Outor Loading	Description
X1.1	0.788	Attested
X1.2	0.775	Attested
X1.3	0.710	Attested
X1.4	0.747	Attested
X1.5	0.773	Attested
X2.1	0.803	Attested
X2.2	0.776	Attested
X2.3	0.734	Attested
X2.4	0.775	Attested
X2.5	0.744	Attested

Item	Outor Loading	Description
X3.1	0.827	Attested
X3.2	0.828	Attested
X3.3	0.790	Attested
X4.1	0.874	Attested
X4.2	0.882	Attested
X5.1	0.884	Attested
X5.2	0.913	Attested
Y1.1	0.932	Attested
Y1.2	0.931	Attested

Table 3. Average Variance Extracted (AVE) and Communality Value

Item	AVE	Communality	Desciption
X1	0,576	0,576	Valid
X2	0,588	0,588	Valid
X3	0,664	0,664	Valid
X4	0,770	0,770	Valid
X5	0,808	0,808	Valid
Y1	0,868	0,868	Valid

The values obtained from all constructs are >0,50 which indicates that the construct variables are valid.

Discriminant Validity

Table 4. Indicator Cross Loading

	X1	X2	X3	X4	X5	Y1
X1.1	0.788	0.812	0.521	0.428	0.540	0.483
X1.2	0.775	0.665	0.519	0.347	0.478	0.474
X1.3	0.710	0.606	0.534	0.338	0.451	0.455

	X1	X2	X3	X4	X5	Y1
X1.4	0.747	0.651	0.576	0.316	0.393	0.501
X1.5	0.773	0.625	0.555	0.396	0.514	0.569
X2.1	0.761	0.803	0.491	0.400	0.501	0.450
X2.2	0.660	0.776	0.523	0.380	0.471	0.440
X2.3	0.659	0.734	0.529	0.321	0.452	0.381
X2.4	0.630	0.775	0.466	0.296	0.448	0.419
X2.5	0.672	0.744	0.543	0.383	0487	0.487
X3.1	0.559	0.531	0.827	0.466	0.553	0.560
X3.2	0.595	0.571	0.828	0.471	0.587	0.612
X3.3	0.591	0.526	0.790	0.463	0.576	0.544
X4.1	0.431	0.434	0.482	0.874	0.616	0.570
X4.2	0.416	0.387	0.523	0.882	0.696	0.588
X5.1	0.515	0.522	0.592	0.692	0.884	0.639
X5.2	0.608	0.584	0.667	0.656	0.913	0.733
Y1.1	0.617	0.550	0.629	0.641	0.731	0.932
Y1.2	0.609	0.515	0.682	0.588	0.696	0.931

The indicators show higher cross-loading values within their respective constructs compared to those with other constructs, confirming that all indicator items meet the discriminant validity criteria as per the data processing results.

Construct Reliability

Table 5. Reliability Test Value

Item	Composite Reliability	Cronbachs Alpha
X1	0.871	0.816
X2	0.877	0.825
X3	0.856	0.748
X4	0.870	0.702

Item	Composite Reliability	Cronbachs Alpha
X5	0.894	0.764
Y1	0.929	0.848

Data analysis resulted in a composite reliability value of >0,70 and cronbachs alpha >0,50 for each construct which indicates that each construct in the research model can be classified as reliable or reliable in use.

4.2 Structural Testing (Inner Model)

Table 6. Coefficient of Determination

	R Square
Y1	0.681

The R Square value of 0,681 for optimization of use indicates a strong validity of the model in optimizing usage.

4.3 Hypothesis Testing

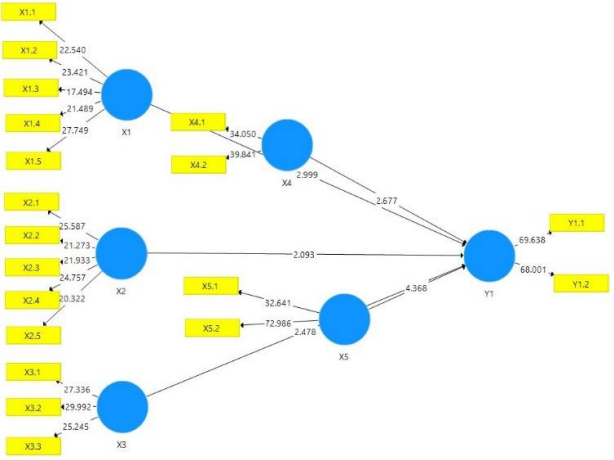

Figure 3. Bootstraping Results

In this study, hypothesis testing was carried out using an error rate of 5% and an accuracy level of 95%, meaning that the t-statistic must be greater than 1,96. T Statistics, P Value, and Path Coefficient results obtained from the SmartPLS bootstaping process.

Table 7. Hypothesis Test Conclusion

	Path Coefficient	T Statistics	P Value
X1-> Y1	0.378	2.999	0,003
X2 -> Y1	0.224	2.093	0,037
X3 -> Y1	0.210	2.478	0,014
X4 -> Y1	0.167	2.677	0,008
X5 -> Y1	0.394	4.368	0.000

The table above displays the results of the PLS algorithm for Structural Equation Modeling (SEM) which analyzes and evaluates the theory of the model to obtain significant results of the effects and relationships between variables. This has the potential to improve research model development.

These results demonstrate that the adopted DeLone and McLean IS model effectively predicts significant effects on the optimization of MyHR Portal usage.

1. H1, where system quality affects the optimization of MyHR Portal usage, demonstrates a path coefficient of 0,378, a t-statistic of 2,999, and a p-value of 0,003, indicating significant results. These findings align with [4], which suggests that high system quality enhances user comfort in using e-learning platforms.
2. H2, concerning information quality's impact on MyHR Portal usage optimization, shows a path coefficient of 0,224, a t-statistic of 2,093, and a p-value of 0,037, indicating significance. This supports previous research [4], indicating that good information quality enhances user satisfaction, thereby affecting e-learning usage.
3. H3, examining user engagement's influence on MyHR Portal usage optimization, reveals a path coefficient of 0,167, a t-statistic of 2,677, and a p-value of 0,014, indicating significant results. These findings are consistent with [9], which found that user engagement significantly affects user satisfaction with academic information systems.
4. H4, where user satisfaction impacts MyHR Portal usage optimization, reports a path coefficient of 0,210, a t-statistic of 2,478, and a p-value of 0,008, indicating significance. This research parallels [4], demonstrating that user satisfaction significantly enhances the effectiveness of e-learning usage.
5. H5, regarding net benefits influence on MyHR Portal usage optimization, displays a path coefficient of 0,394, a t-statistic of 4,368, and a p-value of 0,00, indicating significant results. These findings are consistent with [4], showing that favorable outcomes from using e-learning platforms significantly enhance their effectiveness.

5 Conclusion, Suggestions, and Limitations

In conclusion, from this study, this research aims to optimize the use of the MyHR Portal information system using the DeLone and McLean model. An evaluation of the MyHR Portal has not been conducted before, making this evaluation important for the Human Resources Department (HRD) of ABC company to ensure that the implementation of the MyHR Portal can meet the objectives of the information system

Optimization of use is significantly influenced by system quality because the display is easy to use, information quality because the information presented is complete, user engagement because many have used it and it meets the needs of employees, user satisfaction because of the availability of usage training, and the net benefit obtained is effective communication between Human Resources (HR) and employees. Then, sometimes there is a delay in the information displayed on the MyHR Portal, causing employees to not know up to date information, causing the quality of information to be far from the significance of optimizing the use of the MyHR Portal.

For practical advice, ABC company needs to maintain the MyHR Portal information system, especially on information quality including accuracy, completeness of information and the right information presentation format. The limitations of this study are the independent and dependent variables described by the researcher. So as a theoretical suggestion, it would be better if future researchers test using other methods such as the TAM (Technology Acceptance Model) method.

References

[1] T. Wahyuni, 'Information System Development', *ResearchGate Mercu Buana University*, 2020.

[2] H. Indrayani, 'The Application Of Information Technology In Improving The Effectiveness, Efficiency And Productivity Of The Company', *Journal El-Riyasah*, pp. 48–56, 2012.

[3] A. R. Trilaksono, T. Husain, and R. Doharma, 'Testing the Information System Success Model: Google Drive Storage Media', *Journal of Information Systems Technology and Applications*, vol. 3, no. 2, p. 57, Apr. 2020.

[4] E. P. Sari and E. Tasrif, 'Optimizing the Use of E-learning with the Delone and McClean Model', 2020.

[5] A. A. Putri, 'Evaluation Of Jogja Application Success From User's Perspective Using Development Of Delone And Mclean Models To Support The Realization Of The Smart Province', 181-193, 2021.

[6] W. H. DeLone and E. R. McLean, 'Information System Success: The Quest For The Dependent Variable', *Information Systems Research*, vol. 3, no. 1, pp. 60–95, 1992.

[7] Hapsari, Lely, Trihandayani, A. Ismiarta, and M. Yusi, 'Application of the Delone and Mclean Success Model to the Website of the Faculty of Computer Science (FILKOM) Brawijaya University', *Journal of Information Technology and Computer Science Development*, vol. 2, no. 12, pp. 7074–7082, 2018.

[8] J. Limar, 'Planning and Designing of Manggaduashop.Com Trade Information Portal Web', 2010.

[9] R. Jumardi, 'Modification Of Delone & Mclean Adaptation Model In Academic Information System Quality Analysis', *Journal of Information Systems*, vol. 11, no. 2, 2019.

[10] Sugiyono, *Metode Quantitative, Qualitative and R&D Research Methods.* Bandung: Alfabeta, 2011.