

# Impact Analysis of My Learning Link Information System Quality Towards Employee Performance at Schneider Electric Manufacturing Batam Company

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**Abstract:** The aim of this research is discovering My LearningLink information system quality's impact towards employee performance at Schneider Electric Manufacturing Batam Company. The research applies quantitative descriptive approach along with multiple linear regression analysis technique. Questionnaire via Google Form is used as the instrument to collect data for this research by surveying 115 respondents selected with a purposive sampling technique and determined with the Slovin formula. The research result shows that a positive and significant impact is found on system quality, information quality, usage, user satisfaction, and net benefits as independent variables towards employee performance as dependent variable either partially or simultaneously. In contrast, no significant impact is found on service quality as independent variable towards employee performance as dependent variable.

**Keywords:** My LearningLink, Information System Quality, Employee Performance

## 1. Introduction

A good information system will affect the performance of system users, where employee performance increases and will increase the output produced in the production process. The usage and selection of company information systems must align with the needs and operations of the company's business. From the beginning of 2018 until now, we are still going through the 4.0 industrial revolution era. The era known as Industry 4.0 is when the industry integrates cyber technology with automation. The term is the Internet of Things (IoT) [12]. In Indonesia, there is a company that has implemented Industry 4.0. The company is Schneider Electric Manufacturing Batam (SEMB). SEMB is a pilot company in implementing Industry 4.0 both at home and abroad.

Good human resource management requires employee training to motivate workers to put more effort and improve performance at work. Training for employees at SEMB has also been digitized using an information system called My LearningLink. My LearningLink is a Learning Management System with various training modules for employees. Digitizing this training is one of the ways for companies to implement Industry 4.0 as well as to be able to provide various trainings to employees whenever they need them. With My LearningLink, employees can take the training modules they need and improve their performance.

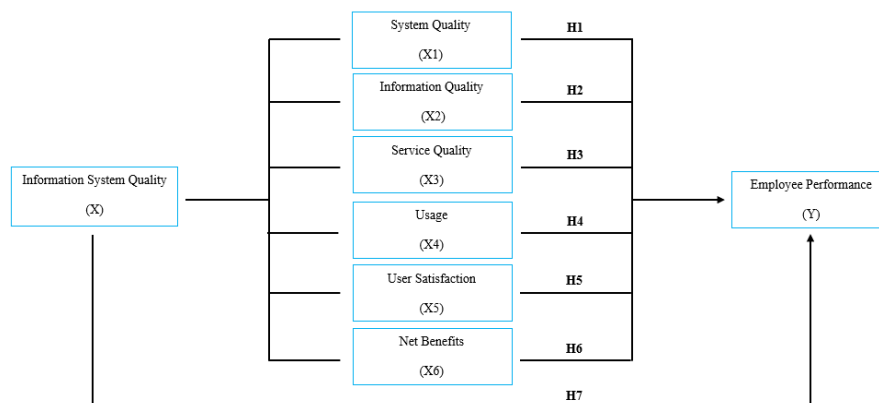
Research on the performance of information system users needs to be done for information system success measuring. This research aims to discover the My LearningLink information system quality's impact towards its users' performance. This background then made the researcher want to do a research titled "Impact Analysis of My LearningLink Information System Quality Towards Employee Performance at Schneider Electric Manufacturing Batam Company".

## 2. Theory and Literature Review, Hypothesis Development

[1] State that an information system is synchronization between humans, hardware, software, the internet, and information distributed within a company. So, the information system is a combination of information distributed by humans with software and hardware as well as the internet, and is used to meet the management and operational needs of the company. For an information system to be successful, it must possess good quality. [3] Say the information systems quality can be measured through 6 indicators: system quality, information quality, service quality, usage, user satisfaction, and net benefits.

According to [9], performance is a person's achievement of something or a result. So, performance is the activity of producing something according to the instructions with the knowledge and skills possessed, also the person's attitude in doing so. [2] state that six indicators to see employee performance are quality, quantity, timeline, cost-effectiveness, need for supervision, and interpersonal impact.

Several previous research such as research from [11], [6], and [14] show that user satisfaction is partially and simultaneously impacted by system quality and information quality. This research develops the previous research by analyzing the impact of information system quality towards employee performance. Here is the research framework:



**Figure 1.** Research Framework

Through this framework (See Figure 1.), the research hypotheses are: (H1): The better the system quality of My LearningLink, the employee performance of SEMB will follow; (H2): The better the information quality of My LearningLink, the employee performance of SEMB will follow; (H3): The better the service quality of My LearningLink, the employee performance of SEMB will follow; (H4): The better the usage of My LearningLink, the employee performance of SEMB will follow; (H5): The better the user satisfaction of My

LearningLink, the employee performance of SEMB will follow; (H6): The better the net benefits of My LearningLink, the employee performance of SEMB will follow; (H7): Increased quality of My LearningLink information system means increased employee performance of SEMB.

### 3. Research Method

The research approach is quantitative descriptive, where measurement uses numbers and data processing with analysis uses statistical procedures. The processed data is then described based on information or answers from the sample. The research instrument is a questionnaire via Google form containing questions about respondents' identity and statements about the object of research, which is system quality (X1), information quality (X2), service quality (X3), usage (X4), user satisfaction (X5), net benefits (X6), and employee performance (Y). Here is the variable operational of this research:

**Table 1.** Variable Operational

Variable	Variable Definition/ Sub Variable	Variable Dimension	Indicator
Information System	A combination of information distributed by humans with software and hardware as well as the internet and is used to meet the management and operational needs of the company.	System Quality	Employee perception of the reliability of My LearningLink.
		Information Quality	Employee perception of the quality of information generated by My LearningLink.
		Service Quality	Employee perception of My LearningLink's actual service condition in support of training.
		Usage	Employee intensity in using My LearningLink for training.
		User Satisfaction	Employee satisfaction level in using My LearningLink for training.
		Net Benefits	Employee perception of the benefits of implementing My LearningLink for training.
Employee Performance	The activity of producing something according to the instructions with the knowledge and skills possessed, also the person's attitude in doing so.		Employee performance level post-use of My LearningLink

Purposive sampling was used to draw samples because several criteria were needed to get answers from relevant respondents for research. The criteria for this research sample are: (1) Production department employees at SEMB Lot 208; (2) Employees with permanent or contract status; (3) Employees who have worked for equal or more than three years. Based on these criteria, 156 samples were obtained, which was then determined to be 115 respondents for this research using the Slovin formula.

The data is examined using the SPSS program and multiple linear regression analysis consisting tests of research instrument, classical assumption, and hypothesis. Research instrument tests contain validity and reliability tests. The provision of validity test decision is

when  $r_{\text{count}}$  value  $> r_{\text{table}}$ , questionnaire is considered valid. The provision of reliability test decision is when value of cronbach's alpha  $> 0,60$ , questionnaire is considered reliable. [13]

Classical assumption tests contain normality, linearity, multicollinearity, and heteroscedasticity tests. The provision of normality test decision is when significance value  $> 0,05$ , data distribution is normal. The provision of linearity test decision is when significance value  $> 0,05$ , correlation is linear. The provision of multicollinearity test decision is when value of tolerance  $> 0,10$  or VIF  $< 10$ , no multicollinearity is found. The Glejser test is carried out in heteroscedasticity testing. The provision of heteroscedasticity test decision is when significance value  $> 0,05$ , no heteroscedasticity is found. [5]

Hypothesis tests contain multiple linear regression equations, t and F tests, and coefficient of determination. Independent variables' impact towards dependent variables can be seen through multiple linear regression analysis with the equation:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n. \quad (1)$$

Description: (Y) = Dependent variable; ( $\alpha$ ) = Constant value; ( $\beta_1$ ) = X1 variable regression coefficient value; ( $\beta_2$ ) = X2 variable regression coefficient value; ( $\beta_n$ ) = Xn variable regression coefficient value; (X1) = independent variable 1; (X2) = independent variable 2; (Xn) = Independent variable n.

Independent variables' partial impact towards dependent variables can be seen through t test. The provision of t test decision is when value of  $t_{\text{count}} > t_{\text{table}}$  or significance  $< 0,05$ , partial impact is found. Independent variables' simultaneous impact towards dependent variables can be seen through F test. The provision of F test decision is when value of  $F_{\text{count}} > F_{\text{table}}$  or significance  $< 0,05$ , simultaneous impact is found. A coefficient of determination is applied to see the simultaneous impact percentage between independent variables towards dependent variables. [13]

## 4. Results and Descriptions

### 4.1. Research Instrument Test

#### 4.1.1. Validity Test

**Table 2.** Validity Test Result

Item	$r_{\text{count}}$	$r_{\text{table}}$	Description
X1.1	0,735	0,1832	Attested
X1.2	0,776	0,1832	Attested
X1.3	0,817	0,1832	Attested
X1.4	0,700	0,1832	Attested
X1.5	0,732	0,1832	Attested
X2.1	0,760	0,1832	Attested
X2.2	0,768	0,1832	Attested
X2.3	0,845	0,1832	Attested
X2.4	0,701	0,1832	Attested
X2.5	0,693	0,1832	Attested
X3.1	0,861	0,1832	Attested
X3.2	0,687	0,1832	Attested
X3.3	0,789	0,1832	Attested
X4.1	0,739	0,1832	Attested
X4.2	0,791	0,1832	Attested
X4.3	0,781	0,1832	Attested

Item	r <sub>count</sub>	t <sub>table</sub>	Description
X4.4	0,792	0,1832	Attested
X5.1	0,891	0,1832	Attested
X5.2	0,712	0,1832	Attested
X5.3	0,791	0,1832	Attested
X6.1	0,761	0,1832	Attested
X6.2	0,762	0,1832	Attested
X6.3	0,829	0,1832	Attested
X6.4	0,679	0,1832	Attested
X6.5	0,721	0,1832	Attested
Y1	0,724	0,1832	Attested
Y2	0,822	0,1832	Attested
Y3	0,816	0,1832	Attested
Y4	0,802	0,1832	Attested
Y5	0,823	0,1832	Attested
Y6	0,691	0,1832	Attested

Referring to the data above, all variables' value of  $r_{\text{count}} > t_{\text{table}}$ . Thus, all items in the statement are valid.

#### 4.1.2. Reliability Test

**Table 3.** Reliability Test Result

Item	Cronbach's Alpha	Description
X1	0,808	Steady
X2	0,809	Steady
X3	0,676	Steady
X4	0,780	Steady
X5	0,713	Steady
X6	0,806	Steady
Y	0,871	Steady

Referring to the data above, all variables' value of cronbach's alpha  $> 0,60$ . Thus, all items in the statement are reliable.

#### 4.2. Classical Assumption Test

##### 4.2.1. Normality Test

**Table 4.** Normality Test Result

		Unstandardized Residual
N		115
Normal Parameters	Mean	.0000000
	Std. Deviation	1.34854044
	Most Extreme Differences	
	Absolute	.068
	Positive	.043
	Negative	-.068
Test Statistic		068

			Unstandardized Residual
Asymp Sig. (2-tailed)			.200

Referring to the data above, value of significance  $> 0,05$ . Thus, data distribution is normal.

#### 4.2.2. Linearity Test

**Table 5.** Linearity Test Result

Item	Sig.	Description
X1 Towards Y	0,058	Linear
X2 Towards Y	0,066	Linear
X3 Towards Y	0,245	Linear
X4 Towards Y	0,058	Linear
X5 Towards Y	0,066	Linear
X6 Towards Y	0,093	Linear

Referring to the data above, all variables' value of significance  $> 0,05$ . Thus, correlation is linear.

#### 4.2.3. Multicollinearity Test

**Table 6.** Multicollinearity Test Result

Item	Tolerance	VIF	Description
X1	0,193	5,171	Multicollinearity not found
X2	0,253	3,956	Multicollinearity not found
X3	0,101	9,944	Multicollinearity not found
X4	0,136	7,349	Multicollinearity not found
X5	0,119	8,386	Multicollinearity not found
X6	0,279	3,586	Multicollinearity not found

Referring to the data above, all variables' value of tolerance  $> 0,10$  and VIF  $< 10$ . Thus, no multicollinearity is found.

#### 4.2.4. Heteroscedasticity Test

**Table 7.** Heteroscedasticity Test Result

Item	Sig.	Description
X1	0,405	Heteroscedasticity not found
X2	0,555	Heteroscedasticity not found
X3	0,801	Heteroscedasticity not found
X4	0,445	Heteroscedasticity not found
X5	0,459	Heteroscedasticity not found
X6	0,847	Heteroscedasticity not found

Referring to the data above, all variables' value of significance  $> 0,05$ . Thus, no heteroscedasticity is found.

### 4.3. Hypothesis Test

#### 4.3.1. Multiple Linear Regression Equation

**Table 8.** Regression Equation Value

Model	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
(Constant)	0,367	0,066	
System Quality (X1)	0,006	0,001	0,235
Information Quality (X2)	0,152	0,024	0,376
Service Quality (X3)	0,049	0,027	0,110
Usage (X4)	0,201	0,072	0,169
User Satisfaction (X5)	0,014	0,003	0,260
Net Benefits (X6)	0,036	0,018	0,121

Referring to the Table 8., here is the multiple linear regression equation of this research:

$$Y = 0,367 + 0,006X1 + 0,152X2 + 0,049X3 + 0,201X4 + 0,014X5 + 0,036X6 . \quad (2)$$

Here is the interpretation of the regression equation:

1. The constant value is 0,367. So, when independent variables are constant, 0,367 units is the predicted employee performance.
2. X1's regression coefficient is 0,006. So, if 1 unit increases in the system quality variable, 0,006 units of employee performance will increase.
3. X2's regression coefficient is 0,152. So, if 1 unit increases in the information quality variable, 0,152 units of employee performance will increase.
4. X3's regression coefficient is 0,049. So, if 1 unit increases in the service quality variable, 0,049 units of employee performance will increase.
5. X4's regression coefficient is 0,201. So, if 1 unit increases in the usage variable, 0,201 units of employee performance will increase.
6. X5's regression coefficient is 0,014. So, if 1 unit increases in the user satisfaction variable, 0,014 units of employee performance will increase.
7. X6's regression coefficient is 0,036. So, if 1 unit increases in the net benefits variable, 0,036 units of employee performance will increase.

#### 4.3.2. t Test

**Table 9.** t Test Result

Model	tcount	ttable	Sig.
X1	5,445	1,98217	0,000
X2	6,363	1,98217	0,000
X3	1,835	1,98217	0,069
X4	2,808	1,98217	0,006
X5	5,272	1,98217	0,000
X6	2,041	1,98217	0,044

The interpretation of the t test result above is as follows:

1. X1 variable's 5,445  $t_{count}$  value is  $> t_{table}$  and 0,000 significance value is  $< 0,05$ . Hence, partially employee performance is positively and significantly impacted by system quality. Therefore, H1 is acknowledged. According to observation, respondents felt that My LearningLink information system was easy to use because it had a user-friendly interface.

Supporting this, research by [4] on user satisfaction with using E-learning and [11] on the satisfaction of using the Learning Management System for Wahana Inti Selaras Company employees also shows that positive and significant impact is found on system quality towards user satisfaction, affecting employee performance.

2. X2 variable's 6,363  $t_{count}$  value is  $> t_{table}$  and 0,000 significance value is  $< 0,05$ . Hence, partially employee performance is positively and significantly impacted by information quality. Therefore, H2 is acknowledged. According to observation, respondents felt that My LearningLink information system provided information that was easy to understand because the information system was devoted to providing information regarding the training that employees needed and was presented with good language rules.

Supporting this, research by [6] on user satisfaction with the thesis and practical work information system of the Department of Informatics, Gorontalo University and [14] on user satisfaction with Zoom cloud meetings as a learning medium also shows that positive and significant impact is found on information quality towards user satisfaction, affecting employee performance.

3. X3 variable's 1,835  $t_{count}$  value is  $< t_{table}$  and 0,069 significance value is  $> 0,05$ . Hence, partially employee performance is not significantly impacted by service quality. Therefore, H3 is denied. My LearningLink information system service quality focused on the completion of employees' complaints regarding the system. However, according to observation, not many employees' complaint was addressed regarding My LearningLink information system on employees' complaint portal, making the service quality of My LearningLink information system unable to measure its impact towards employee performance properly. Thus, employee performance is not significantly impacted by service quality.

Supporting this, research by [8] on the accounting information system quality shows that no significant impact is found on service quality towards usage, which then does not affect employee performance. [10] on the quality of the Jambi Samsat website also shows that no significant impact is found on service quality towards user satisfaction, which then does not affect employee performance.

5. X4 variable's 2,808  $t_{count}$  is  $> t_{table}$  and 0,006 significance value is  $< 0,05$ . Hence, partially employee performance is positively and significantly impacted by usage. Therefore, H4 is acknowledged. According to observation, respondents used the My LearningLink information system because they wanted to increase their knowledge and skills at work.

Supporting this, research by [8] on the accounting information system quality and [10] on the quality of the Jambi Samsat website also shows that positive and significant impact is found on usage towards user satisfaction, affecting employee performance.

6. X5 variable's 5,272  $t_{count}$  is  $> t_{table}$  and 0,000 significance value is  $< 0,05$ . Hence, partially employee performance is positively and significantly impacted by user satisfaction. Therefore, H5 is acknowledged. According to observation, respondents were satisfied because various training modules were available, making employees re-access My LearningLink information system when they want to take other training modules.

Supporting this, research by [7] on employee performance through SIPD information system usage at Madiun City Food and Agriculture Security Service shows that positive and significant impact is found on user satisfaction towards employee performance. [10]



on the quality of the Jambi Samsat website also shows that positive and significant impact is found on user satisfaction towards net benefits, affecting employee performance.

7. X6 variable's 2,041  $t_{count}$  is  $> t_{table}$  and 0,044 significance value is  $< 0,05$ . Hence, partially employee performance is positively and significantly impacted by net benefits. Therefore, H6 is acknowledged. According to observation, the main net benefit of using the My LearningLink information system for employee training is that the company's expenses are reduced because employees become more efficient at work after taking various training modules on My LearningLink information system.

#### 4.3.3. F Test

**Table 10.** F Test Result

Model	Sum of Squares	df	Mean Square	F <sub>count</sub>	F <sub>table</sub>	Sig.
Regression	1513,894	6	252,316	84,245	2,18	0,000
Residual	323,464	108	2,995			
Total	1837,357	114				

Data above shows value of  $F_{count} > F_{table}$  and significance  $< 0,05$ . Hence, simultaneously dependent variable is positively and significantly impacted by independent variables. Therefore, H7 is acknowledged. According to observation, the system and information quality owned by My LearningLink information system, supported by the usage desire, user satisfaction, and net benefits obtained, increase employee performance over time.

#### 4.3.4. Coefficient of Determination

**Table 11.** Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	0,908	0,824	0,814	1,73062

Data above shows 0,814 is adjusted R Square's value. Meaning around 81,4% of employee performance variable was impacted by the My LearningLink information system quality variable. The rest of the percentage means other variables out of this research that have an impact on employee performance.

## 5. Conclusion, Suggestions, and Limitations

In conclusion, from this research, employee performance is impacted positively and significantly by system quality because of the user-friendly interface, information quality because of the presented information about training that employees need with good language rules, usage because employees' desire to improve their knowledge and skills at work, user satisfaction because the availability of various training modules, and net benefits obtained by the company which is reduced expenses because employees become more efficient at work after taking various training modules on My LearningLink information system. Then, not many employees' complaints were addressed regarding My LearningLink information system causing the service quality to have no significant impact on employee performance.

As a practical suggestion, SEMB Company needs to continuously improve and maintain the My LearningLink information system, especially regarding the system quality such as problem-solving and mitigation plans related to system errors. This research is limited to independent variables and dependent variable described by researcher. Therefore, as a theoretical suggestion, it would be better if further researchers explored other independent variables related to the information system quality and saw how they affect dependent variable such as employee performance or other dependent variables to produce even better research.

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## **References**

- [1] Anggraeni, E. Y., & Irviani, R. (2017). *Introduction to Information System* (1 ed.). (E. Risanto, Ed.) Sleman, Yogyakarta, Indonesia: CV. Andi Offset.
- [2] Busro, M. (2018). *Human Resource Management Theories* (1 ed.). Jakarta, DKI Jakarta, Indonesia: PrenadaMedia Group.
- [3] DeLone, W. H., & McLean, E. R. (2016). *Information Systems Success Measurement* (1 ed., Vol. 2). (A. R. Dennis, Ed.) Hanover, Massachusetts, United States of America: now Publishers Inc.
- [4] Desmaryani, S., Novira Kusriani, W. L., & Others. (2022, June 21). The Role of Digital Leadership, System of Information and Service Quality on E-Learning Satisfaction. *International Journal of Data and Network Science*, 6(4), 1215-1222.
- [5] Gani, I., & Amalia, S. (2018). *Data Analysis Tools* (II ed.). (P. Christian, Ed.) Yogyakarta, D.I. Yogyakarta, Indonesia: CV. Andi Offset.
- [6] Ishak, S., Koniyo, M. H., & Pakaya, N. (2022, January). Analysis of the Influence of Information System Quality and Information Quality on User Satisfaction of Thesis Information Systems and Practical Work Informatics Engineering Department, University of Gorontalo. *DIFFUSION: Journal of System and Information Technology*, 2(1), 162-173.
- [7] Kusuma, F. M., Ardianto, Y. T., & Prasetya, D. A. (2022, June). System Quality and Information Quality on Employee Performance Through User Satisfaction Using SIPD at the Department of Food Security and Agriculture, Madiun City. *Journal of Informatics Management and Technology*, 8(1), 9-19.
- [8] Lutfi, A., Al-Okaily, M., Alsyof, A., & Alrawad, M. (2022, July 3). Evaluating the D&M IS Success Model in the Context of Accounting Information System and Sustainable Decision Making. *Sustainability*, 14(13), 1-17.
- [9] Primawanti, E. P., & Ali, H. (2022, January 1). The Influence of Information Technology, Web-Based Information Systems and Knowledge Management on Employee Performance (Literature Review Executive Support System (ESS) For Business). *Journal of Information System Economics Management*, 3(3), 267-285.

- [10] Rosario B., M., Istoningtyas, M., & Febrianti, F. (2021, July). Jambi Samsat Website Quality Analysis Using the DeLone and McLean Method. *Journal of Information System and Technology Univrab*, 6(2), 138-144.
- [11] Setiawan, Y. (2022, June 14). The Influence of System Quality, Information Quality and Service Quality on Satisfaction Using the Learning Management System at Wahana Inti Selaras Company. *Journal of Business and Economic Management*, 3(1), 14-23.
- [12] Setiono, B. A. (2019, March). Increasing the Competitiveness of Human Resources in Facing the Industrial Revolution 4.0. *Journal of Shipping and Port Applications*, 9(2), 179-185.
- [13] Sugiyono. (2011). *Administrative Research Methods Complemented with R&D Methods* (19 ed.). (A. Nuryanto, Ed.) Bandung, West Java, Indonesia: Alfabeta.
- [14] Supriyadi, B., & Susanti, S. (2021, August 31). Analysis of Zoom Cloud Meetings User Satisfaction as a Learning Media Using the DeLone & McLean Model. *Responsive Journal: Science and Informatics Research*, 3(2), 216-222.