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# The Influence of System Quality, Information Quality and Service Quality E-Learning on Employee Performance with Employee Satisfaction Mediation at PT MRT Jakarta

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The learning process is carried out online at PT MRT creating new challenges in organizing learning and training. One of the main issues is how to ensure the quality of the e-learning system implemented meets learning standards and objectives, as well as how it affects employee satisfaction and performance. This research aims to examine learning delivery methods that are applied online, identify, and measure the influence of system quality, information quality and service quality from e-learning on employee satisfaction and assess the impact of employee satisfaction on employee performance. The partial-least Square Structural Measurement Model (PLS-SEM) analysis method was used with a quantitative approach involving a sample of 140 employees. The results of research and data processing show that of the 6 hypotheses proposed, there are 2 hypotheses that have no significant effect and are less suitable for implementation. This shows that system quality and service quality have a significant impact on employee satisfaction. This shows that e-learning is reliable and efficient. and ease of access is important to increase employee satisfaction. Employee satisfaction also has a significant impact on employee performance, while information quality on employee satisfaction and service quality on employee performance do not have a significant impact in the context of "e-learning" learning at PT MRT. This research provides a strong analytical framework to understand the relationship between the quality of e-learning and employee satisfaction and employee performance. This shows that companies are not only facing changes in the educational landscape, but also accepting and adopting e-learning as a learning method for needs and development so that companies can improving e-learning performance to maximize employee performance, including focusing on improving the quality of the e-learning system, technological infrastructure and software used, to ensure a smooth and efficient learning experience for employees.

# 1. Introduction

When Covid 19 entered Indonesia in early 2020, almost all aspects of life underwent changes that were increasingly worrying, thrilling for the entire world, Indonesia was one of the countries affected by the infection from the Covid 19 virus, so the Government of Indonesia has several times given appeals to all citizens, including instructions on activities at home starting from work, study and worship. At that time, educational institutions that usually held face-to-face meetings were forced to close in order to break the chain of the spread of the virus.

The pandemic has changed the policy direction in the implementation of training, which was previously carried out with a face-to-face/two-way method and practice in the field has been changed to an e-learning/one-way method. This certainly changes the learning pattern of PT MRT Jakarta employees, especially when handling emergency conditions, as evidenced by the increasing number of operational disruptions that occur due to the handling of operational disruptions. Data shows that in the 2021-2023 period, operational disruptions that occur due to improper handling are increasing. The number of operational disruptions calculated is not only based on human error but also based on how someone can solve quickly and appropriately without any second incidents or the impact on travel delays that are getting higher. Of the total operational disruptions that occurred and categorized as system, handling, external, and so on disruptions in 2021 contributed 22.67%, in 2022 they contributed 32.53%, and in 2023 they contributed 34.52% to all operational disruptions that occurred (O&M Disruption Report 2023).

The increase in this number indicates that the current learning system is still ineffective compared to what is needed by the worksite team, where skills are one of the methods to support increasing employee competence. Two-way, hands-on, negative check learning are some of the methods that can be considered to improve employee competence, but they also need to be adjusted to the learning method policy implemented by the company.



Figure 1. Top 10 countries that use E-learning
(Sumber: Introduction E-learning, Amelia Anggraini, Binus University)

DKI Jakarta has several modes of rail-based urban transportation, one of which is the MRT or commonly known as the Integrated Highway or MRT Jakarta. MRT or Mass Rapid Transit is a rapid transportation system that is driven by electric power. MRT Jakarta operates with Grade of Automation 2 technology or commonly called GOA 2 where trains run automatically using various technologies that are more up-to-date than other railway technologies in Indonesia. As a public transportation service provider in the form of Perseroda (Regional Company), PT MRT Jakarta is required to be able to always operate and provide excellent service.



Figure 2. Passenger Departures by Mode as of Aug 2023
(Source: Central Statistics Agency 2023)

## 2. Method

This study uses a qualitative research process by involving various questionnaires and procedures collected from respondents, which are analyzed inductively and then interpreted into new understandings. The object of this study is the perception of PT MRT Jakarta employees towards learning activities through e-learning that are currently being implemented, this object was chosen because the researcher wants to assess the impact of the implementation of e-learning learning that is currently implemented by the company at PT MRT Jakarta, the location of this object is in the media/training and learning facilities of PT MRT Jakarta employees. The research time of this object was carried out on a time duration from June 2023 to May 2024. The population of this study consists of all employees of PT MRT Jakarta who are in the Directorate of Operation and Maintenance who have previously experienced the offline learning process and then participated in e-learning learning activities at training and development at PT MRT Jakarta. Training and e-learning development activities are an impact of the Covid-19 Pandemic and have been carried out since 2022.

This research was conducted on employees of PT MRT Jakarta by distributing questionnaires to respondents, respondents are employees of PT MRT Jakarta who have participated in

learning activities through face-to-face and via e-learning. The survey was created in Google Forms which included an introduction, then questions about respondent data and profiles, and questions about research indicators. The questionnaire was distributed online using social media, especially Whatsapp. The first approach is a one-on-one discussion with respondents who are already known and qualified. With the power of friendship, it will produce networking that plays a role in the process of finding respondents and collecting data. Indicator questions in research surveys in questionnaires are closed-ended questions with limited choices that can be chosen by respondents. The study uses the Likert scale as an assessment of respondents' answers. There were 6 (six) choices of assessment numbers that could only be chosen by the respondents, consisting of number 1 = strongly disagree, number 2 = disagree, number 3 = disagree, number 4 = somewhat agree, number 5 = agree and finally number 6 = strongly agree. The six options were used in this study because they were easier for respondents to understand.

PT MRT Jakarta is a company that is committed to encouraging its employees to continue to grow by holding various trainings. Initially, PT MRT Jakarta held all training traditionally, but due to the Covid 19 pandemic, the company still held training with limitations. With the passage of time, PT MRT Jakarta also moved its training to online training, There was a shift in learning methods and there were developments in the learning system that prevailed at that time, In 2022 PT MRT Jakarta began to implement a new training method, namely training with a full online method via the E-Learning system as a learning medium (Udemy) as training and employee competency development.

Online learning certainly has advantages and disadvantages. Especially for employees who have different work patterns where they have the advantage of flexibility in time and place. However, some employees of PT MRT Jakarta are workers who need field skills and equipment techniques that must be used directly in their learning. With the existence of new methods and media applied for the implementation of PT MRT Jakarta employee training as well as the competencies and certifications that must be achieved, this study will analyze "The influence of system quality, information quality and service quality e-learning on employee performance with employee satisfaction mediation at PT MRT Jakarta". This research is expected to provide analysis of the application of new training methods as well as provide suggestions and improvements to a better and effective training system.

# 3. Result and Discussion

**The Effect of System Quality on Employee Satisfaction**

Based on the table, the first hypothesis proposed is that system quality has a significant and positive influence on employee satisfaction. After conducting tests, the final result was obtained that the first hypothesis was "accepted". where the results of the data processing are with a value of ⍰ = 0.384, T statistics 2.573 and P values of 0.010 so that the first statement of the direct path is "accepted". Where in this system quality there are 4 indicators with the SYQ4 initiator being the highest indicator with a value of 0.913 and from the results of the descriptive analysis of four questions processed with the mean value of the system quality variable is 5.102 which can be concluded that the respondents agree that the system quality carried out by e-learning makes it easier for employees to conduct and get online/online learning.

**The influence of information quality on employee satisfaction**

Based on the table, the second hypothesis proposed is that information quality has a significant and positive influence on employee satisfaction. Where based on the table the results of data processing, information was obtained that information quality has an insignificant influence on employee satisfaction with a value of ⍰ = 0.017, T statistics = 0.091 and P values = 0.927 so that the first statement of the direct path is "not accepted", where in this information quality there are 5 indicators with the IFQ4 initiator being the highest indicator with a value of 0.929 and from the results of descriptive analysis of four questions processed with The mean value of the Information Quality variable is 4.902 which can be concluded that when viewed from the class interval that respondents agree that e-learning carried out by companies for employees can help improve knowledge and learning.

**The effect of service quality on employee satisfaction**

Based on the table, the third hypothesis proposed is that service quality has a significant and positive influence on employee satisfaction. After testing and processing data, the value of ⍰ = 0.394, T statistics 2.229 and P values 0.026 so that the first statement of the direct path was "accepted". In this service quality, there are 5 indicators with the SEQ2 initiator being the highest indicator with a value of 0.854 and from the results of the descriptive analysis of five questions processed with the mean value of the service quality variable is 4.848 which when viewed from the class interval it is concluded that the respondents agree that the value received for the service or product can be measured from the experience provided by the company commensurate with the level of use of functions and quality.

**The influence of employee satisfaction on employee performance**

Based on the table, the fourth hypothesis proposed is that employee satisfaction has a significant and positive influence on employee performance. Where after testing and data processing, the results of ⊡ = 0.559, T statistics 6.436 and P values 0.000 were obtained so that the first statement of the direct path was "accepted". In this employee satisfaction there are 7 indicators with the EES6 initiator being the highest indicator with a value of 0.933 and from the seven questions processed, the mean value of the employee satisfaction variable is 5,159 which when viewed from the class interval it is concluded that the respondents agree that employee satisfaction is felt by employees when employees use e-learning, and some of them are satisfied with the experience provided by e-learning to employees.

**The effect of system quality on employee performance**

Based on the table, system quality has a positive and significant influence on employee performance with a value of ⊡ = 0.022, T statistics 1,999 and P values of 0.046 so that the first statement of the direct path is "accepted". Where in this system quality has 4 indicators with the highest indicator value of 0.913 in SYQ4 and from the results of the descriptive analysis of four questions processed with the mean value of the system quality variable is 5,102 where it was concluded that the respondents agreed that the system quality carried out by e-learning makes it easier for employees to conduct and get online learning.

**The effect of service quality on employee performance**

Based on the table, service quality has a non-significant influence on employee performance with a value of ⊡ = 0.013, T statistics 1.075 and P values of 0.283 so that the first statement of the direct path is "not accepted". Service quality has the highest indicator of 0.854, namely in SEQ2 and from the results of descriptive analysis of five questions processed with the mean value of the service quality variable is 4.848 which when viewed from the class interval it is concluded that the respondents agree that the value received for the service or product can be measured from the experience provided by the company commensurate with the level of use of functions and quality.

**Research Findings**

The results of the hypothesis test that has been carried out by submitting 6 initial hypotheses, obtained the results of data processing on 2 variables, namely information quality on employee satisfaction and service quality on employee performance, are not in accordance with the initial hypothesis, where this shows that the two hypotheses do not have a significant influence from the variable information quality and service quality.

Meanwhile, the other 4 hypotheses, namely service quality on employee satisfaction, system quality on employee performance, system quality on employee satisfaction and employee satisfaction on employee performance have a significant influence. This shows that these variables have a strong and influential relationship in the context of e-learning learning at PT MRT Jakarta.

**Managerial Implications**

1. Efforts to increase employee satisfaction through a quality e-learning system.
   From the results of the study, there is a significant relationship between employee satisfaction and system quality. Where to increase employee satisfaction. An e-learning system should provide ease of use that provides satisfaction with the system from users and can also provide quality information so that it can help provide solutions to every problem.

2. Efforts to increase employee satisfaction through information quality e-learning
   From the results of the study, there is an insignificant relationship between employee satisfaction and information quality, Information quality is influenced by content quality, system functionality and service support. However, information quality is not a determining factor for user satisfaction in e-learning.

3. Efforts to increase employee satisfaction through service quality e-learning
   From the results of the study, there is a significant relationship between employee satisfaction and information quality where good service aspects can improve user experience and employee satisfaction, which will ultimately affect loyalty and participation in the e-learning platform.

4. Efforts to improve employee performance as a mediation of employee satisfaction from the implementation of e-learning
   From the results of the study, there is a significant relationship between employee performance as a mediator of employee satisfaction from the application of e-learning where satisfaction is positively related to performance, where the higher the level of satisfaction, the better the performance.

5. Efforts to improve employee performance through quality e-learning systems
   From the results of the study, there is a significant relationship between employee performance through the quality e-learning system, namely system quality has a great influence on performance where system quality affects the completion of employee work

to be completed more efficiently.

6. Efforts to improve employee performance through service quality e-learning

   From the results of the study, there is an insignificant relationship between employee performance through service quality e-learning where the performance of an employee contributes to satisfaction which is influenced by service quality. Service quality greatly affects employee performance where this will provide a positive experience for employees to increase loyalty. that respondents agree that the value received for services or products can be measured from the experience provided by the company commensurate with the level of use of functions and quality.

# 4. Conclusion

Based on the research that has been carried out answering the phenomenon related to learning using the e-learning method has an influence carried out through observation, data collection and data processing related to variable service quality (SEQ), system quality (SYQ), information quality (IFQ), employee satisfaction (ESS) and employee performance (EPF) which has six problem formulations with the final result, namely four out of the six hypotheses proposed have a positive and significant influence on The sample was tested on PT MRT Jakarta employees at the Directorate of Operation and Maintenance who had undergone a traditional/face-to-face learning process and are now conducting online learning due to the influence of the pandemic in 2020 until now. Related to the purpose of the study, the researcher concluded that system quality and service quality contribute significantly to improving employee satisfaction and employee performance in the context of e-learning at PT MRT Jakarta because based on data from 2021 – 2023 where operational disruptions occurred at a higher percentage than the previous year, this was due to human error (inaccurate and fast handling of disruptions), In addition to the above, it was also found that information quality does not seem to have a significant impact on employee performance, although this needs to be considered for future improvement in the implementation of e-learning.

This research was carried out during 2023 - 2024 with the hope that it can be continued and deepened in the future for the benefit of the company. Suggestions for further research include: using a larger sample from various directorates, developing an e-learning system to improve the quality of information and services, and evaluating employee needs related to materials and curriculum. The findings show that e-learning fulfills its function of providing

information, with employees wanting quick access and easy interaction. Indicators of job satisfaction and employee motivation are high, which shows the importance of e-learning platforms in development and training. The expansion of variables and indicators as well as the evaluation of the results of this study can help companies in improving the effectiveness and efficiency of e-learning learning, having a positive impact on employee satisfaction and performance at PT MRT Jakarta and the railway industry in general.

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