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(IJIREV)**www.gaexcellence.com/ijirev**EMPLOYEE ACCEPTANCE OF LEARNING
MANAGEMENT SYSTEMS IN THE MALAYSIAN
MANUFACTURING CONTEXT: AN EMPIRICAL STUDY**

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Abstract:

Learning Management Systems (LMS) are now being used extensively in manufacturing firms to support employee training. This is pertinent as employees are required to keep abreast with new production technologies and changing job requirements. Nevertheless, having LMS in the organization does not guarantee the system would be used by the employees. Therefore, the study examines on four factors related to employee acceptance of the LMS which are social influence, perceived usefulness, perceived ease of use, and facilitating conditions. The study adopted systematic sampling to collect data from 201 operational staff members in five manufacturing departments. Pearson correlation and multiple regression analyses were conducted to examine the relationships between these factors and employee acceptance. From the findings, it was identified that social influence has the strongest factor influencing LMS acceptance, followed by perceived usefulness and perceived ease of use. Although they did not significantly contribute to the regression model, facilitating conditions had a strong positive correlation with acceptance in the correlation analysis. The findings point to the importance of workplace support and employees'

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perceptions of the usefulness and ease of use of LMS. The study also reveals the role of supervisors in encouraging LMS acceptance and the value of linking training content to employees' actual work.

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Keyword:

E-Learning Adoption, Learning Management System (LMS), Manufacturing Industry, Perceived Usefulness, Social Influence, Technology Acceptance.



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Introduction

Learning Management Systems (LMS) have become a useful tool for employee training and skill development purposes. This tool has allowed organisations to distribute training materials, deliver online modules and monitor employee progress. These functions are particularly relevant in manufacturing, where operational employees or employees who works directly in the operational section need to keep their skills current. This is due to the rapid change in the production technologies, machinery and quality requirements. However as mentioned by Oostveen et al., (2024), introducing an LMS does not necessarily mean that employees will use it effectively. Furthermore, workplace digital transformations often encounter friction surrounding employee readiness and technical adaptability (Lintao et al., 2025; Low et al., 2025).

Introducing an LMS into an organisation is only the first step towards encouraging employees to use and accept the system. The effectiveness of LMS rely on how employees respond as well as the training which are provided through LMS itself. An organisation may invest in an LMS, prepare training materials and provide technical support, yet some employees may still postpone their modules or complete them mainly because the training is compulsory. The issue, therefore, goes beyond simply having the technology available. Employees also need to see the value of the system and feel comfortable using it.

This issue was also evident in a Malaysian manufacturing firm, where employees of an organization were required to complete mandatory LMS training within specified deadlines. Management had set a target of less than 5% delayed training. In actuality, the monthly delay rate stayed between 10% and 20%. The difference between the expected and actual completion

rates raises an important practical question: what factors affect employees' acceptance of an LMS?

Understanding this situation requires looking beyond the LMS itself and considering how employees experience the technology in their workplace. Employees do not experience technology in isolation. The responses are shaped by the workplace around them, including supervisory expectations, peer practices and departmental routines. The perceived usefulness of the system may also influence whether employees see LMS training as worthwhile, particularly when the training can be linked to their daily work. Previous studies in Malaysian settings have reported the relevance of usability, workplace communication and peer influence in technology adoption (Teoh & Tan, 2020; Arumugam, 2023; Abdullah, 2023).

Against this background, the present study examined four factors associated with employee LMS acceptance: social influence, perceived ease of use, perceived usefulness and facilitating conditions. Data were collected from 201 operational employees across five production departments. In this study, employee LMS acceptance refers to employees' willingness and readiness to accept and support the LMS for work-related learning and training activities. It differs from actual LMS usage, which refers to how employees use the system in practice, and from behavioural intention to use, which reflects their intention to use the system. The study therefore focuses specifically on employee acceptance of LMS within the Malaysian manufacturing workplace.

Literature Review and Hypothesis Development

Employee Acceptance of Learning Management Systems

Employee acceptance is central to the success of an LMS in the workplace. An LMS makes training easier to deliver and manage. However, the benefits of an LMS depend largely on employees' willingness to adopt the system and actively participate in its use (Al-Marroof et al., 2021)

Research involving manufacturing employees suggests that assessing workers' readiness can support the implementation of new technologies (Oostveen et al., 2024; Mailizar et al., 2021)). Research on technology acceptance has identified several factors that may influence how employees respond to digital systems. This study focuses on four key factors: perceived usefulness, perceived ease of use, social influence, and facilitating conditions (Venkatesh et al., 2022)

Perceived Usefulness

Perceived usefulness relates to employees' belief that using the LMS can improve how effectively they perform their work. Employees may respond more positively when the system helps them develop relevant skills, address work-related problems, or meet performance requirements (Esawe, 2022)

This factor is relevant to workplace e-learning. Teoh & Tan (2020) found that perceived usefulness was an important factor in employees' intention to engage with workplace e-learning in the Malaysian manufacturing context (Teoh & Tan, 2021). Employees tend to accept an LMS when its benefits are clearly presented.

Based on this relationship, the following hypothesis is proposed:

H1: Perceived usefulness is positively related to employee acceptance of LMS.

Perceived Ease of Use

Perceived ease of use refers to the degree to which employees find the LMS simple to learn and use is known as perceived ease of use. The amount of work needed to finish training can be influenced by the system's design. Employees may find it easier to navigate the LMS with clear menus and user-friendly features. This is especially important in a manufacturing environment where workers may have different degrees of familiarity with digital tools. According to earlier manufacturing research, technology adoption is significantly influenced by user-friendly design (Oostveen et al., 2024; Chauhan et al., 2021). When the system is simple to use, especially when completing training exercises, employees' confidence may rise.

Based on this, the following hypothesis is proposed:

H2: Perceived ease of use is positively related to employee acceptance of LMS.

Social Influence

Social influence refers to how the people near or around employees who shape the views and responses of employees towards technology. This would include team leaders, supervisors and also coworkers in the workplace.

Social influence would also have an impact on employee reactions if a new system was introduced. According to Abdullah (2023), if employees are required to use LMS, they will consider it part of their daily work activities. Employee responses to a system are most likely influenced by those around them. According to research conducted in Malaysian organisations, there is a strong correlation between social influence and intention to use an LMS (Abdullah, 2023; Al-Maroofof et al., 2021). Therefore, this indicates that workplace relationships do play a role in employees' acceptance of the LMS.

Based on this, the following hypothesis is proposed:

H3: Social influence is positively related to employee acceptance of LMS.

Facilitating Conditions

Facilitating conditions refer to the resources and technical support available to employees when they use the LMS. These may include access to functioning computers, reliable internet connections, helpdesk support, and basic user training.

These resources can help employees overcome some of the practical difficulties they may face when using the system. However, the extent to which they motivate employees may differ across workplace settings (Chauhan et al., 2021). Technical support may be important in some environments, while social and individual factors may have a stronger role in others (Venkatesh et al., 2022)

Consequently, the subsequent hypothesis is developed:

H4: Facilitating conditions are positively related to employee acceptance of LMS.

Synthesis and Hypotheses

The four factors examined in this study reflect different aspects of employees' experience with the LMS. Perceived usefulness refers to the benefits employees believe they can gain from using the system. Perceived ease of use concerns how easy the system is to use. Social influence reflects the role of supervisors, team leaders and colleagues. Facilitating conditions concern the resources and support available to employees.

This study examines the combined influence of these four factors within the Malaysian manufacturing context. This helps to explain how these factors are related to employee's acceptance of the LMS.

Based on the relationships discussed above, four hypotheses were developed:

H1: Perceived usefulness is positively related to employee acceptance of LMS.

H2: Perceived ease of use is positively related to employee acceptance of LMS.

H3: Social influence is positively related to employee acceptance of LMS.

H4: Facilitating conditions are positively related to employee acceptance of LMS.

Methodology And Results

Methodology

Research Design and Sampling

A quantitative, cross-sectional survey design was implemented in this study (Creswell& Creswell, 2023) study looked at the factors that may influence employees' acceptance of an LMS in a Malaysian manufacturing facility.

The study involved 420 operational employees from five production departments. A total of 201 employees were selected for the study based on the sample size guideline by Sekaran & Bougie (2016).

Probability systematic sampling was used. The Training Department's employee training matrix served as the sampling frame. Employees were selected from the list by choosing approximately every second employee until 201 participants had been selected.

Data Collection and Survey Instrument

Online questionnaire was used as a toll to collect the primary data for the study. The questionnaire comprised of five areas which are Employee Acceptance, Social Influence, Perceived Ease of Use, Perceived Usefulness, and Facilitating Conditions.

The target variable of the study was employees' acceptance of LMS. The LMS adoption intention was measured using four items which assessed employees' willingness and readiness to accept the LMS for work-related learning and training activities.

The results were rated using the five-point Likert scale which ranges from 1 (Strongly Disagree) to 5 (Strongly Agree).

A pilot study involving 32 employees was conducted prior to the main survey. It was done prior to the main survey with the intention of determining how well the questions were understood. It was carried out to determine whether the questions were understandable and to make any required changes to the questionnaire.

Data Analysis Techniques

The collected data from 201 respondents were analysed using IBM SPSS Statistics. Descriptive statistics were used to summarise the sample characteristics. Pearson correlation analysis was then used to examine the strength and direction of the relationships between the variables.

Multiple linear regression was conducted to determine which factors independently predicted employee LMS acceptance when the four predictors were considered together.

Scale Reliability

The measurement scale showed strong internal consistency across the constructs. Cronbach's alpha values ranged from 0.851 to 0.950, exceeding the commonly used 0.70 threshold (Hair et al., 2019)

The overall survey instrument recorded a composite reliability score of 0.968. These results indicate a high level of internal consistency for the measurement items.

Results and Findings

Bivariate Correlation Analysis

Pearson correlation analysis showed positive and significant relationships between all four independent variables and employee LMS acceptance, with $p < .001$.

Social influence had the strongest relationship with employee acceptance, with $r = .803$. Perceived usefulness followed with $r = .780$. Facilitating conditions recorded $r = .729$, while perceived ease of use recorded $r = .718$.

These results show that all four factors were positively associated with employee LMS acceptance at the bivariate level.

Multiple Regression Analysis and Hypothesis Decisions

A multiple linear regression analysis was conducted to examine the contribution of the four factors when considered together.

The model explained 71.7% of the variance in employee LMS acceptance ($R^2 = .717$). Social influence recorded the largest significant coefficient ($\beta = .467$, $p < .001$). This result supports H1.

Perceived ease of use also showed a significant positive contribution ($\beta = .192$, $p = .006$), supporting H2.

Perceived usefulness was another significant predictor ($\beta = .233$, $p = .006$). Therefore, H3 was supported.

Facilitating conditions did not make a significant unique contribution to employee LMS acceptance ($\beta = .030$, $p = .704$). Hence, H4 was not supported.

Hypothesis Summary

Hypothesis	Relationship	Result
H1	Social influence → Employee LMS acceptance	Supported
H2	Perceived ease of use → Employee LMS acceptance	Supported
H3	Perceived usefulness → Employee LMS acceptance	Supported
H4	Facilitating conditions → Employee LMS acceptance	Not supported

Discussion

The regression results show the four factors had different contributions to the employees' acceptance of the LMS. The social influence had the greatest effect followed by perceived utility and perceived ease of use. When the four factors were considered together, facilitating conditions did not make a significant unique contribution.

Social influence was the most powerful factor in determining whether or not employees would accept the LMS. This result is significant, particularly with regard to the manufacturing context that was subjected to investigation in this study. While supervisors directly oversee their daily work, employees operate in teams and adhere to set shift schedules.

When supervisors encourage employees to complete LMS training, it may become a regular part of their work routine. Colleagues may similarly influence employees' acceptance of the system. Observing their colleagues using the LMS may help employees feel more comfortable with the system. This finding is in line with previous studies in Malaysian workplaces where social support was found to be a significant factor for technology adoption (Abdullah, 2023). The second strongest predictor of employee LMS acceptance was perceived usefulness. It appears employees are more accepting of the LMS when they can clearly see the connection of the training to their everyday work.

For production employees, this connection may involve daily task performance or skill development. Training teams can therefore clarify the purpose and relevance of each LMS module. Worker's ought to be able to relate the training to their work.

Perceived ease of use was also positively and significantly related to employees' acceptance of the LMS. Employees should be able to navigate the system with minimal difficulty. This is particularly relevant when employees have varying levels of experience with digital tools. Clear instructions and simple navigation can make it easier for employees to complete their LMS training. Employees may feel more confident accessing their training courses if the system is easy to use.

Understanding the Role of Facilitating Conditions

The finding for facilitating conditions deserves particular attention. The variable had a strong positive relationship with employee LMS acceptance in the correlation analysis ($r = .729$). However, its contribution became non-significant in the regression model ($\beta = .030$, $p = .704$). This indicates that employees who have better access to resources and technical support are likely to report higher LMS acceptance when the variables were examined separately. Nevertheless, should socially influence, perceived usefulness and perceived ease of use were considered together, facilitating conditions did not explain a significant amount of additional variation in acceptance.

One explanation could be that having access to basic resources is already expected in the workplace. To use the LMS, employees may require computers, internet connectivity, and technical support, but these resources might not be sufficient to boost acceptability. When taken into account collectively, employees' perceptions of the system and the impact they receive from those in their immediate vicinity may be more significant.

This result should be interpreted as an association rather than a causal effect. It also provides an interesting area for further investigation in other manufacturing settings.

Practical Implications for Managers

The study's findings have several positive implications for businesses in the industrial sector. One is that social impact was the best predictor, suggesting that managers and coworkers have a part in encouraging LMS adoption. During team meetings or shift handovers, line supervisors might talk about training progress. Department leaders may also recognize workers who successfully finish their training. Employees can integrate LMS use into their daily work routines by following these easy steps.

Besides the content of training need to be align to the actual responsibilities of employees. The description of the course also needs to emphasis on the module and the importance of each module in supporting the workplace tasks, safety, and operational efficiency. This would allow employee to have a bigger picture on the importance and role of LMS to the employees and the organization.

Next, the system itself needs to be user friendly where it will assist employees to have full access to it. Among the things that need to focus on would be the layout of the system, instruction on how to use the system need to be clear and transparent. This would assist employees to understand and adapt to the system easily

And another important aspect that the study suggests is that there should be a standby technical support ready to help with any hiccups or queries should there be. Dependable internet access, suitable training terminals, and basic technical support are the basis for efficient LMS utilisation. The results suggest that these resources need to be supported by strong encouragement in the workplace and relevant training content.

Conclusion

Learning Management Systems can support employee training and skill development in manufacturing organisations. However, having an LMS in place does not necessarily mean that employees will accept it. This study examined four factors associated with employee LMS acceptance in a Malaysian manufacturing context.

The findings showed that social influence, perceived usefulness and perceived ease of use were significant predictors of employee LMS acceptance. Social influence had the strongest contribution, followed by perceived usefulness and perceived ease of use. Facilitating conditions showed a strong positive relationship with acceptance in the correlation analysis. However, it did not make a significant unique contribution in the regression model.

The findings suggest that employees' acceptance of the LMS is closely linked to their experience of using the system in the workplace. Support from supervisors and colleagues can also encourage employees to engage with LMS training. The system is also more likely to be valued by employees when they can perceive its relevance to their work and find it user-friendly.

For manufacturing organisations, the findings point to several practical priorities. Supervisors can encourage employees to complete LMS training and make it part of regular work routines. Training teams can connect LMS content to actual job requirements and skill development. The system should be easy to navigate, with technical support available whenever employees need assistance.

This study provides a clearer understanding of how employees in Malaysian manufacturing organisations perceive and accept the use of LMS. The findings provide useful direction for organisations seeking to strengthen workplace learning through digital platforms. Future studies could examine these relationships in other manufacturing settings to see whether similar findings are observed.

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