

The Effect of Skill Competition on Employee Learning Motivation in Manufacturing Companies with Coach Quality as a Moderator Variable

Andaryanto^{1)*}, Arief Noviarkahman Zagladi²⁾

^{1,2)} Faculty of Economics and Bussines, Universitas Negeri Malang, Indonesia

*Corresponding Author

Email: andaryanto.2404138@students.um.ac.id

Abstract

This study aims to analyze the effect of skills competitions on employee learning motivation in manufacturing companies, as well as explore the role of coach quality as a moderator variable in the relationship. The research design used is explanatory research, with the sample consisting of employees who have participated in a skills competition at PT Tjiwi Kimia Paper Mill, Tbk. Data collection techniques were conducted through questionnaires and data were analyzed using linear regression statistical methods. The results show that skill competitions have a positive significant influence on employee learning motivation, accounting for 68,3% of the variation ($R^2 = 0.683$, $p < 0.001$). Furthermore, the quality of trainers moderated this relationship, with higher quality trainers enhancing the positive effect of skill competitions on learning motivation (interaction coefficient = 0.271, $p = 0.034$). These findings underscore the importance of well-designed competitions and competent trainers in fostering employee development, offering practical insights for creating impactful training program.

Keywords: Skill Competition; Employee Learning Motivation; Manufacturing Company; Trainer Quality

INTRODUCTION

In the manufacturing industry, technological developments and dynamic changes in market needs require employees to continuously update and improve their skills. The speed of adaptation and the ability to keep up with these developments are important for companies that want to remain competitive. Therefore, training is one of the most effective ways to develop employees' skills to meet the ever-changing market demands (R. A. Noe & Kodwani, 2016) According to Salas et al. (2012), effective training not only improves employees' technical knowledge, but also fosters learning motivation, which is important in accelerating the acquisition of new skills. This learning motivation is a key factor in determining how quickly and successfully technical skills are improved in the workplace. When employees are motivated to learn, they tend to be more proactive in taking the initiative to improve their competencies, which has a direct impact on productivity and job quality (Aguinis & Kraiger, 2009) Furthermore, (Tannenbaum & Yukl, 1992) emphasize that training must be designed with employee needs and market dynamics in mind, so that training programs can respond appropriately to the challenges faced. This is reinforced by (Ryan & Deci, 1985)), who point out that intrinsic motivation plays an important role in training success.

With the increasing complexity of tasks and skills required in the world of work, companies need to design training programs that are not only relevant, but also able to increase employee learning motivation. Skill competitions are a promising approach because they create a competitive yet positive environment that encourages employees' intrinsic motivation to learn and develop. The success of skill competitions in enhancing employee skills is highly dependent on the quality of trainers who are able to provide effective guidance and build a supportive learning atmosphere (Chiaburu & Tekleab, 2005). Based on the above thoughts, this study aims to analyze the effect of skill competitions on employee learning motivation in manufacturing companies, by exploring the role of trainer quality as a moderator variable.

Based on previous literature reviews, there have been studies that examine the effect of skill competitions on learning motivation, such as those conducted by (Li et al., 2019) who discussed the role of skills competition in supporting the growth of vocational education students at Tianmen Vocational College. While the study showed that skills competitions can improve students' knowledge, practical skills and motivation, it focused on the vocational education student population and did not extend to the manufacturing industry context. In addition, the study did not examine the role of trainer quality as a moderator variable. Another study by (Núñez & León, 2016) explored the effects of intrinsic motivation mediated by teacher autonomy support on student learning. The results suggest that an autonomy-supportive learning environment can improve intrinsic motivation and learning quality. However, this study focused on the formal education context and student population, rather than employees in a manufacturing environment. Thus, there is still a gap in the literature regarding the effect of skill competition on learning motivation in the context of the manufacturing industry, and how coach quality can strengthen the relationship.

This study aims to fill this gap by examining the effect of skill competition on employee learning motivation in manufacturing companies, and exploring the role of trainer quality as a moderator variable. The findings of this study are expected to provide new insights for companies in designing more effective training programs, so as to accelerate the improvement of employee skills and maintain competitiveness in the global market.

Employee learning motivation can be influenced by various factors, and one of the relevant theories in understanding this is the reinforcement theory proposed by B.F. Skinner. In his book, *The Behavior of Organisms: An Experimental Analysis*, (Skinner, 1938) explains that learning motivation can be increased through the use of positive and negative reinforcement. Positive reinforcement occurs when a behavior is followed by a pleasant consequence, which makes the behavior more likely to be repeated in the future. Negative reinforcement, on the other hand, involves the removal of an undesirable stimulus after the behavior has occurred, thus increasing the likelihood that the behavior will be repeated. In the context of employee training, the application of positive reinforcement, such as rewards and constructive feedback, can increase employee learning motivation, especially in competition-based training programs. In addition, (Ryan & Deci, 1985), in their book *Intrinsic Motivation and Self-Determination in Human Behavior*, add the perspective that learning motivation is influenced by intrinsic and extrinsic motivation.

Intrinsic motivation relates to the satisfaction gained from performing the task itself, while extrinsic motivation comes from external factors such as rewards or incentives. To maximize learning effectiveness, both types of motivation must be managed properly. In competition-based training, intrinsic motivation can be enhanced by giving employees the opportunity to showcase their skills and gain recognition, while extrinsic motivation can be strengthened by providing incentives for those who perform well. Training and developing employee skills is a crucial aspect in improving a company's performance and competitiveness.

According to (Nadeem K, 2021), innovative training approaches, including gamification and e-learning, can effectively increase employee motivation and competence, which in turn has a positive impact on organizational performance. Nadeem emphasizes that well-trained employees are not only more skilled but also more motivated in performing their duties, which contributes to increased company productivity. Similarly, a study from (Wharton Online, 2023) states that continuous professional development programs not only improve employees' skills but also strengthen their engagement at work, which is important for companies to retain and attract new talent. Competition in training is also an effective strategy to increase learning motivation. (Tauer & Harackiewicz, 2004) state that well-designed competitions can trigger intrinsic and extrinsic motivation, encouraging individuals to go beyond their limits. They found

that competition increased interest and performance, especially when participants felt that they had a fair chance to succeed.

(Murayama & Elliot, 2012) also point out that competition can positively enhance performance, especially if individuals feel a sense of autonomy and competence during the competition process. Therefore, competition-based training programs can be an effective tool to spur employee learning motivation to improve skills. However, it is important to note that competition must be managed carefully to avoid negative impacts. (Johnson et al., 2000)) caution that healthy competition is one that supports rather than replaces cooperation. Excessive competition without adequate support can cause stress and decrease learning satisfaction. The quality of the coach is therefore a very important factor. A quality coach can provide appropriate feedback and create a supportive learning atmosphere, thus maximizing the benefits of competition in improving employee motivation and skills.

The quality of trainers plays a crucial role in improving training effectiveness and employee learning motivation. Quality trainers can identify individual learning needs, adapt teaching methods to meet those needs, and use techniques that trigger higher learning engagement and motivation. According to (Chiaburu & Tekleab, 2005) effective trainers are those who not only have substantial knowledge of the material being taught, but also sufficient interpersonal skills to communicate and motivate participants. The quality of interaction between trainers and participants is known to have a direct impact on the effectiveness of skills transfer and the improvement of employee competencies.

Furthermore, (Bell et al., 2017) showed that trainers who apply adaptive learning approaches and are responsive to the needs of individuals in the training group tend to be more successful in improving learning motivation and training outcomes. This includes the ability to present training materials in an engaging and inspiring way, which can improve knowledge retention and practical application in the workplace. Similarly, (Salas et al., 2012)) emphasis that the success of training program is significantly influencing by trainers' ability to create an engaging learning environment and provide constructive feedback tailored to individual learner needs. Effective trainers employ evidence-based teaching strategies that foster collaboration and active participation, both of which are critical in enhancing learning outcome and motivation.

Additionally, (Tannenbaum & Yukl, 1992)) highlight those trainers who understand the dynamics of intrinsic and extrinsic motivation are better equipped to design programs that resonate with employees' aspiration leading to enhanced learning retention and skill application. This is particularly relevant in the context of skill competitions, where intrinsic motivation is often fueled by the challenge itself, while extrinsic motivation can be reinforced through reward and recognition.

Based on this understanding, the framework in this study is that skills competition has a close relationship with employee learning motivation in manufacturing companies. By holding a skills competition, it will increase employee enthusiasm in learning to improve their skills. As (R. A. Noe & Kodwani, 2016) argue, well-structured training activities, including competitive elements, encourage employee to actively engage in skill development, thereby aligning individual growth with organization goals. Consequently, the organization's goal of accelerating employee learning will be achieved, and company productivity will increase as employee skills improve.

The increase in employee learning motivation must be balanced with the quality of the coach. Trainers play an essential role in competition, as they direct and provide the skill needed appropriately and efficiently. (Chiaburu & Tekleab, 2005) underscore that the quality of interaction between trainers and participants can significantly effect motivation and skill acquisition. Trainer who adopts a participative approach and provide ongoing support foster an environment conducive to sustained learning.

Based on the above framework, a paradigm will then be developed, namely a description of the relationship between the independent variable (X), the dependent variable (Y), and the moderator variable (M) as follows. The independent variable (X), is a skills competition, namely a skills program or competition held to improve the abilities and skills of employees in manufacturing companies. As the dependent variable (Y), employee learning motivation, namely the level of encouragement or desire of employees to continue learning and developing themselves when participating in skills competitions. And as a moderator variable (M) is the quality of the trainer which is a factor that moderates the relationship between skills competition and employee learning motivation, including experience, teaching methods, and trainer interaction skills.

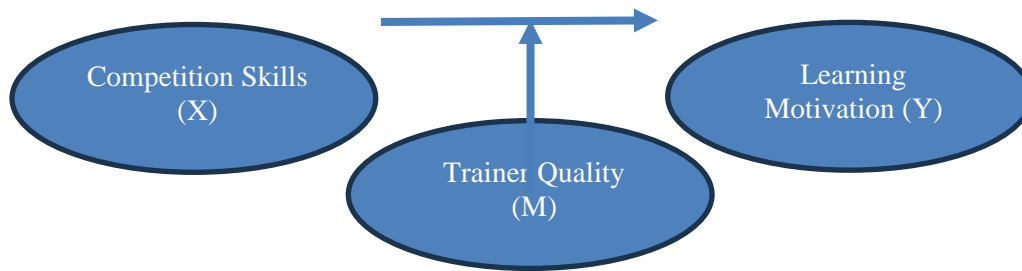


Figure 1. Theoretical Concept

In this chart, skill competition (X) is expected to have a direct influence on learning motivation (Y). Coach Quality (M) acts as a moderator variable, which can strengthen or weaken the effect of skill competition on learning motivation. If coach quality is high, the effect of skill competition on learning motivation will be more significant. This chart illustrates the relationship between the variables to be studied and the role of coach quality in moderating the effect of skill competition on employee learning motivation.

Based on the framework chart and the relationship between variables, the research hypotheses that can be proposed are as follows:

Hypothesis 1 (Effect of Skill Competition on Learning Motivation)

H0: Expertise competition has no significant influence on employee learning motivation in manufacturing companies.

H1: Skills competition has a significant positive influence on employee learning motivation in manufacturing companies.

Hypothesis 2 (Moderation of Coach Quality)

H0: Coach quality does not moderate the effect of skill competition on employee learning motivation.

H1: Coach quality moderates the effect of skill competition on employee learning motivation, where better coach quality strengthens the relationship between skill competition and learning motivation.

With this hypothesis, the study is expected to test whether skill competition directly affects employee learning motivation, as well as the role of coach quality in strengthening or weakening the relationship.

RESEARCH METHODS

This study uses an explanatory research approach, which aims to explain the causal relationship between the variables studied. According to (Creswell, 2018) explanatory research is an approach that focuses on hypothesis testing to determine the existence of a cause-and-effect

relationship between variables. In the context of this research, explanatory research is used to test whether skills competition as an independent variable has an influence on employee learning motivation, which is the dependent variable. In addition, this study also explores the role of coach quality as a moderator variable that can strengthen or weaken the relationship between skills competition and learning motivation. The population in this study is defined as all individuals or units that are the subject of study and have characteristics that match the established criteria. According to (Sekaran & Bougie, 2016), population is a collection of individuals or objects that are the target of researcher inference, whose data are collected for research purposes. Choosing the right population is very important to ensure that the research results can be generalized properly. The population in this study are employees of the manufacturing company PT Tjiwi Kimia Paper Mill, Tbk, who are currently or have participated in the skills competition. These employees were selected because they have direct experience with the skills competition program, which is the main variable in the study. Participant criteria can be explained as follows: Employees in the manufacturing company PT Tjiwi Kimia Paper Mill, Tbk. Participants came from various divisions or departments within the manufacturing company, thus reflecting a variety of work backgrounds and skills. Have participated or are currently participating in skills competitions Only employees who have experience of participating in skills competitions were included, as this study aims to measure the effect of such competitions on learning motivation. Diverse job titles and types of skills competitions Participating employees could cover a range of job titles and types of skills competitions, from operational, maintenance, support to managerial workers, to get a broader picture of the impact of skills competitions.

According to (Sekaran & Bougie, 2016), a “sample” is a part or subset of the population selected for study. In research, the sample represents a portion of the population as a whole, which allows researchers to draw conclusions or generalizations about the population based on the data obtained from the sample. Sample selection in this study was carried out using purposive sampling technique, namely selecting individuals who are considered to meet the criteria relevant to the research objectives. The research instrument used in this study is a questionnaire developed to measure the main variables, namely skill competition (independent variable), learning motivation (dependent variable), and coach quality (moderator variable). The questionnaire was developed based on relevant literature and supporting theories to ensure that the instrument can measure the variables accurately and reliably.

Each variable will be measured using a five-point Likert scale, where respondents are asked to state the extent to which they agree or disagree with the given statement, ranging from 1 (strongly disagree) to 5 (strongly agree). The use of this Likert scale was chosen because it is able to capture the level of perception or attitude of respondents in more detail. Expertise competition: This variable was measured based on respondents' experience in participating in skills competitions, with items covering aspects such as frequency of participation, level of difficulty of the competition, and the impact of the competition on improving their skills. Item development for this variable was based on the literature addressing the effectiveness of skills competitions in improving employee capabilities ((Tauer & Harackiewicz, 2004); (Murayama & Elliot, 2012)). Learning Motivation: To measure learning motivation, the questionnaire will include items reflecting intrinsic and extrinsic motivation, such as the drive to learn due to curiosity, the desire to improve performance, and external incentives. These items were developed with reference to motivation theory, particularly the theory of intrinsic and extrinsic motivation proposed by (Ryan & Deci, 1985)

Trainer Quality: The trainer quality variable will be measured based on employees' perceptions of the trainer's ability to provide effective training. Items include aspects such as communication skills, trainer experience, teaching methods used, and ability to provide

feedback. The development of these items is based on the literature on trainer effectiveness in the context of employee training (Chiaburu & Tekleab, 2005).

Instrument Validity and Reliability Test. Before being used for the main data collection, the research instruments will be tested for validity and reliability to ensure measurement quality. **Validity Test:** Validity tests are conducted through exploratory factor analysis (EFA) to ensure each item measures the appropriate construct. In addition, convergent validity and discriminant validity will be tested to ensure that items have high correlation with the measured construct and low with other different constructs. **Reliability Test:** The reliability of the instrument is tested using Cronbach's alpha to assess the internal consistency of each scale. Cronbach's alpha values above 0.7 are considered to indicate a good level of reliability, while values above 0.8 indicate excellent reliability.

Pilot Testing Process. Prior to the widespread distribution of the questionnaire, pilot testing was conducted on a small number of respondents who had similar characteristics to the research sample. The purpose of pilot testing is to evaluate the clarity of the questions, the time taken to complete the questionnaire, and to identify potential problems or biases in the instrument. The results of the pilot testing will be used to improve the questionnaire prior to the main data collection.

Instrument Revision and Finalization. Based on the results of validity, reliability, and pilot testing, the research instrument will be revised if invalid or unreliable items are found. Revisions are made to correct or replace items that do not meet the criteria, thus ensuring that the questionnaire used is really able to measure the research variables properly.

Data Collection Technique. This study uses a quantitative approach with data collection techniques through questionnaires distributed online to employees of PT Tjiwi Kimia Paper Mill, Tbk. who have participated in the skills competition program. The data collection instrument in the form of a questionnaire was designed with a Likert scale to measure respondents' perceptions related to the research variables, namely employee learning motivation, trainer quality, and experience in participating in the skills competition.

To ensure the quality of the instrument used, the questionnaire will be tested for validity and reliability before distribution. Validity tests are conducted using factor analysis to ensure that each item in the questionnaire accurately measures the intended construct, while instrument reliability is measured using Cronbach's alpha to assess the internal consistency of each scale. In addition to the questionnaire, the study will also involve in-depth interviews with selected respondents to deepen the understanding of their experience in participating in skills competitions and the influence of coach quality on learning motivation. This interview method aims to complement and validate the quantitative data obtained from the questionnaire.

This data collection technique is expected to generate comprehensive data, covering various perspectives of employees from different divisions and job levels. Demographic data such as age, division of work, and length of service will also be collected to analyze differences in respondent characteristics.

Data Analysis Technique. Data analysis in this study will be conducted using Minitab software with an inferential statistical approach. Two hypotheses will be tested to assess the effect of skills competition on learning motivation and the moderating role of coach quality in the relationship. The data analysis techniques used include linear regression and moderation analysis with interaction variables.

Linear Regression Analysis to Test Hypothesis 1. The first hypothesis tested the direct effect of skills competition on employee learning motivation. To test this relationship, a simple linear regression analysis will be conducted with Minitab. Linear regression is a technique used to model the relationship between one independent variable (skill competition) and one dependent variable (learning motivation), and to determine whether the independent variable

significantly predicts the dependent variable (Montgomery & G. Geoffrey Vining, 2012) The analysis steps include: Inputting skill competition data as the independent variable and learning motivation as the dependent variable. Conducting regression analysis to determine the regression coefficient and its significance. Interpreting the p-value to determine whether skills competition has a significant effect on learning motivation, with the significance level set at $\alpha = 0.05$. If the p-value is less than 0.05, then H₀ (skill competition has no significant effect on learning motivation) will be rejected, and H₁ (skill competition has a positive significant effect on learning motivation) accepted, indicating a significant effect.

Moderation Analysis to Test Hypothesis 2. The second hypothesis tested whether coach quality moderates the effect of skill competition on learning motivation. To test for moderation, a moderation regression analysis will be conducted with Minitab, which involves the following steps: Constructing an interaction variable by multiplying the values of skill competition and coach quality to produce a new interaction variable (skill competition \times coach quality). Conducting multiple regression analysis by including skill competition, coach quality, and the interaction variable as predictors, and learning motivation as the dependent variable (Aiken & West, 1991) Test the significance of the coefficient of the interaction variable to determine whether coach quality significantly moderates the relationship between skill competition and learning motivation. If the coefficient of the interaction variable is significant ($p < 0.05$), then H₀ (coach quality does not moderate the effect of skill competition) will be rejected, and H₁ (coach quality moderates the effect of skill competition) will be accepted. This suggests that the effect of skill competition on learning motivation varies according to the level of coach quality. This approach will provide comprehensive insights into the effect of skill competition on employee learning motivation and the moderating role of trainer quality in the relationship, which can be used to develop practical recommendations for companies to design more effective training programs.

RESULT AND DISCUSSION

PT Tjiwi Kimia Paper Mill initiated several skill competitions as part of the strategy to improve employees' skills and learning speed in a competitive work environment. This skill competition program, which involves various departments such as Maintenance, Production, Quality Control (QC), and Supporting is designed to improve technical capabilities while motivating employees to be more proactive in their competency development. As a continuation of the existing employee training program, the competition aims to create a dynamic learning environment, where employees can demonstrate and develop their skills through competitive skills test evaluations. There are nine types of competitions held, including Change Format Machine EB Skill Competition, Machine PAD GNB Skill Competition, Machine PADB/SMB Skill Competition, Machine Legal PAD Skill Competition, OHC Skill Competition, Forklift Skill Competition, QC Writing Product Skill Competition, Alignment Skill Competition, and Guide System Skill Competition. Each of these competitions is designed to assess specific technical skills relevant to employees' daily tasks while motivating them to continue learning and innovating. From the total 269 employees who participated in these competitions, 114 participated in filling out the research questionnaire. The data obtained from this questionnaire was then analyzed to evaluate the effect of the skills competition on employee learning motivation, as well as the quality of the trainer as a moderator variable in enhancing such motivation.

Based on the results of the Exploratory Factor Analysis (EFA) conducted with Minitab software, it can be concluded that the questionnaire instrument has good validity, with one main

factor explaining about 61.8% of the total variance. This indicates that the questionnaire effectively measures the main construct to be analyzed, namely the effect of skills competition on learning motivation, with coach quality as a moderator. Based on the reliability test using Cronbach's alpha, a value of 0.955 was obtained. This value indicates that the questionnaire instrument has excellent internal consistency and is suitable for measuring the variables analyzed in this study. Linear Regression Analysis Process to Test Hypothesis 1. Linear regression analysis steps to test the first hypothesis regarding the direct effect of skill competition on employee learning motivation.

Analysis Steps, Independent and Dependent Variables:

The independent variable in this analysis is skill competition, which is measured by the average score of several related questionnaire items (X1 - X4). The dependent variable is employee learning motivation, which is measured by the average score of the relevant questionnaire items (Y1 - Y6). Conducting Linear Regression Analysis: Simple linear regression analysis was conducted to model the relationship between skills competition and learning motivation. This analysis uses the Ordinary Least Squares (OLS) technique to determine how strong and significant the effect of skill competition is on learning motivation.

Determining the Significance of the Effect: The p-value will be evaluated to determine whether the effect of skill competition on learning motivation is significant at the $\alpha = 0.05$ level of significance. If the p-value is less than 0.05, the null hypothesis (H0), which states that skills competition has no significant effect on learning motivation, will be rejected, and the alternative hypothesis (H1), which states that there is a significant effect, will be accepted. Results of Linear Regression Analysis, After conducting regression analysis using Minitab software, the following results were obtained Coefficient of Determination (R-squared): 0.683, indicating that 68.3% of the variation in employee learning motivation can be explained by skill competition. This indicates that the model has a fairly good fit in describing the effect of the independent variable on the dependent variable.

Regression Coefficient for Expertise Competition: 0.938, with p-value <0.001 . This value indicates that skill competition has a significant positive influence on learning motivation. Each one unit increase in the skill competition score is associated with a 0.938 unit increase in learning motivation. P-value and Conclusion: With a p-value much smaller than 0.05, the null hypothesis (H0) can be rejected. Therefore, the alternative hypothesis (H1) is accepted, which states that skill competition has a positive significant effect on learning motivation. Based on simple linear regression analysis, the results show that skill competition has a significant positive influence on employee learning motivation (R-squared = 0.683, coefficient = 0.938, $p < 0.001$). This indicates that the higher the employees' involvement in skills competition, the higher their level of learning motivation. This finding supports the first hypothesis and is in line with previous research which states that competition programs can increase learning motivation through intrinsic and extrinsic motivation (Montgomery & G. Geoffrey Vining, 2012)

Moderation Analysis Process to Test Hypothesis 2. Moderation analysis of coach quality as a moderator variable on the relationship between skills competition and employee learning motivation. The following is a complete explanation according to the steps of the Interaction Variable Building Analysis steps: Skill Competition variable is formed from the average score of four items (X1 - X4). The Trainer Quality variable is formed from the average score of six items (T1 - T6). The interaction variable Interaction_Term was created by multiplying the scores of Skill Competition and Trainer Quality.

Multiple Regression Analysis: Multiple regression was conducted by including Skill Competition, Trainer Quality, and Interaction_Term as predictor variables, and Learning Motivation as the dependent variable. The purpose of this analysis is to test whether the

interaction between skill competition and trainer quality has a significant effect on learning motivation.

Significance of Interaction Variable Coefficient: The significance test of the interaction variable coefficient was conducted to determine whether coach quality moderates the effect of skill competition on learning motivation at a significance level of $\alpha = 0.05$. Moderation Analysis Results, Coefficient of Determination (R-squared): 0.730. This indicates that 73% of the variation in employee learning motivation can be explained by a model that includes skill competition, coach quality, and the interaction between the two. This indicates a strong model in explaining the influence of these variables. Coefficient of Interaction Variable: 0.271, with p-value = 0.034. As the p-value is less than 0.05, this result is statistically significant, meaning that coach quality moderates the effect between skill competition and learning motivation. The positive coefficient of this interaction indicates that higher trainer quality strengthens the effect of skill competition on learning motivation. Coefficient of Skill Competition and Trainer Quality: Skill Competition has a coefficient of -0.566 ($p > 0.05$) in this model, which is not significant when the interaction variable is included.

o Trainer Quality has a coefficient of -0.952 ($p > 0.05$), which is also insignificant in this model without accounting for interactions. This indicates that these variables are independently insignificant, but the interaction between them exerts a significant influence on learning motivation.

Discussion

Based on the moderation analysis, coach quality significantly moderates the effect of skills competition on employee learning motivation ($p = 0.034$). This result supports the second hypothesis that the effect of skill competition on learning motivation varies depending on the level of coach quality. This finding suggests that the role of quality trainers can strengthen employee learning motivation through skill competitions, providing practical implications for companies in designing training programs and competitions. Based on research conducted at PT Tjiwi Kimia Paper Mill, Tbk in 2024, which focuses on the effect of skill competition on employee learning motivation, as well as the role of trainer quality as a moderator variable, several important findings were obtained that can be used as a basis for decision making in the design of training programs in companies.

The Effect of Skill Competition on Employee Learning Motivation

This study found that skill competition has a significant positive influence on employee learning motivation. The results of the linear regression analysis show that 68.3% of the variation in employee learning motivation can be explained by participation in skills competitions, with a regression coefficient of 0.938 ($p < 0.001$). This means that the higher the involvement of employees in the skills competition, the greater their drive to learn and develop skills. Skill competitions create a dynamic and competitive learning environment, which can increase employees' intrinsic and extrinsic motivation. This finding is in line with theory and previous research which suggests that a healthy competitive environment can stimulate learning motivation (Montgomery & G. Geoffrey Vining, 2012)

The Role of Coach Quality as a Moderator

In addition to examining the direct effect of skill competition, this study also explored the role of coach quality as a moderator variable. The moderation analysis results showed that coach quality significantly moderated the relationship between skill competition and learning motivation, with an interaction coefficient of 0.271 and a p-value of 0.034. This indicates that higher coach quality strengthens the positive influence of skill competition on employee learning motivation. In other words, employees who were guided by qualified trainers in the skills competition showed higher levels of learning motivation than those who were guided by lower quality trainers. This finding suggests that the role of a competent trainer is not only as a teacher,

but also as a mentor who is able to increase employees' confidence and engagement in the learning process.

Consistency and Validity of Research Instruments

In the validity and reliability tests, the questionnaire instrument showed excellent results. Exploratory Factor Analysis (EFA) identified that the instrument had strong validity, with one main factor explaining approximately 61.8% of the total variance. Reliability testing using Cronbach's alpha yielded a value of 0.955, indicating excellent internal consistency. Therefore, the questionnaire used is reliable to measure the constructs analyzed in this study, namely skill competition, learning motivation, and coach quality as moderator variables.

The findings of this study provide several practical implications for companies in designing effective training programs: **Increased Skill Competition:** Based on the results of the study, the skill competition program proved to be effective in increasing employees' learning motivation. Therefore, PT Tjiwi Kimia Paper Mill, Tbk is recommended to maintain and expand skill competition as part of the employee skill development strategy. **Selection of Qualified Trainers:** The quality of trainers has a significant moderating influence, so it is important for companies to select trainers who are competent, not only in technical aspects but also in communication and motivation skills. Qualified trainers can serve as effective facilitators in skill competition programs, strengthening employees' learning motivation. **Development of a Competition-Based Training Program:** The results of this study suggest that skill competitions can be an effective tool to improve employee skills and motivation. Therefore, companies can consider designing more competition-based training programs that are relevant and in line with the skill needs of each department. This study has several limitations that need to be considered. First, the research sample is limited to one company, namely PT Tjiwi Kimia Paper Mill, Tbk, so the results may not be generalizable to the entire manufacturing industry. Second, this study only used a quantitative approach; a qualitative approach such as in-depth interviews with employees or trainers might provide deeper insights into the dynamics of the relationship between skills competition, trainer quality, and learning motivation.

For future research, it is recommended to expand the sample coverage to other companies in the manufacturing sector or other industry sectors to see if these findings are consistent across different contexts. In addition, using mixed methods (quantitative and qualitative) may provide a more comprehensive understanding of the factors that influence employee learning motivation.

CONCLUSION

Overall, this study concludes that skills competition has a significant effect on employee learning motivation, with trainer quality acting as a moderator that strengthens the relationship. The quantitative findings revealed that skill competition accounted for 68.3% of the variation in employee learning motivation ($R^2 = 0.683$, $p < 0.001$), while the interaction between skill competitions and trainer quality further enhanced the relationship (interaction coefficient = 0.271 $p = 0.034$).

These results highlight that skill competitions create an engaging and dynamic environment that fosters both intrinsic and extrinsic motivation among employees. The presence of high-quality trainers amplifies this effect by providing effective guidance, feedback, and motivation to participants which ultimately support greater learning outcomes. This finding reinforces the importance of having skilled trainers who are capable of aligning training objectives with employee development goals.

The insights from this study suggest that companies should continue to develop competition-based training programs as part of their employee development strategies. By integrating these

programs with strong support from qualified trainers, organizations can enhance employee competencies, boost learning motivation, and improve overall productivity and competitiveness in the manufacturing sector.

REFERENCES

- Aguinis, H., & Kraiger, K. (2009). Benefits of training and development for individuals and teams, organizations, and society. *Annual Review of Psychology*, 60(1), 451–474. <https://doi.org/10.1146/annurev.psych.60.110707.163505>
- Aiken, L. S., & West, S. G. (1991). *Multiple regression : testing and interpreting interactions*. Sage Publications.
- Bell, B. S., Tannenbaum, S. I., Ford, J. K., Noe, R. A., & Kraiger, K. (2017). 100 years of training and development research: What we know and where we should go. *Journal of Applied Psychology*, 102(3), 305–323. <https://doi.org/10.1037/apl0000142>
- Chiaburu, D. S., & Tekleab, A. G. (2005). Individual and contextual influences on multiple dimensions of training effectiveness. *Journal of European Industrial Training*, 29(8), 604–626. <https://doi.org/10.1108/03090590510627085>
- Creswell, J. W. (2018). *Research design* (Fifth Edition).
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (2000). Constructive controversy: the educative power of intellectual conflict. *Change: The Magazine of Higher Learning*, 32(1), 28–37. <https://doi.org/10.1080/00091380009602706>
- Li, C., Huang, J., Wang, J., Yang, J., & Tian, G. (2019). Study and practice on skills competition help vocational education students growing up. *IOP Conference Series: Materials Science and Engineering*, 573(1), 012073. <https://doi.org/10.1088/1757-899X/573/1/012073>
- Montgomery, D. C., & G. Geoffrey Vining. (2012). *Introduction to linear regression analysis* (5th ed). John Wiley & Sons.
- Murayama, K., & Elliot, A. J. (2012). The competition–performance relation: a meta-analytic review and test of the opposing processes model of competition and performance. *Psychological Bulletin*, 138(6), 1035–1070. <https://doi.org/10.1037/a0028324>
- Nadeem K. (2021). *The impact of employee training and development Innovative training approaches*. <https://www.abacademies.org/articles/the-impact-of-employee-training-and-development-innovative-training-approaches-12309.html>
- Noe & Kodwani. (2018). Employee training and development. In *Human Resource Development Quarterly* (Issue 2). McGraw Hill Education. <https://doi.org/10.1002/hrdq.21333>
- Núñez, J. L., & León, J. (2016). The mediating effect of intrinsic motivation to learn on the relationship between student’s autonomy support and vitality and deep learning. *The Spanish Journal of Psychology*, 19, E42. <https://doi.org/10.1017/sjp.2016.43>
- Ryan, R. M., & Deci, E. L. (1985). *Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being Self-Determination Theory*. Ryan.
- Salas, E., Tannenbaum, S. I., Kraiger, K., & Smith-Jentsch, K. A. (2012). The science of training and development in organizations. *Psychological Science in the Public Interest*, 13(2), 74–101. <https://doi.org/10.1177/1529100612436661>
- Sekaran, U., & Bougie, R. (2016). *Research methods for business*. www.wileypluslearningspace.com
- Skinner, B. F. (1938). The behavior of organisms: an experimental analysis. In *The behavior of organisms: an experimental analysis*. Appleton-Century.
- Tannenbaum, S. I., & Yukl, G. (1992). Training and development in work organizations. *Annual Review of Psychology*, 43(1), 399–441. <https://doi.org/10.1146/annurev.ps.43.020192.002151>

Tauer, J. M., & Harackiewicz, J. M. (2004). The effects of cooperation and competition on intrinsic motivation and performance. *Journal of Personality and Social Psychology*, 86(6), 849–861. <https://doi.org/10.1037/0022-3514.86.6.849>

Wharton Online. (2023). *How professional development can boost employee engagement*. <https://Online.Wharton.Upenn.Edu/Blog/How-Professional-Development-Boosts-Employee-Engagement/>.