

Research Article

Work Motivation as a Mediator of Distributed Leadership, Competence, and Job Satisfaction on Employee Productivity

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Abstract

Employee productivity remains a key organizational challenge in manufacturing companies, particularly when leadership practices, employee competence, and job satisfaction do not consistently translate into productive work outcomes. This study examines the effects of distributed leadership, competence, and job satisfaction on employee productivity through work motivation at PT Kondobo Textindo. The study addresses the research gap by integrating these organizational and employee-related factors within a single framework, positioning work motivation as an intervening mechanism. A quantitative approach was employed using questionnaire data from 112 employees. Data were analyzed using Structural Equation Modeling (SEM) with SPSS and LISREL. The results show that distributed leadership does not significantly affect employee productivity but positively and significantly affects work motivation. Competence and job satisfaction positively and significantly affect both employee productivity and work motivation, while work motivation positively and significantly affects employee productivity. The findings indicate that work motivation provides an important mechanism through which leadership practices, competence, and job satisfaction contribute to productivity. The study contributes to human resource management literature by integrating these variables into a unified productivity framework and provides managerial implications for strengthening collaborative leadership, developing employee competence, improving job satisfaction, and fostering work motivation to support productivity improvement.

Keywords: Distributed Leadership; Competence; Job Satisfaction; Work Motivation; Employee Productivity.

JEL Classification: M12; M54; M85

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1. Introduction

Employee productivity is a key factor in organizational effectiveness and business sustainability because it reflects an organization's ability to use its human resources efficiently to achieve targeted outputs. Productivity is not limited to the quantity of work produced; it also involves work quality, attendance, discipline, skills, cooperation, and the efficient use of organizational resources.

In increasingly competitive business environments, organizations are required to optimize employee capabilities while maintaining conditions that encourage employees to contribute effectively to organizational objectives. Previous research shows that employee productivity is influenced by individual and organizational factors, including competence and work motivation, suggesting that productivity is a multidimensional outcome of human resource management (Lo & Setyawan, 2023; Sari & Krisnandi, 2023).

Leadership is an important organizational factor that can shape employee attitudes and work outcomes. One leadership approach that has received increasing attention is distributed leadership, in which leadership responsibilities are not concentrated exclusively in a formal leader but are shared among organizational members through collaboration, participation, trust, and shared responsibility. This approach can increase employee involvement in decision-making and work processes, potentially strengthening motivation and contributions to organizational objectives. Recent empirical evidence indicates that distributed leadership is associated with several performance-related employee outcomes, including employee attitudes and innovative work behavior (Jakobsen et al., 2023). Therefore, distributed leadership offers an important perspective on how organizational leadership practices may contribute to employee productivity.

Employee competence represents another important determinant of productivity. Competence refers to the knowledge, skills, self-concept, and personal characteristics employees need to perform their responsibilities effectively. Employees whose competencies are aligned with their job requirements are generally better positioned to understand tasks, solve work-related problems, minimize errors, and achieve organizational targets. Competence may also influence employees' motivation because employees who possess adequate knowledge and skills may feel more capable and confident in performing their work. Sari and Krisnandi (2023) found that competence is positively related to work motivation and employee productivity, showing that competence can contribute to productivity both directly and through motivational mechanisms.

Job satisfaction is also an important consideration in managing employee productivity. Job satisfaction reflects employees' positive or negative evaluations of their work and various aspects of the employment relationship, including organizational policies, compensation, supervision, work processes, and workplace relationships. Employees who perceive that organizational conditions meet their expectations may develop more positive attitudes toward their jobs, which can encourage greater motivation and work involvement. Recent research indicates that job satisfaction and work motivation are key factors in explaining employee productivity, suggesting that organizations should consider both employees' capabilities and their perceptions of the work environment when seeking to improve productivity (Permatasari et al., 2025).

Work motivation provides an important mechanism through which leadership, competence, and job satisfaction may influence employee productivity. Motivation encourages employees to direct their effort toward organizational goals, maintain persistence, and complete assigned responsibilities. Consequently, motivation can serve as an intervening mechanism linking organizational and individual factors to employee productivity. Previous research has shown that competence can contribute to work motivation and that motivation can subsequently contribute to employee productivity (Dichiara & Farida, 2025). Similarly, Lo and Setyawan (2023) demonstrated the importance of competency and motivation in explaining productivity, supporting the argument that productivity is determined not only by employees' capabilities but also by their willingness and motivation to apply those capabilities in the workplace.

These issues are particularly relevant to PT. Kondobo Textindo, where employee management involves challenges related to workforce movement, employee welfare, competence alignment, and productivity. The documented organizational conditions indicate that employee movement, particularly among factory workers, can be relatively high, requiring the company to continuously prepare and train new workers. In addition, although the company provides welfare benefits that are generally considered adequate, some employees perceive that their welfare does not fully meet their individual expectations. From a competence perspective, employees with diploma or undergraduate backgrounds are not always placed in positions that fully match their competencies.

These conditions suggest that employee productivity may be influenced by the interaction among employee competence, job satisfaction, leadership practices, and motivational factors.

The connection between these variables is also backed by findings from past study done at PT. Kondobo Textindo. The study treated distributed leadership, competence, and job satisfaction as starting factors, work motivation as a middle factor, and employee productivity as the final outcome. The study found that distributed leadership didn't greatly affect employee productivity directly, but it did positively influence work motivation. Competence and job satisfaction helped increase both employee productivity and work motivation, and work motivation also helped boost employee productivity. These results suggest that the link between leadership and productivity might be because of motivation, not just because of direct influence.

From a research-gap perspective, previous studies have generally examined competence, motivation, job satisfaction, or leadership as determinants of employee performance and productivity, but differences remain in the variables, relationships, and organizational contexts investigated. For example, Lo and Setyawan (2023) examined employee productivity through work motivation and competence, while Sari and Krisnandi (2023) examined competence, technology digitalization, and work environment through work motivation. Meanwhile, Jakobsen et al. (2023) focused on distributed leadership and performance-related employee outcomes. These studies provide valuable evidence regarding individual relationships but leave an opportunity to integrate distributed leadership, competence, and job satisfaction within a single framework in which work motivation explains the mechanism connecting these factors to employee productivity.

Therefore, this study wants to look at how distributed leadership, competence, and job satisfaction affect employee productivity through work motivation at PT. Kondobo Textindo. The study looks at how distributed leadership, employee competence, and job satisfaction influence their productivity and motivation at work. It also checks how work motivation affects their productivity. The study should help managers by showing which factors related to the organization and its workers are important when trying to boost productivity. These results could help managers work better together as leaders, help employees get better at their jobs, make them happier at work, and encourage them to be more enthusiastic about their tasks.

The novelty of this study lies in integrating distributed leadership, competence, and job satisfaction into a single model of employee productivity with work motivation positioned as an intervening variable. Rather than examining these variables independently, the study considers how organizational leadership practices and employee-related factors can operate together and how motivation may explain their relationship with productivity. This integrated framework contributes empirically to the human resource management literature, particularly in manufacturing organizations, while also offering practical implications for organizations seeking to improve employee productivity through a combination of leadership, competence development, job satisfaction, and motivational practices.

2. Literature Review and Hypothesis

Literature Review

Distributed Leadership

Distributed leadership refers to a leadership approach in which leadership responsibilities, influence, and decision-making are shared among multiple organizational members rather than concentrated exclusively in a formal leader. The concept emphasizes interaction, collaboration, participation, and the distribution of leadership practices across individuals and organizational levels. Bolden (2011) explains that distributed leadership views leadership as a social and relational process rather than merely an individual attribute of a formal leader. Similarly, Gronn (2002) describes distributed leadership as a pattern in which leadership activities emerge through interactions among several organizational actors. Distributed leadership also emphasizes collaboration and employee participation in organizational processes. Leadership is therefore not limited to directing employees but involves creating opportunities for employees to contribute to decision-making and organizational development. Spillane (2006) argues that leadership practice

emerges from interactions among leaders, followers, and situations. In this perspective, employees are not simply recipients of leadership but can also become active participants in leadership processes. The distribution of leadership responsibilities may influence employees' perceptions of their work environment and organizational roles. When employees are given opportunities to participate, communicate, and contribute to organizational decisions, leadership becomes a collective process that can shape employee attitudes and behaviors. Recent empirical research has shown that distributed leadership is associated with employee outcomes such as job satisfaction and innovative behavior, although the strength of these relationships may depend on organizational and individual conditions (Jakobsen et al., 2023).

Competence

Competence is about the knowledge, skills, abilities, personal traits, and ways people behave that help them do their job well. That competence is a basic feature of a person that causes them to perform effectively and excellently according to certain standards. So, being competent isn't just about knowing the technical stuff; it also means having the right qualities that help someone do their job reliably every time. Competence can be seen in different ways, like knowing things, being able to do things, how someone sees themselves, their natural qualities, and what drives them. These dimensions show how employees see their jobs, figure out solutions, choose what to do, and deal with work challenges. Highlight that employee skills and abilities are key parts of good human resource management because they affect how well employees can do their jobs in the organization. In a workplace, workers who are skilled and capable can use their knowledge and abilities more effectively to do their jobs. Competence gives employees the tools they need to handle changes and different job demands. Research shows that having strong work skills is linked to being more motivated, performing better at work, and being more productive (Wahab et al., 2023; Mailoa & Kanto, 2023).

Job Satisfaction

Job satisfaction is how someone feels about their job, whether they like it or not, and the emotions they have towards their work. Locke in 1976 explains that job satisfaction is a happy or positive feeling that comes from evaluating your job or the experiences you have at work. Job satisfaction shows how happy employees are with different parts of their job, like the work they do, how much they're paid, how they get along with coworkers and bosses, the rules and policies of the company, and chances to learn and grow. Herzberg and his team in 1959 identified two types of factors that influence how employees feel about their jobs: motivational factors and hygiene factors. Things like feeling accomplished, getting noticed, having important tasks, and moving up in your job can make someone feel good about their work. But if the work environment, pay, how they are managed, or the rules of the company are not good enough, it can lead to being unhappy at work. This difference shows that how happy employees are depends on both the nature of their job and the environment they work in. Job satisfaction is a key part of how employees feel about their work because people who enjoy their jobs tend to have better feelings about their tasks and responsibilities. Studies done so far have shown that job satisfaction is a major factor that affects how well employees perform, stay motivated, and are productive (Simarmata et al., 2023; Prabowo & Herawati, 2023).

Work Motivation

Work motivation is about the inner feelings and drives that make someone start, focus on, and keep going with their efforts to reach goals at work. Explain that motivation refers to the processes that explain how hard someone tries, which way they focus their efforts, and how long they keep going in order to achieve a goal. Motivation not only affects whether employees put in effort but also decides where they focus their effort and how long they keep trying. Self-Determination Theory explains the difference between motivation that comes from within and motivation that comes from outside. Intrinsic motivation comes from enjoying the activity itself and feeling good about doing it. Extrinsic motivation is driven by rewards or results that come from outside the activity, like money or praise (Deci & Ryan, 2000). Both types of motivation can influence how willing employees are to put in their effort to finish their work tasks at the organization. Motivation is also connected to how employees act at work and how well they perform. Employees who are more

motivated are usually seen as putting in more effort and staying determined when they have to finish their work. Studies show that when workers are motivated, they tend to perform better and be more productive. For example, a study that looked at a lot of research over time found that being motivated at work is linked to better job performance later on (Wang et al., 2024).

Work Productivity

Work productivity represents the relationship between the resources used in performing work and the outputs generated by employees. Productivity therefore reflects the extent to which employees can produce desired outputs efficiently and effectively. Conceptualize productivity as a multidimensional construct that links inputs and outputs with several organizational performance dimensions. Employee productivity depends on individual capabilities and organizational conditions. Employees require adequate knowledge, skills, motivation, and supportive working conditions to transform organizational resources into work outputs. Consequently, productivity cannot be understood solely by output quantity but also by the efficiency, quality, timeliness, and effectiveness of work processes. Recent empirical research indicates that employee productivity is associated with competence and motivation. Mailoa and Kanto (2023) found that work competence positively affects work productivity and that work motivation also contributes positively to productivity. Similarly, Mubarrok et al. (2024) found positive effects of both competence and motivation on employee productivity.

Hypothesis

The Effect of Distributed Leadership on Work Productivity

Distributed leadership provides employees with opportunities to participate in leadership activities, decision-making, and organizational problem-solving. From a distributed leadership perspective, leadership is considered a collective process in which influence and responsibilities are shared among organizational members (Gronn, 2002; Spillane, 2006). Such participation can create conditions that enable employees to contribute more actively to organizational objectives. Empirical research shows that shared or distributed leadership can be related to employee and team performance. Karriker et al. (2017) found a positive relationship between shared leadership and team performance. Jakobsen et al. (2023) also found relationships between distributed leadership and performance-related employee outcomes, including innovative behavior. More recent evidence from university settings indicates that distributed leadership can significantly enhance employee job performance through dimensions such as empowerment, collaborative decision-making, participation, and resource support 2025 study.

H1: Distributed leadership positively affects work productivity.

The Effect of Distributed Leadership on Work Motivation

Distributed leadership can strengthen employees' motivation by providing opportunities for participation, autonomy, recognition, and involvement in organizational processes. When employees are trusted to contribute to decision-making and leadership activities, they may perceive greater ownership of their work and become more willing to invest effort in achieving organizational goals. Research on leadership distribution and employee psychological outcomes supports the relationship between distributed leadership and motivation. Found that teacher work motivation plays an important role in the relationship between distributed leadership and professional learning. Similarly, Jakobsen et al. (2023) show that distributed leadership is associated with employee outcomes that reflect positive work attitudes. More recent research by Ma and Marion (2026) identifies work motivation as a mechanism through which distributed leadership affects job satisfaction. Research on distributed leadership and intrinsic and extrinsic motivation also indicates that motivation can serve as an important mechanism linking distributed leadership to organizational outcomes.

H2: Distributed leadership positively affects work motivation.

The Effect of Competence on Work Productivity

Competent employees possess the knowledge and skills required to perform their responsibilities efficiently. From a competence perspective, employees with appropriate knowledge, skills, and personal characteristics are better equipped to complete tasks and solve work-related problems.

Argue that competence is fundamentally related to effective and superior performance. Empirical research consistently demonstrates the relevance of competence to employee productivity. Mailoa and Kanto (2023) found that work competence positively and significantly affects work productivity. Sari and Krisnandi (2023) also examined competence as a determinant of employee productivity and incorporated work motivation as an intervening mechanism. Mubarrok et al. (2024) found that competence positively and significantly affects employee productivity. In addition, Wahab et al. (2023) found that competence contributes positively to employee outcomes and is significantly related to work motivation and performance.

H3: Competence has a positive effect on work productivity.

The Effect of Competence on Work Motivation

Competence relates not only to employees' ability to perform tasks but also to their psychological willingness to engage in work. Employees who understand their responsibilities and have adequate skills may feel more confident completing their tasks. Such confidence can encourage employees to exert greater effort and sustain their motivation. Several studies have demonstrated an empirical relationship between competence and work motivation. Wahab et al. (2023) found that competence positively and significantly affects work motivation. Sari and Krisnandi (2023) similarly incorporated competence and work motivation into a productivity model and demonstrated the relevance of motivation as an intervening mechanism. Dichiara and Farida (2025) found that competence positively affects motivation in their study of employees at PT HK Realtindo. Qomari and Claudia (2023) also found that work competence significantly affects work motivation among non-civil servant government employees.

H4: Competence has a positive effect on work motivation.

The Effect of Job Satisfaction on Work Productivity

Job satisfaction reflects employees' positive evaluations of their work and work experiences. According to Locke (1976), satisfaction results from an individual's appraisal of how well the job fulfills important values. When employees perceive that their work provides desirable conditions and outcomes, they may develop more positive attitudes toward their responsibilities. Positive job attitudes can support employees' willingness to perform their tasks effectively. Simarmata et al. (2023) found that job satisfaction affects employee productivity. Tarigan and Tresia (2023) also found that job satisfaction positively and significantly affects employee performance. Prabowo and Herawati (2023) demonstrated that job satisfaction contributes significantly to employee performance and is related to work motivation. Likewise found that job satisfaction has a positive and significant effect on employee performance.

H5: Job satisfaction has a positive effect on work productivity.

The Effect of Job Satisfaction on Work Motivation

Job satisfaction and work motivation are closely connected because employees' perceptions of their work may influence their willingness to exert effort. A satisfying work environment can strengthen positive attitudes toward work, while positive work experiences can encourage employees to remain involved in organizational activities. Empirical evidence supports this relationship. Prabowo and Herawati (2023) found that job satisfaction has a significant role in fostering work motivation among nurses. Identifies job satisfaction and work motivation as important variables in explaining employee performance. Found a relationship between work motivation and job satisfaction among employees in Central Jakarta. More recently, Ma and Marion (2026) demonstrated that work motivation forms part of the mechanism linking distributed leadership to job satisfaction, reinforcing the interconnectedness of leadership, motivation, and satisfaction in organizational settings.

H6: Job satisfaction positively affects work motivation.

The Effect of Work Motivation on Work Productivity

Work motivation represents the psychological force that directs and sustains employees' effort toward organizational objectives. From the perspective of Self-Determination Theory, motivation influences the degree to which individuals willingly engage in and persist with their activities (Deci & Ryan, 2000). Therefore, motivated employees are expected to invest greater effort in completing

their responsibilities. Empirical research strongly supports the relationship between motivation and productivity or performance. Wang et al. (2024), through a meta-analytic review of longitudinal studies, found that work motivation positively predicts subsequent job performance. Mailoa and Kanto (2023) found that work motivation positively and significantly affects work productivity. Mubarrok et al. (2024) also found a significant positive effect of motivation on employee productivity. In addition, reported that work motivation positively and significantly influences employee productivity.

H7: Work motivation has a positive effect on work productivity.

3. Data and Method

Population and Sampling

This study employed a quantitative research design to examine the effects of distributed leadership, competence, and job satisfaction on employee productivity, with work motivation as an intervening variable. The study population comprised all employees of PT. Kondobo Textindo, located in Cipeundeuy, Subang, West Java. The population size was based on the total number of employees during the data collection period; however, the available research documentation does not specify the exact population size. The sampling procedure was based on the requirements of Structural Equation Modeling (SEM). Following Ferdinand (2014), the required sample size was determined by consideration of the number of indicators in the research model. The model contains 16 indicators, resulting in a final sample of 112 employees. The manuscript does not provide the number of questionnaires distributed, the number returned, or the resulting response rate; therefore, the response rate should be reported when these data are available.

Research Variables and Measurement

The study examined five variables: distributed leadership, competence, job satisfaction, work motivation, and work productivity. Distributed leadership, competence, and job satisfaction were specified as exogenous variables, work motivation as an intervening variable, and work productivity as the endogenous variable. Distributed leadership refers to a leadership approach in which tasks, responsibilities, influence, and leadership roles are shared among organizational members. It was measured using indicators related to collaboration, creativity, trust, and the distribution of leadership tasks and responsibilities (Agatha & Saragih, 2015). Competence refers to the capabilities required by employees to perform their jobs effectively and was measured through knowledge, expertise, self-concept, personal characteristics, and motives (Pranazhira et al., 2017). Job satisfaction was measured using dimensions of the Job Descriptive Index, covering satisfaction with the work, pay, organization and management, supervision, and coworkers (Pranazhira et al., 2017). Work motivation was measured based on employees' needs and the effort they exert in performing their work (Arief, 2020). Work productivity was measured through attendance, work results, discipline, skills, and teamwork (Raharjo et al., 2016). The questionnaire items were developed from the indicators and measurement dimensions identified in previous studies. Respondents' perceptions were measured using a Likert scale. The manuscript should specify the number of scale points used in the questionnaire because the available research documentation does not explicitly state whether a five-point, seven-point, or other Likert scale was applied.

Data Collection and Ethical Considerations

Primary data was gathered by giving questionnaires to the employees of PT. Kondobo Textindo. The questionnaire was created using the indicators for each research variable and was used to gather respondents' views on distributed leadership, competence, job satisfaction, work motivation, and productivity. Secondary data was collected by looking at books, scientific articles, and earlier research that were related to the study's variables and the theoretical model being used. People should be told that taking part in the questionnaire is completely voluntary. They need to know why the study is being done, that their answers will be used for research purposes, and that their information will stay private and not be shared with anyone else. When needed, the study should also mention that the people giving answers agreed to take part after understanding all the details. The manuscript currently lacks specific details about the ethical approval process or how consent was obtained, so these details should be included based on the real method used to collect the data.

Validity and Reliability Testing

The measurement tools were checked for validity and reliability before analyzing the structural model. Construct validity was checked by looking at the standardized loading factor and the t-value for each indicator in the Confirmatory Factor Analysis (CFA). An indicator was thought to be statistically valid if its t-value was 1.96 or higher at the 5% significance level. The results in the manuscript show that the endogenous indicators had t-values of 1.96 or higher. Reliability was checked using Construct Reliability (CR), and a value of at least 0.70 was considered acceptable, as stated. The reported CR values were 0.856 for distributed leadership, 0.921 for competence, 0.821 for job satisfaction, 0.873 for work motivation, and 0.825 for work productivity, showing that the constructs have good internal consistency.

Data Analysis

Structural Equation Modeling (SEM) was used because the research model looks at several direct and indirect connections between latent variables and their related indicators all at the same time. SEM allows researchers to check both the measurement model and the structural model using one analysis approach. Two different computer programs were used for related tasks. SPSS was used to handle the data at first, which involved checking and cleaning the data, turning information into codes, making tables, and checking if the data was accurate and consistent. LISREL was then used for Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) to build and test the measurement and structural models, check how well the models fit the data, and look at direct, indirect, and total effects. So, SPSS and LISREL were used for different but related analysis tasks, rather than doing the same thing over again. Once the measurement model met the validity and reliability standards, the structural model was checked using goodness-of-fit tests and hypothesis testing. The study looked at how distributed leadership, competence, and job satisfaction directly affect work productivity. It also checked how these factors influence work productivity indirectly through work motivation.

4. Results

Measurement Model Analysis

Exogenous Latent Variables

Exogenous latent variables are independent variables that influence dependent variables. In an SEM model, exogenous variables are indicated by arrows pointing from the variable itself toward an endogenous latent variable.

Measurement Model Validity Analysis

Examining the t-value of the standardized loading factor (λ)

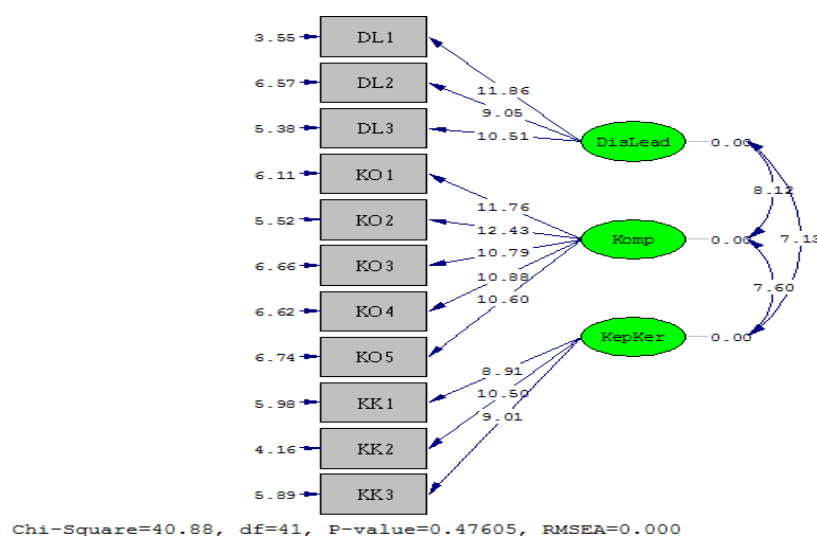


Figure 1. Exogenous path (t-value)

Examining the standardized loading factor (λ) values

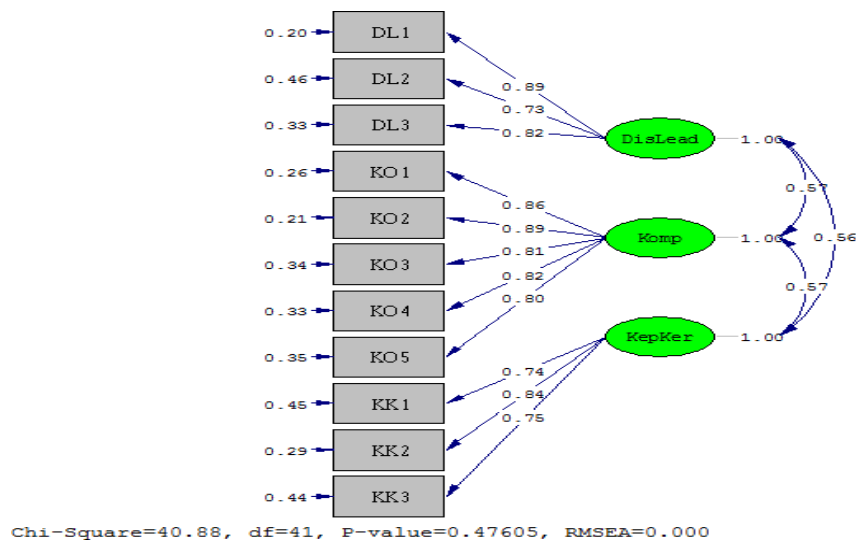


Figure 2. Exogenous Path (Standardized Solution)

Based on the figure above, the most dominant indicator for the distributed leadership variable is collaboration, as shown by its standardized loading factor of 0.89, which is higher than that of the other indicators. Meanwhile, the most dominant indicator for the competence variable is knowledge, indicated by a standardized loading factor of 0.89—also the highest among the indicators for that variable.

Model Reliability Analysis

Reliability testing measures the consistency of the measurement instrument, ensuring the research yields trustworthy data. The reliability test uses Cronbach's alpha to assess the consistency of the questionnaire used by the researcher, thereby determining its reliability in measuring research variables even if the study were repeated using the same questionnaire. A good and reliable construct reliability value is greater than or equal to 0.70. States that a criterion for good reliability is a Construct Reliability value of ≥ 0.70 . The overall Construct Reliability values for the exogenous variables Distributed Leadership, Competence, and Job Satisfaction are 0.856, 0.921, and 0.821, respectively, all of which exceed 0.70. This indicates that the measurement model possesses good reliability and that the exogenous constructs of Distributed Leadership, Competence, and Job Satisfaction are supported by the obtained data.

Endogenous Latent Variable

An endogenous latent variable is a dependent variable influenced by independent variables, indicated by an arrow pointing toward that variable.

Measurement Model Validity Analysis

Examining the t-value of the standardized loading factor (λ).

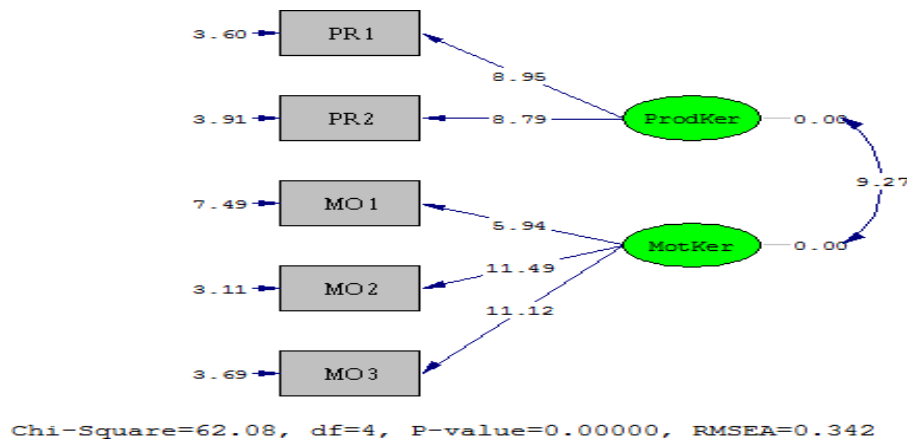


Figure 3. Endogenous Path (t-values)

Based on the LISREL 8.80 output above, the measurement equations for the endogenous coefficients of the indicators for the Work Productivity and Work Motivation variables yield t-values ≥ 1.96 . This indicates that all endogenous indicators are valid and statistically significant at the 5% level, meaning no indicators need to be discarded.

Examining the standardized loading factor (λ) values.

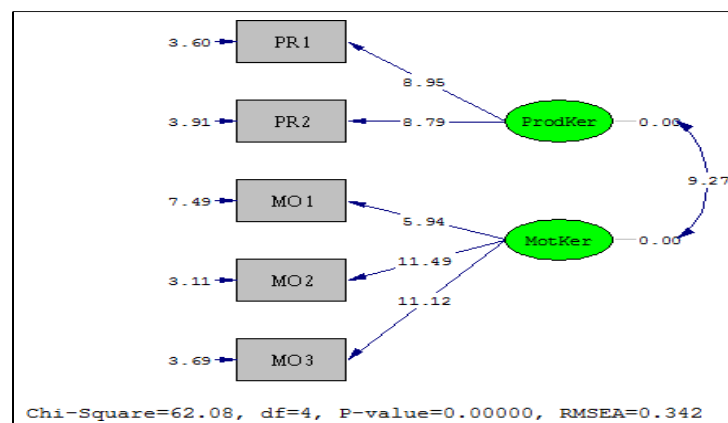


Figure 4. Endogenous Path (Standardized Solution)

Endogenous Path (Standardized Solution)

Based on the figure above, it can be seen that the most dominant indicator (in terms of standardized loading factor, λ) for the Work Productivity variable is the output indicator X33 corresponding to the statement "I always succeed in achieving the targets set for my work." Meanwhile, the most dominant indicator for the Work Motivation variable is the relatedness indicator X47 corresponding to the statement "Success in tasks is the primary priority." This is evident from its standardized loading factor, which is the highest among the others, at 11.49.

Model Reliability Analysis

Reliability testing checks how consistent a measurement tool is, making sure the research results are dependable and accurate. The reliability test uses Cronbach's alpha to check how consistent the questionnaire is, making sure it can reliably measure the research variables even if the study is done again using the same tool. Hair and others in 2018 said that for a measurement to be good and dependable, the construct reliability should be 0.70 or more. The reliability scores for the internal factors, which are work motivation and work productivity, are 0.873 and 0.825 respectively. Both of these scores are higher than the 0.70 standard. This shows that the measurement model can be trusted.

Structural Model Analysis

After doing the calculations and looking at the results from the Confirmatory Factor Analysis (CFA), we can figure out the Latent Variable Scores (LVS) for each dimension. These scores help simplify the data by turning them into indicators for each variable. The analysis of the structural model includes several parts, such as:

Overall Model Fit Test

This study uses the Structural Equation Modeling (SEM) method in the LISREL program, which allows the model to check both independent and dependent variables at the same time. Once the data has passed the tests for validity and reliability using the CFA model, the next step is to check how well the data matches the overall model. In LISREL, this is called Goodness of Fit (GOF).

Table 1. Goodness of Fit for the Structural Equation Model (SEM)

Goodness of the Fit	Cut-off value	Estimasi	Keterangan
<i>Statistic Chi-square (X^2)</i>	117.63	110.39	Overall Fit
<i>P-value</i>	≥ 0.05	0.14	Good Fit
<i>Root Mean Square Error of Approximation (RMSEA)</i>	≤ 0.08	0.036	Model Fit
<i>Expected Cross Validation Index (ECVI)</i>	Expected Model 1.55	Saturated: 2.19 Independent: 27.95	Fit
<i>Normed Fit Index (NFI)</i>	≥ 0.90	0.97	Good Fit
<i>Non-Normed Fit Index (NNFI)</i>	≥ 0.90	0.99	Good Fit
<i>Incremental Fit Index (IFI)</i>	≥ 0.90	1.00	Good Fit
<i>Standardized Root Mean Square Residual (SRMR)</i>	≤ 0.05	0.045	Good Fit
<i>Comparative Fit Index (CFI)</i>	≥ 0.95	1.00	Good Fit
<i>Goodness of fit index (GFI)</i>	≥ 0.90	0.90	Good Fit

Source: Research questionnaire, processed data (2020)

Looking at Table 1, the model shows a good overall fit. The Chi-Square value of 110.39 is less than the cutoff value of 117.63, and the p-value is 0.14226, which is higher than 0.05. This shows there is no significant difference between the sample covariance matrix and the model's estimated covariance matrix. The RMSEA value of 0.036 is under 0.08, which shows that the model fits the data well. The NFI value of 0.97 is higher than the suggested limit of 0.90, which means the model works well with the data. The NNFI value of 0.99 is higher than 0.90, which means the model handles complexity well and fits the data reasonably. Overall, these indicators show that the proposed model fits the observed data well and is acceptable. The Incremental Fit Index (IFI) value of 1.00 is higher than the cutoff value of 0.90, which shows that the model fits the data well. The SRMR value of 0.045 is under the 0.05 limit, which means the difference between what was actually observed and what was predicted is quite small on average. The Comparative Fit Index (CFI) value of 0.85 is lower than the suggested value of 0.95, which shows that the model fits only moderately. The Goodness-of-Fit Index (GFI) is 0.90, which is above the 0.90 threshold, showing that the model fits the data well. Furthermore, the ECVI value of 1.55 is smaller than the values from the saturated and independence models, and the AIC and CAIC values are also smaller than their corresponding values from the saturated and independence models, which shows that the proposed model fits the data well. Overall, the fit of the model to the data is shown by several measures like Chi-Square, p-value, RMSEA, NFI, NNFI, IFI, SRMR, CFI, and GFI, and these generally suggest that the model fits the data well.

Coefficient of Determination (R^2)

The structural model is evaluated by examining the R-Square (R^2) value, which measures goodness-of-fit.

Table 2. R-Square Values

Structural Equations				
ProdKer = 0.40*MotKer -	0.0095*DisLead + 0.26*Komp + 0.29*KepKer, Errorvar. = 0.34, R ² = 0.66			
(0.12)	(0.10) (0.098) (0.11) (0.089)			
3.22	-0.091 2.62 2.58 3.78			
MotKer = 0.31*DisLead	+ 0.22*Komp + 0.38*KepKer, Errorvar. = 0.41, R ² = 0.59			
(0.10)	(0.099) (0.11) (0.080)			
3.06	2.22 3.55 5.10			

Source: Research questionnaire, processed data (2020)

The structural model results show that Work Productivity has an R² of 0.66, indicating that Distributed Leadership, Competence, and Job Satisfaction explain 66% of its variance, while other factors explain the remaining 34%. Work Motivation has an R² of 0.59, meaning that the three independent variables explain 59% of its variance, while the remaining 41% is attributable to other factors.

Hypothesis Testing

At the 5% significance level, the critical t-value is plus or minus 1.96. The results indicate that Distributed Leadership does not have a significant impact on Work Productivity ($\beta = -0.01$; $t = -0.09$), but it does have a positive and significant effect on Work Motivation ($\beta = 0.31$; $t = 3.06$). Having strong competence has a positive and meaningful impact on both work productivity, which is shown by a beta value of 0.26 and a t-value of 2.62, and work motivation, which is shown by a beta value of 0.22 and a t-value of 2.22. Job satisfaction has a positive and strong effect on work productivity ($\beta = 0.29$; $t = 2.58$) and work motivation ($\beta = 0.38$; $t = 3.55$). Work Motivation has a positive and strong effect on Work Productivity ($\beta = 0.40$; $t = 3.22$). Direct effects are when two variables are connected directly, without any other variables in between. Indirect effects happen when the relationship between variables goes through one or more other variables, called mediators. These effects help in understanding and testing the ideas about how variables are directly, indirectly, or altogether related to each other.

Table 3. Direct, Indirect, and Total Effects

Latent Variables	Direct Influence	Indirect Effect	Total Effect
Work Productivity - Distribution Leadership	-0,01	-	-0,01
Work Motivation - Distribution Leadership	0,31	-	0,31
Work Productivity - Competence	0,26	-	0,26
Work Motivation - Competence	0,22	-	0,22
Work Productivity - Job Satisfaction	0,29	-	0,29
Work Motivation - Job Satisfaction & Competence	0,38	-	0,38
Work Productivity - Work Motivation	0,40	-	0,40
Work Productivity - Work Motivation - Distribution Leadership	-0,01	0,31 x 0,40 = 0,124	0,124 + (-0,01) = 0,123
Work Productivity - Work Motivation - Competence	0,26	0,22 x 0,40 = 0,088	0,088 + 0,26 = 0,348
Work Productivity - Work Motivation - Job Satisfaction	0,29	0,38 x 0,40 = 0,152	0,152 + 0,29 = 0,442

Source: Research questionnaire, processed data (2020)

5. Discussion

The results show that Distributed Leadership does not have a significant direct effect on Work Productivity but has a positive and significant effect on Work Motivation. This finding suggests that distributing leadership roles, participation, collaboration, and responsibility does not automatically translate into higher productivity and may require motivational and organizational mechanisms to become effective. This result differs from Sumarni et al. (2017), who described Distributed Leadership through delegative, democratic, participatory, and facilitative practices, and from more recent evidence showing that distributed leadership can contribute to performance-

related outcomes through employee-oriented mechanisms. Jakobsen et al. (2023) found that distributed leadership was associated with employee outcomes such as job satisfaction and innovative behavior, showed that decentralized decision-making can enhance emergent leadership and organizational performance when supervisors provide sufficient empowerment and guidance. Ma and Marion (2026) further found that distributed leadership was related to job satisfaction and work motivation, reported that distributed leadership significantly improved job performance through empowerment, collaborative decision-making, participation, and resource support. The current finding therefore suggests that, in the manufacturing context of PT. Kondobo Textindo, distributed leadership may operate more effectively through employee motivation than through a direct productivity pathway. This interpretation is also consistent with recent reviews emphasizing that distributed leadership is context-dependent and that empirical evidence in industrial and non-educational settings remains comparatively limited.

Competence has a positive and significant effect on both Work Productivity and Work Motivation, supporting the argument that employees with adequate knowledge, skills, abilities, and work-related characteristics are better equipped to perform their responsibilities effectively. These findings are consistent with Satria and Kuswara (2013), Mulyadi (2010), Arumwanti (2014), and Triyanto (2012), while recent studies provide further empirical support. Sutarman et al. (2024), using data from Indonesian manufacturing industries, found that competence significantly affected work productivity, found that competence positively influenced both motivation and employee performance and that motivation mediated the competence–performance relationship. Reported that competence affected motivation and performance directly and indirectly through motivation, found that competence significantly affected employee performance while work motivation also contributed significantly to performance. Recent systematic evidence likewise identifies technical competence as an important factor in employee. Job Satisfaction also has a positive and significant effect on Work Productivity and Work Motivation. This finding is consistent with Febrianto et al. (2016), Said et al. (2017), Afifah and Al Musadieq (2017), and Kristine (2017), and is reinforced by recent evidence. Found that job satisfaction positively affected productivity among employees in a palm-oil manufacturing setting, found that job satisfaction contributed to employee performance through work motivation in a production setting. Found a significant relationship between job satisfaction and work motivation, further examined the role of job satisfaction in strengthening employee work motivation. The positive and significant effect of Work Motivation on Work Productivity is also consistent with Mulyadi (2010) and Adiwinata and Sutanto (2014), as well as recent studies showing that motivation contribute positively to productivity and performance. Finally, the mediation results indicate that Work Motivation provides an important mechanism connecting Distributed Leadership, Competence, and Job Satisfaction with Work Productivity. This finding is consistent with Kristine (2017) and is supported by recent studies demonstrating mediation through work motivation. Overall, the findings extend the existing literature by showing that productivity in the studied manufacturing organization is not determined solely by structural leadership practices or employee attributes, but also by the motivational process through which these factors are translated into productive work behavior.

6. Conclusion

This study concludes that Distributed Leadership does not have a direct significant effect on Work Productivity but has a positive and significant effect on Work Motivation. Competence positively and significantly affects both Work Productivity and Work Motivation, while Job Satisfaction also positively and significantly affects both Work Productivity and Work Motivation. Furthermore, Work Motivation has a positive and significant effect on Work Productivity. These findings provide a theoretical contribution by positioning Work Motivation as an important mechanism through which leadership practices and employee-related factors are translated into productivity outcomes. In particular, the absence of a direct effect of Distributed Leadership but its significant effect on Work Motivation suggests that the productivity consequences of shared leadership may be indirect and context-dependent. The findings therefore extend the existing framework by integrating Distributed Leadership, Competence, Job Satisfaction, and Work Motivation into a unified explanation of employee productivity in a manufacturing context.

From a managerial perspective, the findings suggest that productivity improvement should be translated into concrete and measurable human resource interventions. Management should establish collaborative leadership routines through regular team problem-solving meetings, structured delegation of responsibilities, and employee participation in operational decisions. Competency development should be supported by competency mapping, identification of skill gaps, targeted training, and periodic job-fit reviews to ensure that employees' capabilities match their responsibilities. Job satisfaction can be strengthened through appropriate recognition systems, constructive supervisor feedback, effective communication, and periodic satisfaction reviews. Work Motivation should also be monitored through a motivation dashboard linked to measurable productivity indicators, including attendance, work output, discipline, skills, and teamwork. These interventions should be implemented continuously and evaluated using productivity trends to determine whether improvements in leadership, competence, satisfaction, and motivation are reflected in employee outcomes. Nevertheless, the study is limited to employees of PT. Kondobo Textindo, which may restrict generalizability to other organizations and industries, and questionnaire responses may not fully capture actual working conditions. Future research should therefore examine broader manufacturing contexts, incorporate interviews or observations, and consider additional organizational and individual factors that may explain employee productivity.

Recommendation

The company should strengthen Distributed Leadership through measurable practices, including assigning team-based leadership roles, increasing employee participation in decision-making, and delegating responsibilities according to employees' competencies. Management should conduct quarterly competency-gap assessments to identify skill deficiencies and provide targeted training aligned with job requirements. Employee job satisfaction should be monitored periodically through satisfaction surveys covering supervision, compensation, work environment, and coworker relationships. Management should also evaluate employee motivation through regular motivation assessments and strengthen recognition, constructive feedback, effective communication, and supportive working conditions. These practices should be integrated with productivity monitoring using measurable indicators such as output achievement, attendance, absenteeism, work discipline, skills development, and teamwork quality. By linking leadership, competency development, job satisfaction, and motivation indicators with productivity KPIs, the company can more systematically evaluate whether organizational interventions contribute to improved employee productivity.

Limitations and avenues for future research

This study is limited to employees of PT. Kondobo Textindo, which may restrict the generalizability of the findings to other organizations, manufacturing companies, or industries with different organizational characteristics. The cross-sectional design also limits the ability to observe changes in Distributed Leadership, Competence, Job Satisfaction, Work Motivation, and Work Productivity over time. In addition, the use of self-reported questionnaires may result in responses that do not fully reflect employees' actual working conditions or productivity. Future research should therefore involve multi-company samples across different manufacturing contexts and consider longitudinal designs to examine changes in the relationships among the variables over time. Researchers could also combine questionnaire data with objective productivity records, supervisor-rated employee performance, interviews, and direct observations to provide a more comprehensive assessment of employee productivity.

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