

## THE DIGITAL LEADERSHIP, TEAMWORK, WORK ENVIRONMENT, COMPETENCIES AND EMPLOYEE PERFORMANCE: ASSESSING THE SUPERIOR FACILITY CONTEXT

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**ABSTRACT:** This study aims to analyze the factors that influence employee performance in manufacturing companies in Batam City. With a focus on digital leadership, teamwork, work environment, and human resource competencies, this study also explores the impact of management system integration (ISO 9001, 14000, and 45001) on work motivation and job satisfaction. Survey and path analysis methods were used to collect and analyze data from 212 respondents. The results show that a positive work environment, effective teamwork, and good human resource competencies contribute significantly to employee performance. The implications of this study provide valuable insights that a strict standard as established from external audits are more expected in the superior facility in manufacturing context.

**Keywords:** Employee Performance; Digital Leadership; Teamwork; Work Environment; Human Resource Competencies

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## **INTRODUCTION**

Industrial developments in recent decades have highlighted the importance of information related to quality, occupational health and safety, and environmental friendliness (Bregenzer & Jimenez, 2021). These topics are influencing the direction of business at the national and international levels in various sectors. The quality of the system, the company's responsibility for the health and safety of workers, and the achievement of a balance between the environment, society and the economy are the determining factors for the stable and successful activity of the company (Khang et al., 2023)

In modern market conditions, the stable and successful activity of the enterprise is determined by the ability to meet the needs of consumers with high-quality and safe products (Kwiotkowska et al., 2021). In the era of globalization, national borders are becoming more transparent and blurred, eliminating tariff barriers, thus pushing the market to demand uniform quality standards as the main factor of competition (Mazurchenko & Maršíková, 2019). European countries, the United States, and Canada that are members of the world economic community are the largest single market in the world with hundreds of millions of consumers who want standardization of goods and services according to ISO 9001 (Purwanto et al., 2023). Companies that do international marketing now realize the importance of product quality as a competitive advantage. One of the keys to successfully competing in the global market is the ability to meet or exceed applicable international standards (Varadaraj & Wadi, 2021).

However, the large number of management systems that must be implemented means that companies must devote sufficient resources to meet the requirements of the standard (Davidescu et al., 2020). Implementing management systems separately can reduce the effectiveness and efficiency of the company (Pitafi et al., 2018). Therefore, the implementation of an integrated management system is an important solution. An integrated management system is a logical and systematic management approach that enables optimal strategic and operational decisions by considering all key aspects of the company, in terms of quality, environment, and safety (Eberl & Drews, 2021).

The relevance of integrated management systems is increasing as more companies implement specific quality, environmental protection, and occupational health and safety management systems (Benitez et al., 2022). The most widely used model of integrating multiple management systems is the quality, safety, occupational health, and environmental management system. This approach aims to achieve continuous improvement by reducing duplication of work, risks, increasing profits, aligning goals, responsibilities, and authorities, and improving communication effectiveness (Efimov et al., 2020). By integrating risk and internal audit, companies can achieve greater efficiency and effectiveness.

Digital leadership is a crucial aspect in the Industry 4.0 era, where technology and innovation play an important role in organizational transformation. Digital leadership is a combination of digital competence and digital culture to drive change and capitalize on technological opportunities (Santoso et al., 2019). Research results show that digital leadership has a

significant influence on industry model innovation and the development of good customer experience, which is very important in the digital era (Berman, 2012; Li, 2018; Prem, 2015). Digital leadership is a combination of transformational leadership style and the use of digital technology (Eberl & Drews, 2021). Digital leaders must be able to integrate the company's digital capabilities in the development of organizational culture and competencies.

The role of digital leadership in driving innovation is also supported by findings showing that incumbent companies must apply digital leadership to build good customer experiences and create industry model innovations (Deng et al., 2023; Santoso, Abdinagoro, et al., 2019; Turyadi et al., 2023). Customer Experience Orientation has a strong relationship with the development of industry model innovation in the industry 4.0 era. Digital disruption makes customers an important factor in maintaining competitive advantage. In today's digital era, customer experience is an input for value chain development to develop industrial model innovation. With a strong reputation, companies can control and attract valuable customers and stakeholders to create more value in a series of activities.

Digital leadership is also important in developing strong customer relationships (Schiuma et al., 2022). Digital leaders must act with a global mindset to connect with each other and be more creative in supporting the culture of innovation in each company. Transformational leaders can provide an inspirational vision that motivates followers to proactively create a healthy environment and promote creative ideas within their organization (Kane et al., 2019; Tigre et al., 2023). Their behavior can act as a creativity-enhancing force (Ibarra et al., 2017).

The implementation of the quality management system is also strongly influenced by the work environment (Abbu et al., 2020). Commitment from all elements in the organization is required to achieve an effective quality management system. Employees, as an important asset of the company, must be managed properly to make maximum contributions. Employee job satisfaction is an important factor that is influenced by the work environment, interactions with co-workers, and training received (Rana & Sharma, 2019). Mitchell (2004) states that the work environment is an individual's loyalty and identification with the organization. Employees who have high commitment and low absenteeism tend to stay in the organization more than those who have low commitment.

In implementing a quality management system, commitment from all elements is needed because the quality management system is a process that requires the involvement of all employees from top management to the lowest level employees. The quality management system will not be achieved without the commitment and involvement of all employees (Caputo et al., 2019). Employees who feel comfortable, valued, and can develop their potential will be more focused and perform optimally. Employee job satisfaction can also be seen from other aspects such as interactions with co-workers, superiors, and the overall work environment (Elyousfi et al., 2021). Increasing employee job satisfaction can be achieved through various ways, one of which is by providing training that is in accordance with the field of work (Tigre et al., 2023).

Increasing employee competence through training is an important step to improve performance. Training is a series of activities to improve the ability and knowledge of employees to have expert performance in their fields (Cortellazzo et al., 2019). Robbins (2018) states that one of the factors that affect employee job satisfaction is work motivation. High work motivation will improve employee performance, which ultimately contributes to the achievement of company goals (Larson & DeChurch, 2020).

As one of the companies that has implemented the Integration Management System, internal quality audits are conducted every six months and external quality audits are conducted annually to see the consistency of the implementation of the Quality Management System (Silva et al., 2022). Implementation of Management System in manufacturing industry is the right step to win the competition (Hernandez-de-Menendez et al., 2020).

There are several factors that cause employee performance in the implementation of the quality management system in the first area of leading facilities in the manufacturing industry to not be optimal (Thite, 2022). First, digital leadership is still widely ignored by managers who are not aware and unable to take advantage of the advantages of information technology. Second, the work environment is not yet adequate for some employees. Third, the competence of human resources is not optimal due to the lack of training opportunities that are in accordance with the field of work. Fourth, ineffective teamwork because there are still many employees who cannot work well together. Fifth, low work motivation, indicated by unsatisfactory employee achievement.

This study aims to examine the influence of digital leadership, teamwork, work environment, and human resource competencies on employee performance through job satisfaction and motivation in manufacturing companies in the Sarana Unggulan First Industrial Estate. The eight variables studied in this study include six exogenous variables, namely: digital leadership, teamwork, work environment, human resource competencies, motivation, and one intervening variable, namely job satisfaction, and one endogenous variable, namely performance.

## **THEORETICAL REVIEW**

### *Theory of Organizational Behavior*

Organizational Behavior Theory studies the impact of individuals, groups, and groups on the emergence of various behaviors in organizations with the aim of improving organizational effectiveness (Gierlich-Joas et al., 2020). It is based on the behavioral sciences, particularly psychology, which highlights human behavior in an organizational context. The focus is on how individuals behave and interact in the work environment and how this affects overall organizational performance. Individual behavior has basic consistency and can be predicted and modified according to the differences and uniqueness of each individual (Klus & Müller, 2021). Organizational behavior examines the interaction between the organization and the individuals within it to achieve organizational goals. Previous research that supports the hypothesis that work

motivation has a positive and significant influence on employee performance in an organizational context is research conducted by Muntaha and Mazayatul Mufrihah (2017). Their research found that work motivation has a direct positive impact on employee performance. This research provides evidence supporting the idea that motivated employees tend to perform better in their roles within the organization. On the other hand, research by Razak et al. (2018) found that motivation does not have a significant impact on employee performance. This study suggests that there may be other factors or variables at play in influencing employee performance beyond motivation alone. These contrasting findings suggest that while some studies support the positive and significant influence of work motivation on employee performance, other studies do not find the same level of impact. Further research and analysis is needed to fully understand the relationship between work motivation and employee performance in organizational settings.

*H1: Work motivation has a positive and significant influence on employee performance in an organizational context.*

#### *Human Resource Management (HRM)*

Human Resource Management encompasses a range of activities directed at attracting, developing, and retaining an effective workforce. Human Resource Management (HRM) theory is an approach that focuses on managing human resources in organizations with the aim of improving employee performance and productivity (Dhanpat et al., 2020). HRM functions include recruitment, training, appraisal, compensation, and employee welfare (Abas et al., 2019). HRM aims to increase the productive contribution of individuals in the organization.

This theory emphasizes the importance of employee development, motivation, and retention as valuable assets for organizational success. HRM also includes the processes of recruitment, selection, training, development, performance evaluation, compensation, and labor relations management (Davidescu et al., 2020). Previous research that supports the hypothesis that effective Human Resource Management implementation contributes positively to employee performance in an organization is research conducted by (Varadaraj & Wadi, 2021). Their research found that organizations that implement effective HRM practices, such as performance appraisal systems, training and development programs, and employee empowerment initiatives, experience higher levels of performance and job satisfaction.

On the other hand, a study by (Mazurchenko & Maršíková, 2019) found that the relationship between effective HRM practices and employee performance is not always direct and can be influenced by various contextual factors within the organization. This study suggests that while effective HRM practices can have a positive impact on employee performance, the specific organizational context plays an important role in determining the extent of that impact. These contrasting findings suggest that while some research supports the positive contribution of effective HRM implementation to employee performance, other research highlights the complexity of this relationship and the importance of considering organizational context. Further research may be

needed to explore the specific mechanisms by which effective HRM practices influence employee performance in different organizational settings.

*H2: Effective implementation of Human Resource Management contributes positively to employee performance in the organization.*

### *Performance Theory*

Performance is a function of individual motivation and ability to complete tasks (Kurniasih et al., 2022). Employee Performance Theory is a conceptual framework used to understand the factors that influence individual performance in the work environment (Mahendra et al., 2024). This theory includes aspects such as motivation, competence, leadership, work environment, and personal factors that can affect the level of employee performance. Understanding employee performance theory helps organizations design effective human resource management strategies to improve employee productivity and performance. Performance improvement depends on components such as context, knowledge, skills, identity, personal factors, and fixed factors (Elger, 2017). Previous research that supports the hypothesis that motivation, competence, and effective leadership contribute positively to employee performance in an organization is research conducted by (Blanka et al., 2022). Their research found that human resource competencies have a significant impact on employee performance. In addition, this study also highlights the importance of effective leadership in improving employee performance in organizations.

On the other hand, a study by (Salas-Vallina et al., 2021) found that although motivation, competencies, and effective leadership are important factors in influencing employee performance, the relationship between these factors and performance outcomes can be influenced by various contextual factors within the organization. This study suggests that the impact of motivation, competencies, and leadership on employee performance may vary depending on the specific organizational context.

These findings suggest that although some research supports the positive contributions of motivation, competence, and effective leadership to employee performance, other research emphasizes the need to consider the organizational context when examining the relationship between these factors and employee performance. Further research may be needed to explore the specific mechanisms through which motivation, competence, and effective leadership influence employee performance in different organizational settings.

*H3: Motivation, competence, and effective leadership contribute positively to employee performance in organizations.*

## **7. Digital Leadership Theory**

Digital leadership combines digital competencies and digital culture to drive digital transformation in organizations.(Haddud & McAllen, 2018) This leadership style focuses on the implementation of digital transformation and enables companies to digitize their work environment and work culture (Sağbaşı & Alp Erdoğan, 2022). Digital Leadership theory is a conceptual framework that

focuses on the leadership roles and skills required in managing organizations in the digital age. The theory covers aspects such as the ability to deal with technological change, leverage digital innovation, and lead digital transformation in organizations. Understanding Digital Leadership theory helps leaders develop leadership strategies that are relevant to the demands of the digital age to achieve organizational success.

A previous study that supports the hypothesis that effective Digital Leadership skills contribute positively to organizational adaptation to digital technological change is the research conducted by (Oberer & Erkollar, 2018) Their research focused on Digital Leaders in the Industry 4.0 Era and found that leaders who possess strong digital leadership skills are better equipped to lead organizations through digital transformation and adapt to technological change effectively. On the other hand, a study by (Pitafi et al., 2018) explored the challenges of decision-making in the age of digital technology and highlighted the importance of digital leadership in guiding organizations through technological change. The study emphasized the need for leaders with effective digital leadership skills to facilitate organizational adaptation to digital advancements.

This study provides evidence that effective Digital Leadership skills play an important role in enabling organizations to adapt to technological change. By demonstrating the positive impact of Digital Leadership on organizational adaptation, the findings support the hypothesis that effective Digital Leadership contributes positively to organizational adaptation to digital technological change.

*H4: Effective digital leadership capabilities positively contribute to organizational adaptation to digital technology change.*

#### *Work Motivation*

Work motivation is the drive that directs individual behavior to achieve certain goals. Motivation includes the processes that influence individual choice of various forms of desired activities (Oberer & Erkollar, 2018). Theories of work motivation include satisfaction theory, process theory, and contemporary theory (Kurniasih et al., 2022). Work Motivation Theory is a conceptual framework that focuses on factors that encourage individuals to work optimally and achieve set work goals. This theory includes aspects such as individual needs, internal drives, and external factors that affect motivation levels in the work environment (Hajiali et al., 2022). Understanding work motivation theory helps organizations in designing human resource management strategies that can improve employee performance and productivity.

Previous research that supports the hypothesis that intrinsic motivation has a positive impact on employee performance in an organization is research conducted by (Al-kharabsheh et al., 2022; Caputo et al., 2019). Their research found that intrinsic motivation significantly affects employee performance, suggesting that when employees are intrinsically motivated, they are more likely to perform better in their roles. On the other hand, a study by (Cai et al., 2020) explored the relationship between motivation and employee performance and

found that although intrinsic motivation is important, it does not always have a significant impact on employee performance.

*H5: Intrinsic motivation has a positive influence on employee performance in organizations.*

#### *Human Resource Competencies*

Human resource competence is the ability of an individual or organization to carry out its functions or authority effectively and efficiently (Purwanto et al., 2023). Competencies include the knowledge, skills, and attitudes needed to do a good job (Hutapea, 2014). Human Resource Competency Theory is a conceptual framework that highlights the abilities, knowledge, skills, and attitudes of individuals in an organizational context. This theory identifies the competencies required by human resources to effectively achieve organizational goals and improve performance. Understanding the theory of human resource competencies helps organizations design employee development and recruitment programs that suit organizational needs.

Previous research that supports the hypothesis that human resource competencies have a positive contribution to employee performance in an organization is research conducted by (Cantoni & Mangia, 2018). Their research found a significant influence between human resource competencies on employee performance, which indicates that employees with higher competencies tend to show better performance results in their roles. On the other hand, a study by (Margherita & Bua, 2021) explored the relationship between human resource competencies and employee performance and found that although competencies are important, they do not always directly translate into improved performance. The study suggested that factors such as organizational culture and leadership style can also play an important role in influencing employee performance in addition to human resource competencies.

These studies provide insight into the complex relationship between human resource competencies and employee performance. While some research supports the positive impact of human resource competencies on performance, other research suggests that additional factors may also influence employee performance outcomes. Further research may be needed to explore the specific mechanisms through which human resource competencies contribute to employee performance in organizational settings.

*H6: Human resource competencies contribute positively to employee performance in organizations.*

#### *Teamwork*

Teamwork is a cooperative behavior between individuals in a group who carry out a common task to achieve a common goal (Jamkhaneh et al., 2022). Effective teams have the ability to cooperate, communicate effectively, anticipate and meet each other's needs, and inspire trust to produce coordinated collective action (Janasz et al., 2012). Teamwork theory is a conceptual framework that emphasizes the importance of cooperation and collaboration between team members in achieving common goals. This theory identifies factors that influence

the effectiveness of teamwork, including the ability to communicate, trust each other, and share responsibilities. Understanding teamwork theory helps organizations build a work environment that supports collaboration and efficient goal achievement.

Previous research that supports the hypothesis that teamwork has a positive contribution to employee performance in an organization is research conducted by (Chowdhury & Murzi, 2020). Their research found a significant and positive impact of teamwork on employee performance, which indicates that effective teamwork among employees can improve performance outcomes in organizations.

On the other hand, a study by Tindra Adi, Aju, and Ayu (2018) explored the relationship between teamwork and employee performance and found that although teamwork had a significant impact on work discipline, it did not directly affect work stress and overall employee performance. This study suggests that other factors, such as competence and leader-member exchange, may also play a role in influencing employee performance in addition to teamwork. These studies provide insight into the complex relationship between teamwork and employee performance. While some research supports the positive impact of teamwork on performance, other research suggests that additional factors may also influence employee performance outcomes. Further research may be needed to explore the specific mechanisms by which teamwork contributes to employee performance in organizational settings.

*H7: Teamwork contributes positively to employee performance in organizations.*

### *Work Environment*

The work environment includes physical and non-physical conditions that affect employees in carrying out their work (Zhenjing et al., 2022). A good and conducive work environment can increase employee productivity (Sedarmayanti, 2011). Work Environment Theory is a conceptual framework that highlights the influence of the physical and social environment in the workplace on employee well-being and performance. This theory identifies factors such as workspace design, cleanliness, noise, relationships between colleagues, and support from leaders that can affect employees' productivity levels and job satisfaction (Astuti, 2024). Understanding work environment theory helps organizations to create a work environment that supports optimal well-being and performance for employees.

Previous research shows that a positive work environment has a significant relationship with employee well-being and performance. (Athirah Saidi et al., 2019) emphasized that supervisor support can create an environment conducive to productivity, while (Kusuma, 2021) found that physical and non-physical aspects of the work environment contribute positively through harmonious relationships between coworkers and superiors.

However, some studies, as shown by (Rahma & Siregar, 2024) suggest that motivation is also important for maximizing performance, so motivation and work environment need to be considered together. In addition, (Nancy Yusnita, 2023) showed that job satisfaction acts as a mediator between work environment and performance, creating a significant indirect effect. Further research may be

needed to explore the specific mechanisms by which a positive work environment contributes to employee well-being and performance in an organizational setting (all paths are in Figure 1).

*H8: A good working environment contributes positively to employee well-being and performance in the organization.*

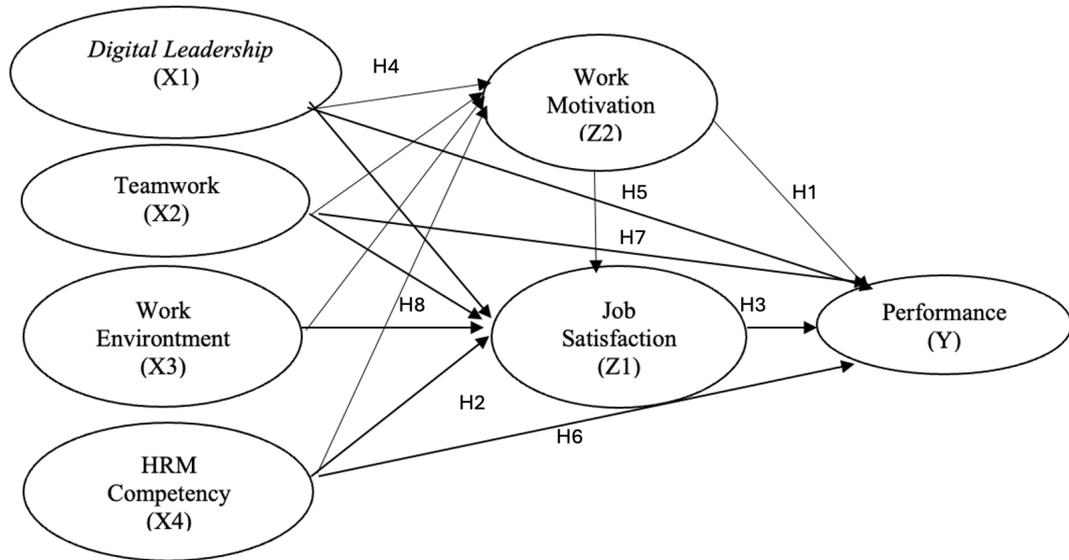


Figure 1. Conceptual Framework

## METHODOLOGY

This research uses a quantitative approach with an explanatory type of research which also includes descriptive aspects. Explanatory research aims to explain the cause-and-effect relationship between existing variables and test previously formulated hypotheses (Zakariah et al., 2020). Meanwhile, descriptive research is conducted to describe the characteristics of the population or phenomenon under study (Firdaus, 2021). This approach is carried out deductively, starting with general theories or hypotheses which are then tested through the collection and analysis of empirical data.

This research is focused on employees in the Health, Safety and Environment (HSE) section of manufacturing companies in the Sarana Unggulan Industrial Estate. The selection of this research object is based on the implementation of the Integrated Management System ISO 9001 (quality), ISO 14000 (environment), and ISO 45001 (occupational safety and health) which has been implemented in this work environment. The integrated system demands digital leadership, teamwork, a good work environment, and high human resource competence. It is of interest to researchers to identify factors that can influence employee performance in this complex and dynamic context.

### *Data Analysis Technique*

The analysis method used is a survey method with a causal model and Path Analysis Technique. This technique allows researchers to confirm the

theoretical model with empirical data that has been collected, so as to identify and measure direct and indirect relationships between variables in the proposed model. With this method, the influence of digital leadership, teamwork, work environment, and HR competencies on work motivation, job satisfaction, and employee performance can be analyzed comprehensively.

Data analysis was conducted using Baron and Kenny's (1986) method for testing the mediation hypothesis, which involves three stages of regression to determine the relationship between the independent, mediator, and dependent variables. The independent variable must predict the dependent variable and the mediator, and the mediator must predict the dependent variable to confirm the existence of mediation (Hermawan & Pd, 2019). Thus, this study uses a quantitative approach with a causal model survey method and Path Analysis Technique to test the relationship between the variables under study (Waruwu, 2023). The population and sample were carefully selected to ensure representativeness, and data were collected through questionnaires for further analysis.

## RESULTS

### *Measurement Model Analysis (Outer Model)*

The Measurement Model (Outer Model) determines the relationship between latent variables and their indicators (Rohman & Yanti, 2022). In other words, the outer model describes how each indicator is related to other latent variables. The tests performed on the outer model include reflective indicator tests, such as convergent validity, discriminant validity, composite reliability, and average variance extracted (AVE). The reliability test is reinforced with Cronbach's Alpha. To test the formative indicators, different tests were conducted, namely weight significance and multicollinearity.

Internal consistency analysis is a form of reliability used to assess the internal consistency of results on the same test. Internal consistency testing uses a composite reliability value with criteria. A variable is said to be reliable if the composite reliability value is  $> 0.6$ , and strengthened by testing the Cronbach's Alpha value  $> 0.7$  (Zakariah et al., 2020). The results of the Construct Reability and Validity analysis in Table 1 suport the Cronbach alpha value for all variables is  $> 0.7$  and the composite reliability value is  $> 0.6$ .

Table 1. Construct Reability and Validity

Variable	Cronbach's Alpha	Composite Reliability	AVE
<i>Digital leadership</i>	0.955	0.957	0.692
Job satisfaction	0.947	0.945	0.549
Performance	0.962	0.961	0.625
HR Competency	0.945	0.946	0.540
Work environment	0.913	0.925	0.554
Work Motivation	0.955	0.955	0.587
<i>Team work</i>	0.937	0.930	0.580

Source: Data processed by Authors (2024)

The Table 2. indicates the result of the Heterotrait Monotrait test (HTMT) the correlation results between variables have a correlation value below 0.9, thus the correlation value of all variables is declared valid.

Table 2. Construct Reability and Validity

No.	Constructs	1	2	3	4	5	6
1.	Digital leadership						
2.	Job satisfaction	0.686					
3.	Performance	0.379	0.399				
4.	HR Competency	0.729	0.705	0.276			
5.	Work environment	0.767	0.759	0.326	0.703		
6.	Work Motivation	0.676	0.729	0.226	0.718	0.812	
7.	Team work	0.831	0.809	0.338	0.757	0.808	0.765

Source: Data processed by Authors (2024)

Structural Model Analysis (Inner Model)

After the measurement model analysis is complete, the next stage is the measurement of structural capital. In this test, there are two stages, namely direct effect hypothesis testing and indirect effect hypothesis testing. The hypothesis testing path coefficients are shown in the figure 2.

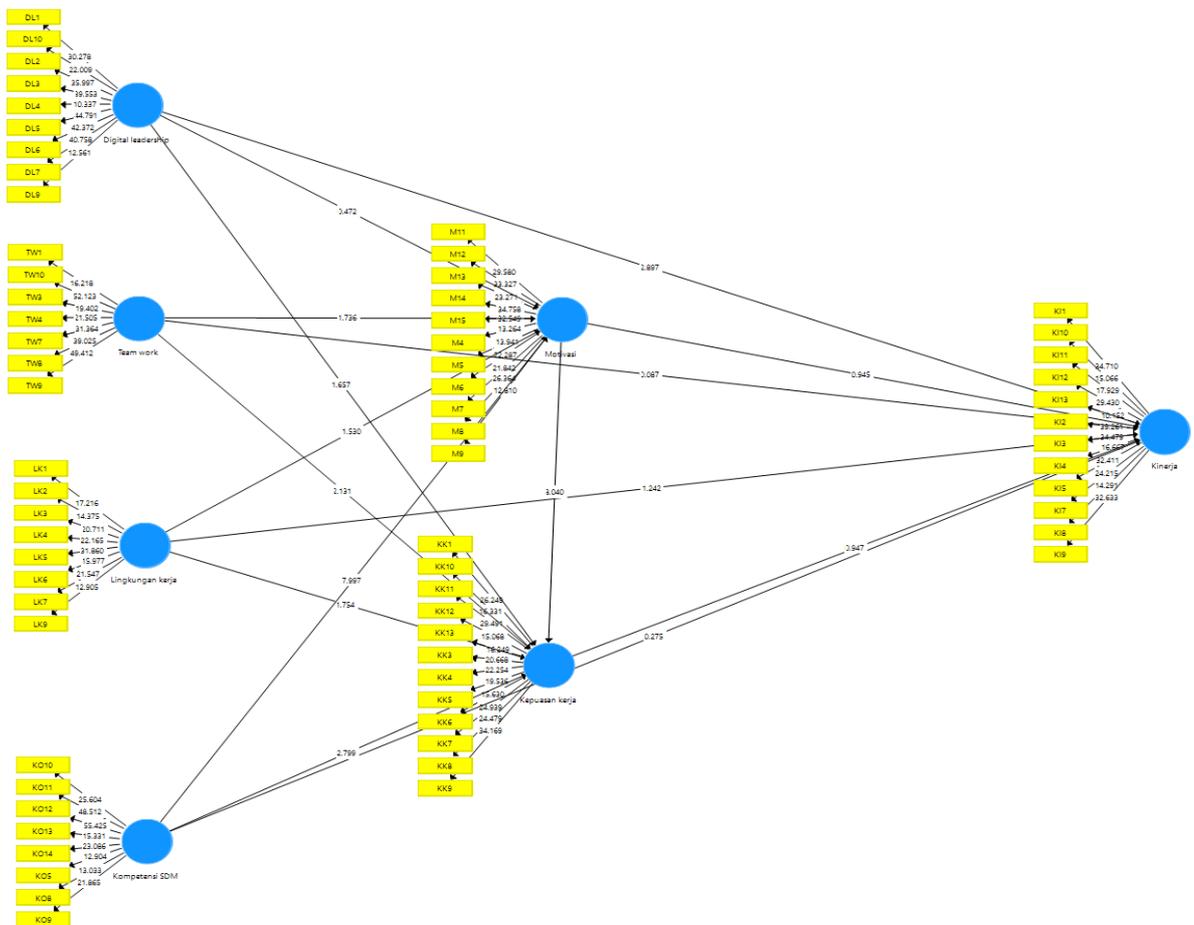


Figure 2. Structural Model Path Coefficients  
Source: Adapted Smartpls 3 output (2024)

Table 3. The Hypothesis Summary

Hypothesis/Measures	Effect	<i>t</i> -value	<i>p</i> -Values	Decision
Digital leadership -> Job satisfaction	0.125	2.815	0.000	Accepted
Digital leadership -> Performance	0.290	2.806	0.005	Accepted
Digital leadership -> Work Motivation	0.054	2.716	0.004	Accepted
Job satisfaction -> Performance	0.610	2.530	0.012	Accepted
HR competence -> Job satisfaction	0.589	3.566	0.000	Accepted
HR Competence -> Performance	0.088	0.739	0.000	Accepted
HR Competency -> Work Motivation	0.722	9.299	0.000	Accepted
Work environment -> Job satisfaction	0.166	2.114	0.035	Accepted
Work environment -> Performance	0.147	1.099	0.272	Rejected
Work environment -> Work Motivation	0.015	0.178	0.001	Accepted
Job Motivation -> Job Satisfaction	0.517	6.303	0.000	Accepted
Work Motivation -> Performance	-0.175	1.344	0.179	Accepted
Team work -> Job satisfaction	0.314	4.385	0.000	Accepted
Team work -> Performance	0.043	3.361	0.000	Accepted
Team work -> Work Motivation	0.259	3.208	0.001	Accepted

Source: Smartpls 3 (2024)

Table 4. Hypothesized Indirect Effect

Hypothesis	Effects	<i>t</i> -values	<i>p</i> -values
Digital leadership -> Work motivation -> Job satisfaction	0.024	2.475	0.001
Team work -> Job satisfaction -> Performance	0.110	2.945	0.002
HR Competency -> Work Motivation -> Job Satisfaction	0.374	5.805	0.000
Work environment -> Work motivation -> Job satisfaction	0.075	1.516	0.130
Team work_ -> Work Motivation -> Job satisfaction	0.083	0.678	0.094
Digital leadership -> Job satisfaction -> Performance	0.012	2.832	0.006
HR competence -> Job satisfaction -> Performance	0.034	2.915	0.001
Work environment -> Job satisfaction -> Performance	0.018	0.753	0.452
Digital leadership -> Work Motivation -> Performance	0.008	2.339	0.005
HR Competence -> Work Motivation -> Performance	0.126	2.967	0.004
Work environment -> Work Motivation -> Performance	0.025	2.713	0.006
Team work-> Work Motivation -> Performance	0.028	0.703	0.483

Source: Smartpls 3 (2024)

## DISCUSSION

Digital leadership is a leadership concept that focuses on the use of digital technology and innovation in managing organizations (Cahyadi & Magda, 2021). This theory emphasizes the importance of leaders to understand and adopt digital technology to improve the efficiency, productivity, and competitiveness of the company. In the context of the industrial revolution 4.0, where digital technology is the main driver of business transformation, digital leadership is key in dealing with rapid and complex changes (Khang et al., 2023). Research data shows that digital leadership has a positive and significant influence on employee motivation. This can be explained by the adoption of digital technology by leaders that allows the creation of an innovative, transparent, and efficient work environment.

Leaders who are able to optimally utilize digital technology tend to inspire and motivate employees to work better.

Data analysis also shows that digital leadership that is in accordance with current conditions is able to provide positive work motivation for employees. Demographically, 65% of respondents work in roles directly influenced by digital transformation efforts, underscoring the relevance of digital leadership in this context. These results suggest that leaders who leverage digital tools to foster transparency and streamline operations significantly motivate their workforce, a finding supported by studies such as Davidescu et al. (2020) and Purwanto et al. (2023), who argue that digital transformation is essential for maintaining employee engagement in competitive environments. With the suitability between digital leadership styles and the demands of the times, employees tend to feel motivated to contribute maximally in achieving company goals. Leaders who are able to create a dynamic, collaborative, and progressive work environment through digital technology will encourage increased employee motivation and performance.

Digital transformation is not only needed to develop businesses in the era of the industrial revolution 4.0, but also to ensure the sustainability and competitiveness of companies amid increasingly fierce global competition (Davidescu et al., 2020; Purwanto et al., 2023). Leaders who are able to effectively lead digital transformation will create a work culture that is adaptive, innovative and responsive to change (Roman et al., 2019). Thus, the positive influence of digital leadership on employee motivation is key in achieving organizational success in this digital era.

Teamwork, as effective collaboration between team members in achieving a common goal, has a significant positive influence on employee performance in an organization (Chowdhury & Murzi, 2020). Theories on teamwork highlight the importance of cooperation, communication, and coordination among team members to achieve optimal results. According to Social Identity Theory, teamwork can strengthen the social identity of individuals in a work group, thereby increasing employee engagement and motivation to achieve common goals (Jamkhaneh et al., 2022). In this context, research results showing a positive relationship between teamwork and employee performance can be understood as an implementation of this theory.

This result suggests that teamwork enhances performance through collaborative efforts, with open communication and shared responsibility proving vital for productivity. In Batam's manufacturing environment, where 70% of respondents report working in interdependent roles, these findings highlight the importance of teamwork for operational success. Chowdhury & Murzi (2020) support this by demonstrating that teamwork enhances communication and productivity in production-oriented settings, making it a critical component for performance. This can be explained through Social Exchange Theory, where good collaboration in a team creates a mutually beneficial environment where employees feel valued and supported by their peers. Thus, employees' sense of responsibility for work increases due to interdependence and trust in the team.

Data analysis shows that good teamwork not only improves work efficiency through task sharing and synergistic cooperation, but also strengthens

the bond between team members. High-Performance Team (HPT) theory emphasizes the importance of factors such as effective communication, trust, and a common vision in creating a productive and high-performing team (Thite, 2022; Vahdat, 2022). Thus, work results that match expectations can be achieved through solid collaboration and mutual support among team members. Thus, through the integration of theories on teamwork and data analysis of the research results, it can be concluded that good teamwork has a significant positive impact on employee performance. Effective collaboration, open communication, and an enhanced sense of responsibility are key elements in ensuring that the team can achieve optimal work results and in accordance with organizational goals.

Theories about the work environment highlight the important role of physical and non-physical factors in creating conditions that support employee performance (Blanka et al., 2022). The Job Characteristics Model theory, for example, emphasizes that a work environment that pays attention to aspects such as task clarity, task diversity, and feedback can improve employee motivation and performance (Kurniasih et al., 2022). Although the research data shows that the work environment has a positive but insignificant effect on employee performance, this is in line with theories that emphasize that a good work environment can make a positive contribution even if the impact is not significant in a particular research context.

Data analysis shows that work environment factors, both physical and non-physical, still play an important role in improving employee performance although not significant in this study. This finding aligns with Blanka et al. (2022) and Abbu et al. (2020), who assert that while a supportive work environment is essential for job satisfaction, its direct impact on performance is often secondary. Given the physical demands reported by 58% of respondents, the non-physical aspects like managerial support may play a larger role in sustaining employee morale rather than directly impacting productivity.

Environmental Psychology theory highlights that a comfortable, safe, and supportive work environment can increase employee satisfaction and well-being, which in turn can contribute to improved performance. In this context, although the effect of work environment on employee performance was not statistically significant in the study, it is important to recognize that a good work environment still has added value in creating conditions that support employee productivity and well-being. Factors such as cleanliness, safety, social support, and participation opportunities can create a positive work atmosphere and motivate employees to give their best performance. Thus, through the integration of theories on work environment and data analysis of the research results, it can be concluded that although the effect of work environment on employee performance is not significant in the specific research context, work environment factors still play an important role in creating conditions that support employee performance and well-being.

Theories of work motivation highlight the important role of motivation in improving employee performance. Expectancy theory, for example, emphasizes that employees' motivation levels are influenced by their belief in the relationship between the effort they put in, the performance they produce, and the outcomes they expect (Parry & Battista, 2023; Weber et al., 2022). In this context, high work

motivation can strengthen employees' engagement in work and improve their performance.

The research data shows that Work Motivation has a positive and significant influence in moderating Teamwork on employee performance. This indicates that high work motivation can increase the effectiveness of teamwork and in turn strengthen overall employee performance. Self-Determination Theory emphasizes that intrinsic motivation, i.e. motivation that comes from within the individual, can be a key driver in improving performance and job satisfaction. The research data also shows that Job Satisfaction is an important factor in improving employee performance through strengthening teamwork. Job Satisfaction Theory highlights that high job satisfaction can increase employee motivation, engagement, and loyalty to the organization, which in turn can have a positive impact on individual and team performance (Margherita & Bua, 2021). Thus, through the integration of the theories of work motivation and job satisfaction and the analysis of research data, it can be concluded that Work Motivation and Job Satisfaction have a crucial role in moderating the effect of teamwork on employee performance. High motivation and good job satisfaction can strengthen collaboration in teams, increase productivity, and create a positive work environment to achieve common goals.

In the context of the influence of independent variables on Job Satisfaction, Work Motivation, and Employee Performance, there are several theories and research data that can support the analysis (Tigre et al., 2023). The theory of digital leadership highlights the importance of adaptive and innovative leadership in the face of rapid changes in technology and the business environment. Research by (Cantoni & Mangia, 2018) shows that digital leadership can influence employee motivation and performance through the effective use of technology and the development of digital skills. The results of the study showing the significant influence of digital leadership on Job Satisfaction, Work Motivation, and Employee performance provide a strong basis for organizations to develop inclusive and results-oriented digital leadership.

The path analysis highlights significant relationships among digital leadership, teamwork, work environment, job satisfaction, work motivation, and performance. Notably, job satisfaction is significantly influenced by digital leadership, teamwork, and HR competencies. These figures support the argument that fostering a positive work environment and building digital skills are vital strategies for improving job satisfaction and, consequently, employee performance. Cantoni & Mangia (2018) confirm that digital leadership positively impacts performance by building a digitally skilled workforce, while teamwork and a supportive work environment collectively contribute to employee satisfaction and productivity.

In addition, theories on teamwork emphasize collaboration, communication, and coordination among team members to achieve common goals. Research by (Rana & Sharma, 2019) shows that effective teamwork can increase employee motivation and performance through clear division of tasks, mutual support, and achievement of common goals. With the significant influence of teamwork on Job Satisfaction, Work Motivation, and Employee Performance, organizations can strengthen a collaborative and inclusive teamwork culture.

Theories about the work environment highlight the importance of physical and psychological factors in creating working conditions that support employee productivity and well-being. Research by (Abbu et al., 2020) shows that a positive and comfortable work environment can increase employee motivation and performance through increased job satisfaction and psychological well-being. With the significant influence of the work environment on Job Satisfaction, Work Motivation, and Employee Performance, organizations can pay attention to workspace design, organizational culture, and social support to improve employee well-being.

The theory of human resource competencies emphasizes the importance of developing individual skills, knowledge, and abilities in achieving organizational goals. Research by (Jamkhaneh et al., 2022) shows that high human resource competencies can increase employee motivation and performance through increased confidence, work effectiveness, and goal achievement. With the significant influence of human resource competencies on Job Satisfaction, Work Motivation, and Employee Performance, organizations can focus on developing employee skills and knowledge to improve overall performance.

Thus, the results of the study that show a significant effect of independent variables such as Digital Leadership, Teamwork, Work Environment, and Human Resource Competencies on Job Satisfaction, Work Motivation, and Employee Performance provide a strong basis for organizations to design a holistic and oriented human resource management strategy to improve employee welfare and productivity. The implementation of this strategy will help organizations create a supportive work environment, improve employee skills and competencies, and encourage a culture of collaboration and innovation that will ultimately improve overall organizational performance.

## **FURTHER STUDY**

Although this study highlights the factors that influence employee performance in the manufacturing sector in Batam City, it is important to acknowledge some limitations. This study has several limitations that need to be considered. First, the focus of the study is limited to the manufacturing sector in Batam City, so the findings may not be directly applicable to other industry contexts. Second, data collection was conducted through survey method with respondents from manufacturing companies in Sarana Unggulan First Industrial Estate, which may affect the representativeness of the sample and the generalizability of the results. Third, time and resource constraints may have limited the depth of analysis of the factors that influence employee performance. Fourth, external factors such as economic conditions or industry changes that cannot be controlled can also affect research results. Finally, the interpretation of the research results may be influenced by respondents' perceptions and experiences in filling out the questionnaire, which has the potential to create bias in the analysis. Future research could delve deeper into the specific mechanisms by which digital leadership, teamwork, work environment and human resource competencies interact to influence employee performance. In addition, exploring the moderating effects of contextual factors within the organization on these

relationships could provide a more comprehensive understanding. In addition, investigating the long-term effects of management system integration (ISO 9001, 14000, and 45001) on employee motivation and job satisfaction over time would provide valuable insights for sustainable performance improvement strategies. Conducting comparative studies across different industries or regions can also enrich the generalizability of the findings and contribute to a broader knowledge base on optimizing employee performance across different organizational settings.

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